



Cisco NCS TL1 Command Guide

Cisco NCS 2002 and Cisco NCS 2006

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- Move the equipment farther away from the television or radio.
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Preface

This section explains the objectives, intended audience, and organization of this publication and describes the conventions that convey instructions and other information.

This section provides the following information:

- [Revision History](#)
- [Document Objectives](#)
- [Audience](#)
- [Important Notes about TL1 Commands](#)
- [Related Documentation](#)
- [Document Conventions](#)
- [Obtaining Network Convergence System Information](#)
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Revision History

This is the first release of this publication.

Document Objectives

This guide explains the use of Transaction Language 1 (TL1) for the Cisco Network Convergence System (NCS)—Cisco NCS 2002 and Cisco NCS 2006 systems. Use this guide in conjunction with the appropriate publications listed in the [Related Documentation](#) section.

Audience

To use this publication, you should be familiar with Cisco or equivalent NCS transmission hardware and cabling, telecommunications hardware and cabling, electronic circuitry and wiring practices, and preferably have experience as a telecommunications technician.

Important Notes about TL1 Commands

TL1 commands can be executed manually or through the use of scripts.

When commands are executed manually, there is a delay of few seconds before the next command can be executed. This gives the Network Elements (NE) sufficient time to perform most of the database (DB) operations.

However, when commands are executed using scripts, the functioning of the NE differs. The NE has insufficient time to perform all the database operations and may cause the NE to malfunction. This in turn causes the controller card to reboot. To prevent this, it is recommended that a delay of 3 to 5 seconds be added between the commands that require DB updates in the script.

User cannot enter question mark (?) as part of input for any parameter. The special character “?” is used in TL1 commands to display help.

Related Documentation

Use this *Cisco NCS TL1 Command Guide, R10.x.x* in conjunction with the following referenced Release 10.x.x publications:

- *Cisco NCS 2002 and Cisco NCS 2006 Line Card Configuration Guide*
Cisco NCS 2002 and NCS 2006 Network Configuration Guide
Cisco NCS 2002 and NCS 2006 Control Card and Node Configuration Guide
Explains installation, turn- up, provisioning, and maintenance for Cisco NCS systems.
- *Cisco NCS 2002 and Cisco NCS 2006 Troubleshooting Guide*
Provides troubleshooting information and troubleshooting-related parameters for the Cisco NCS systems.
- *Release Notes for Cisco NCS 2002 and Cisco NCS 2006*
Provides caveats, closed issues, and new feature and functionality information.

Document Conventions

This publication uses the following conventions:

Convention	Application
< >	Command parameters that must be replaced by module-specific codes.



Note

Means *reader take note*. Notes contain helpful suggestions or references to material not covered in the document.



Caution

Means *reader be careful*. In this situation, the user might do something that could result in equipment damage or loss of data.

**Warning****IMPORTANT SAFETY INSTRUCTIONS**

This warning symbol means danger. You are in a situation that could cause bodily injury. Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents. Use the statement number provided at the end of each warning to locate its translation in the translated safety warnings that accompanied this device. Statement 1071

SAVE THESE INSTRUCTIONS**Waarschuwing****BELANGRIJKE VEILIGHEIDSLINSTRUCTIES**

Dit waarschuwingssymbool betekent gevaar. U verkeert in een situatie die lichamelijk letsel kan veroorzaken. Voordat u aan enige apparatuur gaat werken, dient u zich bewust te zijn van de bij elektrische schakelingen betrokken risico's en dient u op de hoogte te zijn van de standaard praktijken om ongelukken te voorkomen. Gebruik het nummer van de verklaring onderaan de waarschuwing als u een vertaling van de waarschuwing die bij het apparaat wordt geleverd, wilt raadplegen.

BEWAAR DEZE INSTRUCTIES**Varoitus****TÄRKEITÄ TURVALLISUUSOHJEITA**

Tämä varoitusmerkki merkitsee vaaraa. Tilanne voi aiheuttaa ruumiillisia vammoja. Ennen kuin käsittelet laitteistoa, huomioi sähköpiirien käsittelemiseen liittyvät riskit ja tutustu onnettomuuksien yleisiin ehkäisytapoihin. Turvallisuusvaroitusten käännökset löytyvät laitteen mukana toimitettujen käännettyjen turvallisuusvaroitusten joukosta varoitusten lopussa näkyvien lausuntonumeroiden avulla.

SÄILYTÄ NÄMÄ OHJEET**Attention****IMPORTANTES INFORMATIONS DE SÉCURITÉ**

Ce symbole d'avertissement indique un danger. Vous vous trouvez dans une situation pouvant entraîner des blessures ou des dommages corporels. Avant de travailler sur un équipement, soyez conscient des dangers liés aux circuits électriques et familiarisez-vous avec les procédures couramment utilisées pour éviter les accidents. Pour prendre connaissance des traductions des avertissements figurant dans les consignes de sécurité traduites qui accompagnent cet appareil, référez-vous au numéro de l'instruction situé à la fin de chaque avertissement.

CONSERVEZ CES INFORMATIONS**Warnung****WICHTIGE SICHERHEITSHINWEISE**

Dieses Warnsymbol bedeutet Gefahr. Sie befinden sich in einer Situation, die zu Verletzungen führen kann. Machen Sie sich vor der Arbeit mit Geräten mit den Gefahren elektrischer Schaltungen und den üblichen Verfahren zur Vorbeugung vor Unfällen vertraut. Suchen Sie mit der am Ende jeder Warnung angegebenen Anweisungsnummer nach der jeweiligen Übersetzung in den übersetzten Sicherheitshinweisen, die zusammen mit diesem Gerät ausgeliefert wurden.

BEWAHREN SIE DIESE HINWEISE GUT AUF.

Avvertenza IMPORTANTI ISTRUZIONI SULLA SICUREZZA

Questo simbolo di avvertenza indica un pericolo. La situazione potrebbe causare infortuni alle persone. Prima di intervenire su qualsiasi apparecchiatura, occorre essere al corrente dei pericoli relativi ai circuiti elettrici e conoscere le procedure standard per la prevenzione di incidenti. Utilizzare il numero di istruzione presente alla fine di ciascuna avvertenza per individuare le traduzioni delle avvertenze riportate in questo documento.

CONSERVARE QUESTE ISTRUZIONI**Advarsel VIKTIGE SIKKERHETSINSTRUKSJONER**

Dette advarselssymbolet betyr fare. Du er i en situasjon som kan føre til skade på person. Før du begynner å arbeide med noe av utstyret, må du være oppmerksom på farene forbundet med elektriske kretser, og kjenne til standardprosedyrer for å forhindre ulykker. Bruk nummeret i slutten av hver advarsel for å finne oversettelsen i de oversatte sikkerhetsadvarslene som fulgte med denne enheten.

TA VARE PÅ DISSE INSTRUKSJONENE**Aviso INSTRUÇÕES IMPORTANTES DE SEGURANÇA**

Este símbolo de aviso significa perigo. Você está em uma situação que poderá ser causadora de lesões corporais. Antes de iniciar a utilização de qualquer equipamento, tenha conhecimento dos perigos envolvidos no manuseio de circuitos elétricos e familiarize-se com as práticas habituais de prevenção de acidentes. Utilize o número da instrução fornecido ao final de cada aviso para localizar sua tradução nos avisos de segurança traduzidos que acompanham este dispositivo.

GUARDE ESTAS INSTRUÇÕES**¡Advertencia! INSTRUCCIONES IMPORTANTES DE SEGURIDAD**

Este símbolo de aviso indica peligro. Existe riesgo para su integridad física. Antes de manipular cualquier equipo, considere los riesgos de la corriente eléctrica y familiarícese con los procedimientos estándar de prevención de accidentes. Al final de cada advertencia encontrará el número que le ayudará a encontrar el texto traducido en el apartado de traducciones que acompaña a este dispositivo.

GUARDE ESTAS INSTRUCCIONES**Varning! VIKTIGA SÄKERHETSANVISNINGAR**

Denna varningssignal signalerar fara. Du befinner dig i en situation som kan leda till personskada. Innan du utför arbete på någon utrustning måste du vara medveten om farorna med elkretsar och känna till vanliga förfaranden för att förebygga olyckor. Använd det nummer som finns i slutet av varje varning för att hitta dess översättning i de översatta säkerhetsvarningar som medföljer denna anordning.

SPARA DESSA ANVISNINGAR

FONTOS BIZTONSÁGI ELOÍRÁSOK

Ez a figyelmeztető jel veszélyre utal. Sérülésveszélyt rejtő helyzetben van. Mielőtt bármely berendezésen munkát végezne, legyen figyelemmel az elektromos áramkörök okozta kockázatokra, és ismerkedjen meg a szokásos balesetvédelmi eljárásokkal. A kiadványban szereplő figyelmeztetések fordítása a készülékhez mellékelt biztonsági figyelmeztetések között található; a fordítás az egyes figyelmeztetések végén látható szám alapján kereshető meg.

ORIZZE MEG EZEKET AZ UTASÍTÁSOKAT!

Предупреждение

ВАЖНЫЕ ИНСТРУКЦИИ ПО СОБЛЮДЕНИЮ ТЕХНИКИ БЕЗОПАСНОСТИ

Этот символ предупреждения обозначает опасность. То есть имеет место ситуация, в которой следует опасаться телесных повреждений. Перед эксплуатацией оборудования выясните, каким опасностям может подвергаться пользователь при использовании электрических цепей, и ознакомьтесь с правилами техники безопасности для предотвращения возможных несчастных случаев. Воспользуйтесь номером заявления, приведенным в конце каждого предупреждения, чтобы найти его переведенный вариант в переводе предупреждений по безопасности, прилагаемом к данному устройству.

СОХРАНИТЕ ЭТИ ИНСТРУКЦИИ

警告

重要的安全性说明

此警告符号代表危险。您正处于可能受到严重伤害的工作环境中。在您使用设备开始工作之前，必须充分意识到触电的危险，并熟练掌握防止事故发生的标准工作程序。请根据每项警告结尾提供的声明号码来找到此设备的安全性警告说明的翻译文本。

请保存这些安全性说明

警告

安全上の重要な注意事項

「危険」の意味です。人身事故を予防するための注意事項が記述されています。装置の取り扱い作業を行うときは、電気回路の危険性に注意し、一般的な事故防止策に留意してください。警告の各国語版は、各注意事項の番号を基に、装置に付属の「Translated Safety Warnings」を参照してください。

これらの注意事項を保管しておいてください。

주의

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Aviso INSTRUÇÕES IMPORTANTES DE SEGURANÇA

Este símbolo de aviso significa perigo. Você se encontra em uma situação em que há risco de lesões corporais. Antes de trabalhar com qualquer equipamento, esteja ciente dos riscos que envolvem os circuitos elétricos e familiarize-se com as práticas padrão de prevenção de acidentes. Use o número da declaração fornecido ao final de cada aviso para localizar sua tradução nos avisos de segurança traduzidos que acompanham o dispositivo.

GUARDE ESTAS INSTRUÇÕES**Advarsel VIGTIGE SIKKERHEDSANVISNINGER**

Dette advarselssymbol betyder fare. Du befinder dig i en situation med risiko for legemeskade. Før du begynder arbejde på udstyr, skal du være opmærksom på de involverede risici, der er ved elektriske kredsløb, og du skal sætte dig ind i standardprocedurer til undgåelse af ulykker. Brug erklæringsnummeret efter hver advarsel for at finde oversættelsen i de oversatte advarsler, der fulgte med denne enhed.

GEM DISSE ANVISNINGER

تحذير

إرشادات الأمان الهامة

يوضح رمز التحذير هذا وجود خطر. وهذا يعني أنك متواجد في مكان قد ينتج عنه التعرض لإصابات. قبل بدء العمل، احذر مخاطر التعرض للصدمات الكهربائية وكن على علم بالإجراءات القياسية للحيلولة دون وقوع أي حوادث. استخدم رقم البيان الموجود في آخر كل تحذير لتحديد مكان ترجمته داخل تحذيرات الأمان المترجمة التي تأتي مع الجهاز. قم بحفظ هذه الإرشادات

Upozorenje VAŽNE SIGURNOSNE NAPOMENE

Ovaj simbol upozorenja predstavlja opasnost. Nalazite se u situaciji koja može prouzročiti tjelesne ozljede. Prije rada s bilo kojim uređajem, morate razumjeti opasnosti vezane uz električne sklopove, te biti upoznati sa standardnim načinima izbjegavanja nesreća. U prevedenim sigurnosnim upozorenjima, priloženima uz uređaj, možete prema broju koji se nalazi uz pojedino upozorenje pronaći i njegov prijevod.

SAČUVAJTE OVE UPUTE**Upozornění DŮLEŽITÉ BEZPEČNOSTNÍ POKYNY**

Tento upozorňující symbol označuje nebezpečí. Jste v situaci, která by mohla způsobit nebezpečí úrazu. Před prací na jakémkoliv vybavení si uvědomte nebezpečí související s elektrickými obvody a seznamte se se standardními opatřeními pro předcházení úrazům. Podle čísla na konci každého upozornění vyhledejte jeho překlad v přeložených bezpečnostních upozorněních, která jsou přiložena k zařízení.

USCHOVEJTE TYTO POKYNY

Προειδοποίηση	ΣΗΜΑΝΤΙΚΕΣ ΟΔΗΓΙΕΣ ΑΣΦΑΛΕΙΑΣ Αυτό το προειδοποιητικό σύμβολο σημαίνει κίνδυνο. Βρίσκεστε σε κατάσταση που μπορεί να προκαλέσει τραυματισμό. Πριν εργασείτε σε οποιοδήποτε εξοπλισμό, να έχετε υπόψη σας τους κινδύνους που σχετίζονται με τα ηλεκτρικά κυκλώματα και να έχετε εξοικειωθεί με τις συνήθεις πρακτικές για την αποφυγή ατυχημάτων. Χρησιμοποιήστε τον αριθμό δήλωσης που παρέχεται στο τέλος κάθε προειδοποίησης, για να εντοπίσετε τη μετάφρασή της στις μεταφρασμένες προειδοποιήσεις ασφαλείας που συνοδεύουν τη συσκευή. ΦΥΛΑΞΤΕ ΑΥΤΕΣ ΤΙΣ ΟΔΗΓΙΕΣ
אזהרה	הוראות בטיחות חשובות סימן אזהרה זה מסמל סכנה. אתה נמצא במצב העלול לגרום לפציעה. לפני שתעבוד עם ציוד כלשהו, עליך להיות מודע לסכנות הכרוכות במעגלים חשמליים ולהכיר את הנהלים המקובלים למניעת תאונות. השתמש במספר ההוראה המסופק בסופה של כל אזהרה כדי לאתר את התרגום באזהרות הבטיחות המתורגמות שמצורפות להתקן. שמור הוראות אלה
Opomena	ВАЖНИ БЕЗБЕДНОСНИ НАПАТСТВИЈА Симболот за предупредување значи опасност. Се наоѓате во ситуација што може да предизвика телесни повреди. Пред да работите со опремата, бидете свесни за ризикот што постои кај електричните кола и треба да ги познавате стандардните постапки за спречување на несреќни случаи. Искористете го бројот на изјавата што се наоѓа на крајот на секое предупредување за да го најдете неговиот период во преведените безбедносни предупредувања што се испорачани со уредот. ЧУВАЈТЕ ГИ ОБИЕ НАПАТСТВИЈА
Ostrzeżenie	WAŻNE INSTRUKCJE DOTYCZĄCE BEZPIECZEŃSTWA Ten symbol ostrzeżenia oznacza niebezpieczeństwo. Zachodzi sytuacja, która może powodować obrażenia ciała. Przed przystąpieniem do prac przy urządzeniach należy zapoznać się z zagrożeniami związanymi z układami elektrycznymi oraz ze standardowymi środkami zapobiegania wypadkom. Na końcu każdego ostrzeżenia podano numer, na podstawie którego można odszukać tłumaczenie tego ostrzeżenia w dołączonym do urządzenia dokumencie z tłumaczeniami ostrzeżeń. NINIEJSZE INSTRUKCJE NALEŻY ZACHOWAĆ
Upozornenie	DÔLEŽITÉ BEZPEČNOSTNÉ POKYNY Tento varovný symbol označuje nebezpečenstvo. Nachádzate sa v situácii s nebezpečenstvom úrazu. Pred prácou na akomkoľvek vybavení si uvedomte nebezpečenstvo súvisiace s elektrickými obvodmi a oboznámte sa so štandardnými opatreniami na predchádzanie úrazom. Podľa čísla na konci každého upozornenia vyhľadajte jeho preklad v preložených bezpečnostných upozorneniach, ktoré sú priložené k zariadeniu. USCHOVAJTE SI TENTO NÁVOD

Obtaining Network Convergence System Information

This section contains information that is specific to NCS products. For information that pertains to all of Cisco, refer to the [Obtaining Documentation and Submitting a Service Request](#) section.

Where to Find Safety and Warning Information

For safety and warning information, refer to the *Cisco Network Convergence Products Safety and Compliance Information* document that accompanied the product. This publication describes the international agency compliance and safety information for the Cisco NCS system. It also includes translations of the safety warnings that appear in the NCS system documentation.

Cisco Network Convergence System CD-ROM

Cisco NCS-related documentation, including Cisco NCS product documentation, is available in a CD-ROM package that ships with your product. The NCS Documentation CD-ROM is updated periodically and may be more current than printed documentation.

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, obtaining support, providing documentation feedback, security guidelines, and also recommended aliases and general Cisco documents, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at:

<http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html>

Subscribe to the *What's New in Cisco Product Documentation*, as a Really Simple Syndication (RSS) feed and set content to be delivered directly to your desktop using a reader application. The RSS feeds are a free service and Cisco currently supports RSS version 2.0.



Cisco NCS Documentation Roadmap for Release 10.x.x

To quickly access publications of Cisco NCS Release 10.x.x, see the [Cisco NCS Documentation Roadmap for Release 10.x.x](#).



TL1 Overview

1.1 What is TL1?

Transaction Language 1 (TL1) is a set of ASCII (American Standard Code for Information Interchange)-based instructions, or messages, that an operations support system (OSS) uses to manage a network element (NE) and its resources. TL1 provides a standard set of messages that can be used for communicating between operating systems and NEs, and personnel and NEs.

1.2 TL1 Message Types and Examples

There are two main types of standard-defined TL1 messages: command/responses and autonomous messages.

1. **Command/Responses**—These are initiated by a user and provide two parts: a request to the NE to set or get information, and a response from the NE containing completion or status codes and requested information. Request, or input messages are used to issue the request portions of command messages to the NE. Command messages are often referred to as command/response messages, where the request portion is an input message (OSS to NE) and the response portion is an output message (NE to OSS). Command/Responses can be further classified as follows:

- a. **Set information**—The simplest type of messages are those that set information or instruct the NE to perform an action and return only a result with no data in the response:

Example: ENT-CRS-<VC_PATH> to create an VC cross-connection

- b. **Get information**—Some TL1 commands get information or request information be returned from the NE.

Example: RTRV-ALM-ALL to show the current status of all active alarm conditions

- c. **Response message**—The response portion of a command message correlates to a particular request message. If a command is successful, the NE sends a response message containing the COMPLD code.

Example:

SV192-DATA-461 2003-08-05 10:35:17

M 123 COMPLD

;

If a command fails, the NE sends an error response which includes the DENY code and may or may not contain an error message.

Example:

```
sv192-DATA-461 2003-08-05 10:35:17
```

M 123 DENY;

The following list shows standard responses:

COMPLD—Completed

DENY—TL1 command failed

PRTL—Partially successful response. The requested action can be completed for some of the specified AIDs but not for all of them.

RTRV—The response is successful but is lengthy and is being returned in multiple parts. Each part has a RTRV response code, but the final response has a COMPLD response code.

- d. **Response acknowledgment**—Responses may also include intermediate acknowledgment messages. Brief messages that update the user as to the status of a given command are called acknowledgments. When a command has been sent to the NE and the NE takes longer than two seconds to respond, the NE sends an acknowledgment message to be followed later by the full response.
2. **Autonomous events**—These messages are used to report alarms, configuration changes or condition changes. Many of these messages, such as those relating to alarm conditions, are spontaneously triggered by the NE itself without intervention. Other messages, such as those relating to the reporting of periodic condition states or performance data values are scheduled by the NE user through other commands. Autonomous messages are not issued to the NE and hence they do not include input formats or input examples.

Example: REPT-ALM

1.3 Connect to TL1

The first step in using TL1 is to connect to TL1. You only have to connect to TL1 one time per session. A session is a related set of communication transactions between two or more network devices. There are three ways to connect to TL1: via CTC, telnet, or craft interface. Perform one of the following procedures to connect to TL1.

1.3.1 Launch CTC and Open a TL1 Session

- Step 1** From the PC connected to the Cisco NCS 2002 or Cisco NCS 2006 start Netscape Navigator or Internet Explorer.
- Step 2** Enter the IP address of the node you want to communicate with in the Netscape or Internet Explorer Web address (URL) field.
- Step 3** Log into the CTC. The IP address at the title bar should match the IP address of the node you entered in [Step 2](#).
- Step 4** Once logged into the CTC, there are two ways to open a TL1 session:
 - Click **Tools > Open TL1 Connection**, or
 - Click on the **Open TL1 Connection** button  on the toolbar.
- Step 5** From the Select Node dialog box choose the node you want to communicate with.
- Step 6** Click **OK**.

A TL1 interface window opens. There are three sub-windows in the TL1 interface window: Request History, Message Log/Summary Log, and TL1 request. Type commands in the TL1 request window. You will see responses in the Message log window. The Request History window allows you to recall previous commands by double-clicking on them.

Step 7 Verify that the Connect button is selected (grayed out).

Step 8 You are ready to log into TL1. Follow the steps in the [“1.3.4 Log Into TL1”](#) section on page 1-4.

1.3.2 Telnet to Open a TL1 Session

To communicate with the NCS network element (NE) using TL1 commands through a Telnet session over a craft interface or a LAN connection, you can choose either of the following two ports:

- Port number 3083 is a Telnet port that uses the Telnet protocol and associated Telnet escape sequences.
- Port number 2361 is supported for backward compatibility with earlier releases and has the same behavior as Port 3083 (Telnet port). Use the following procedure with PCs running Windows operating systems.



Note

Port number 3082 is a raw TCP/IP port; it is not an interactive port and is not recommended for use as an alternate telnet port.

Step 1 At the DOS prompt, type **cmd** and press **Enter**. (The same steps can also be done from a Unix prompt).

Step 2 At the DOS command prompt type:

TELNET <NODE IP ADDRESS OR NODE NAME> <PORT NUMBER> and press **Enter**.

The Node IP address or Node Name refers to the IP address or Node Name of the node you want to communicate with. Port number is the port (2361 or 3083) where TL1 commands are understood. If the connection is successful, a screen opens with a prompt.

Step 3 You are ready to log into TL1. Follow the steps in the [“1.3.4 Log Into TL1”](#) section on page 1-4.

1.3.3 Use a Craft Interface to Open a TL1 Session (Cisco NCS 2002 or Cisco NCS 2006)

The TCC2/TCC2P card has two built-in interface ports for accessing the Cisco NCS 2002 or Cisco NCS 2006. With one RJ-45 LAN connection you can access the system using a standard browser interface. In the browser interface, you can perform local and remote Operations, Administration, Maintenance, and Provisioning (OAM&P) functions and open a VT100 emulation window to enter TL1 commands. If a browser is not available, you can access the system using a nine-pin EIA/TIA-232 port. The EIA/TIA-232 port supports VT100 emulation which allows TL1 commands to be entered directly without a browser.

Step 1 Connect the serial cable to the EIA/TIA-232 port on the active TCC2/TCC2P card.

- Step 2** Configure the terminal emulation software (Hyperterminal):
- a. Terminal emulation = vt100
 - a. Bits per second = 9600
 - a. Parity = None
 - a. Stop BITS = 1
 - a. Flow control = None
- Step 3** Press **Enter**. An angle bracket prompt (>) appears.
- Step 4** You are ready to log into TL1. Follow the steps in the [“1.3.4 Log Into TL1” section on page 1-4](#).
-

1.3.4 Log Into TL1

Once you have connected to TL1, you must log into TL1 in order to issue commands. Logging into TL1 only has to be done once per session.

- Step 1** Issue the ACT-USER command:

Input Format:

ACT-USER:[<TID>]:<UID>:<CTAG>[:<PID>];

- TID is the name of the node you want to access. If you only want to query the node you connected to, leave the TID blank.
- UID is your user ID. UID can be up to 10 characters.
- CTAG is any non-blank character series that does not have to be unique.
- PID is your password. PID can be up to 10 characters. PIDs are encrypted and are displayed as asterisks (*).

Input Example:

ACT-USER:PETALUMA:DXT:100::MYPASSWD;

- Step 2** Confirm you receive a COMPLD response to indicate the command was completed successfully.

Response Example:

TID-000 1998-06-20 14:30:00

M 001 COMPLD

DXT:2003-01-02 14-04-49,0;

1.4 Command Actions and Categories

When you have connected and logged into a TL1 session, you are ready to begin issuing TL1 commands and autonomous messages. TL1 commands and autonomous messages can be used to accomplish a variety of actions. Determining the correct command or autonomous message you need begins with identifying what action you want to perform. The first part of every command and autonomous message helps identify the action that command or autonomous message performs as shown in [Table 1-1](#).

Table 1-1 TL1 Command and Autonomous Message Actions

Commands or Autonomous Messages That Begin With	Generally Do This	Command Example
ACT-	Activate	ACT-USER
ALW-	Allow	ALW-MSG-ALL
APPLY	Apply	APPLY
CANC (autonomous message)	Report	CANC (reports a cancelled session)
CANC-	Cancel	CANC-USER
CHG-	Change	CHG-ACCMD-<MOD_TACC>
CLR-	Clear	CLR-COND-SECU
CONN-	Connect	CONN-TACC-<MOD_TACC>
COPY-	Copy	COPY-IOSCFG
DISC-	Disconnect	DISC-TACC
DLT-	Delete	DLT-MSSPR
ED-	Edit/Change	ED-BITS
ENT-	Enter/Create	ENT-MSSPR
EX-	Exercise	EX-SW-<OCN_MSSPR>
INH-	Inhibit	INH-MSG-ALL
INIT-	Initialize	INIT-SYS
REPT (autonomous message)	Report	REPT ALM ENV
RLS-	Release	RLS-EXT-CONT
RMV-	Remove	RMV-<MOD2>
RST-	Restore	RST-<MOD2>
RTRV-	Retrieve	RTRV-COND-RING
SCHED-	Schedule	SCHED-PMREPT-<MOD2>
SET-	Set	SET-ATTR-ENV
SW-	Switch	SW-DX-EQPT
TST-	Test	TST-INSERRBITS-<MOD2>

Table 1-2 shows some examples of actions, categories, and commands that apply to the *Cisco NCS 2002* or *Cisco NCS 2006*.

Table 1-2 Some TL1 Category Examples

If You Want to	Look in this Category	Applicable Command or Autonomous Message
Create a 2-fiber or 4-fiber MS-SPRing	MS-SPRing	ENT-<MOD_RING>
Delete a cross-connection on a VC path	Cross Connections	DLT-CRS-<PATH>
Set the attributes of the air conditioner	Environment Alarms and Controls	SET-ATTR-CONT
Delete a card from the NE	Equipment	DLT-EQPT
Lockout a user from the NE	Security	INH-USER-SECU
See the alarms on a BITS	Synchronization	REPT ALM BITS ¹
Change the date on the NE	System	ED-DAT
Disconnect a test access path/point	Troubleshooting and Test Access	DISC-TACC

Table 1-2 Some TL1 Category Examples (continued)

If You Want to	Look in this Category	Applicable Command or Autonomous Message
Perform an SNCP protection switch on an VC path	Protection	OPR-PROTNSW-<PATH>
Release an SNCP protection switch on an VC path	Protection	RLS-PROTNSW-<PATH>

1. REPT ALM BITS is an autonomous message. Autonomous messages are either spontaneously triggered by the NE or scheduled by the NE user via other commands.

In the “1.5 Basic Commands” section on page 1-6, there are various commands listed in detail to help get you started on using the TL1 commands.

1.5 Basic Commands

This section lists the basic commands to help you get started. You must be connected and logged into a TL1 session. After you issue a command, confirm you receive a COMPLD response to indicate the command was completed successfully.



Note

If you receive a DENY response, first check the syntax you entered for accuracy.

- To perform an in-service card upgrade or downgrade on a system, see [7.2 CHG-EQPT](#), page 7-3.
- To delete a card from the NE, see [12.13 DLT-EQPT](#), page 12-11.
- To change configuration information on an E1 port, see [13.26 ED-E1](#), page 13-85.
- To enter the card type and attributes for a given slot on an NE, see [14.12 ENT-EQPT](#), page 14-18.
- To initialize the specified card and its associated subsystem(s), see [17.2 INIT-SYS](#), page 17-7.
- To remove an equipment from the In Service state and place it into Maintenance, see [21.2 RMV-EQPT](#), page 21-2.
- To provision an equipment into the In Service state from the Maintenance state, see [22.2 RST-EQPT](#), page 22-2.
- To retrieve configuration information about an E1 port, see [23.10 RTRV-<STM_TYPE>](#), page 23-54.
- To retrieve all alarms on a specific E1 port, see [23.12 RTRV-ALM-<MOD2ALM>](#), page 23-74.
- To retrieve all conditions on a specific E1 port, see [23.37 RTRV-COND-<MOD2ALM>](#), page 23-140.
- To retrieve all alarms on a system, see [23.14 RTRV-ALM-ALL](#), page 23-79.
- To retrieve all conditions on a system, see [23.38 RTRV-COND-ALL](#), page 23-144.
- To retrieve all data, state, and shelf parameters on an associated equipment unit, see [23.56 RTRV-EQPT](#), page 23-200.
- To retrieve all general attributes on a system, see [23.98 RTRV-NE-GEN](#), page 23-307.
- To retrieve actual PM values on an E1 port, see [23.120 RTRV-PM-<MOD2>](#), page 23-372.
- To retrieve the thresholds in place for an E1 port, see [23.152 RTRV-TH-<MOD2>](#), page 23-462.

- To create a loopback, see [18.6 OPR-LPBK-<MOD2>](#), page 18-5.
- To release a loopback, see [20.3 RLS-LPBK-<MOD2NCSPAYLOAD>](#), page 20-2.

**Note**

When you are finished using TL1 remember to log out. Follow the steps in the [“1.14 Log Out of TL1” section on page 1-18](#) to log out.

1.6 Command Syntax

TL1 commands conform to the following syntax:

a:b:c:d:e: ... z;

where:

“a” is the command code.

“b” is the target identifier (TID).

“c” is the access identifier (AID) or the user identifier (UID).

“d” is the correlation tag (CTAG).

“e: ... z;” are other positions required for various commands.

The TID, AID, and CTAG route and control the TL1 command. Other parameters provide additional information required to complete the action requested by the command. TL1 command codes, parameter names, and parameter values can be either uppercase or lowercase exclusively or any combination of the two, unless specifically noted in the command description.

The TID is a unique name given to each system when it is installed. The name identifies the particular NE, to which each command is directed. The value of TID can be any TL1 identifier or text string, but it is limited to 20 characters. An identifier contains any number of letters or digits, but must start with a letter. A text string is any alphanumeric or punctuation characters enclosed in double quotes. The presence of the TID is required in all input commands, but its value can be null (represented by two successive colons). The TID can be null when the operating system directly communicates with the target NE. The recommended value for the TID, when it is used, is the target’s common language location identifier (CLLI) code. To establish the TID for a node, use the Provisioning > General tab in Cisco Transport Controller (CTC).

The AID is an access code used to identify and address specific objects within the NE. These objects include individual pieces of equipment, transport spans, access tributaries, and other objects.

The CTAG is a unique identifier given to each input command by the user. When the NE responds to a specific command, it includes the command’s CTAG in the reply. Including the CTAG eliminates discrepancies about which response corresponds to which command. Valid CTAG values include strings of up to six characters composed of identifiers (alphanumeric, beginning with a letter) or decimal numerals (a string of decimal digits with an optional nontrailing period).

The following specification characters are used throughout this document as vehicles for defining the syntax:

- Anglebrackets (< >) enclose a symbol specifier, for example <CTAG>.
- Square brackets ([]) enclose an optional symbol, for example [<TID>].
- Quotation marks (“ ”) enclose a literal character, as shown in the following output example:

SLOT-7:PLUGIN,TC,,,,,,:\“EQUIPMENT PLUG-IN”,TCC

1.7 Autonomous Message Syntax

Autonomous messages are used to report alarms, configuration changes, and condition changes. Many of these messages, such as those relating to alarm conditions, are spontaneously triggered by the NE itself without intervention. Other messages, such as those relating to the reporting of periodic condition states or performance data values, are scheduled by the NE user through other commands. Because you do not issue autonomous messages to the NE, they do not include input formats or input examples.

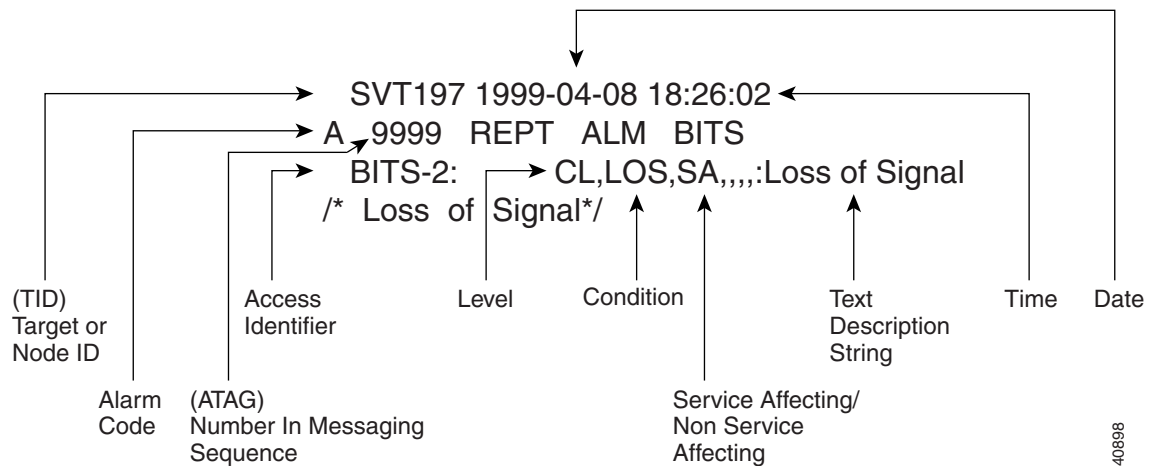
Figure 1-1 shows the autonomous message format. The autonomous message tag (ATAG) is used for message sequencing. The number is incremented by one for each autonomous message sent by the NE. Cisco NEs use whole numbers 0000 to 9999.



Note

Some autonomous messages (REPT DBCHG and REPT EVT SESSION, for example) differ slightly from the format shown in the third line of Figure 1-1.

Figure 1-1 Autonomous Message Format



The alarm code indicates the severity of the autonomous message. Valid values for alarm codes in decreasing order of severity are as follows:

- *C—Critical alarm
- **—Major alarm
- *^—Minor alarm
- A^—Nonalarmed message

Critical, Major, and Minor correspond to the reporting of alarmed events. The Nonalarmed message designation is used when the NE is reporting nonalarmed events, periodic measurements, or results of previously scheduled diagnostics or audits. If multiple alarms are reported in the same message, the alarm code represents the highest severity of those being reported.

The following is an example of an output message that includes the Critical alarm code:

```

AB7-56 1970-01-01 16:02:10
*C 100.100 REPT ALM EQPT
"SYSTEM:CR,HITEMP,NSA,,,,,\"High Temperature\",TCC"
  
```

1.8 Command Completion Behavior

When you enter a TL1 command, one of three completion codes will be returned. The completion codes are: completed (COMPLD), partial (PRTL), and deny (DENY). You can specify an explicit, implicit, or explicit with implicit list as explained in the following sections.

1.8.1 General Rules


Note

The command completion behavior does not apply to RTRV-CRS, RTRV-ALM, and RTVR-COND commands.

1.8.1.1 Explicit List of AIDs—No Wildcards

If a set of AIDs is explicitly listed, including a set of just one AID, then each AID must complete successfully to return a COMPLD message. If more than one AID is in the set and at least one AID succeeds but all do not, then a PRTL with errors for each failed AID is returned. If all AIDs in the set fail, a DENY with errors for each failed AID is returned.

1.8.1.2 Implicit List of AIDs—Single AID With Wildcard

If a set of AIDs is implied by the use of the ALL modifier on a single AID, then follow the same rules as in Section 1.8.1.1 [Explicit List of AIDs—No Wildcards, page 1-9](#). The caveat is that the implicit list only includes AIDs that apply to the command. For example, assume SLOT-3 contains an STM-4 card and only VC-4-4 and VC-4-7 are of path-width VC4 while the rest are VC3. An ED-VC3 command with VC-4-ALL AID applies only on the VC3 implicit AID set VC4-{1,2,3,10,11,12} (with the ED-VC3 command).

Apply the following rules to the set:

1. If all valid AIDs match, COMPLD is returned with a matching list of cross-connections.
2. If some valid AIDs match but not all, COMPLD is returned with a matching list of cross-connections.

If all valid AIDs fail to match, DENY is returned.

1.8.1.3 Explicit List Grouped With Implicit List

If the set of AIDs is composed of two subsets, one set including explicitly stated AIDs and the other set implied by one or more AID(s) with the ALL modifier, then follow the rules in the 1.8.1.1 [Explicit List of AIDs—No Wildcards, page 1-9](#) and the 1.8.1.2 [Implicit List of AIDs—Single AID With Wildcard, page 1-9](#) respectively. Apply the logic in [Table 1-3](#) to the results from the two subsets:

Table 1-3 *Explicit List, Implicit List, and Combined List Logic*

Explicit List Returns	Implicit List Returns	Combined List Returns
COMPLD	COMPLD	COMPLD plus matching list
COMPLD	DENY	PRTL with errors plus matching list
PRTL	COMPLD	PRTL with errors plus matching list

Table 1-3 *Explicit List, Implicit List, and Combined List Logic*

Explicit List Returns	Implicit List Returns	Combined List Returns
PRTL	DENY	PRTL with errors plus matching list
COMPLD	PRTL	PRTL with errors plus matching list
DENY	PRTL	PRTL with errors plus matching list
DENY	COMPLD	PRTL with errors plus matching list
PRTL	PRTL	PRTL with errors plus matching list
DENY	DENY	DENY with errors

1.8.2 Command Completion Behavior for Retrieval of Cross-Connections

When you enter a RTRV-CRS command, one of three completion codes will be returned. The completion codes are: COMPLD, PRTL, and DENY. You can specify an explicit, implicit, or explicit with implicit list as explained in the following sections.

1.8.2.1 Explicit List of AIDs—No Wildcards

For an explicit list of AIDs on a RTRV-CRS command, an error code will be returned for each AID that fails validation (for example, the user specifies VC-N-13 when SLOT-N only contains an STM-4) or for each AID where no matching cross-connection is found. To determine the completion code, follow the rules from the [“1.8.1.1 Explicit List of AIDs—No Wildcards” section on page 1-9](#). If the result is either PRTL or COMPLD, then a list of matching cross-connections will accompany the response.

1.8.2.2 Implicit List of AIDs—Single AID With Wildcard

If a set of AIDs is implied by the use of the ALL modifier on a single AID, then follow the same AID expansion rule as defined in the example from the [“1.8.1.2 Implicit List of AIDs—Single AID With Wildcard” section on page 1-9](#). Apply the following rules to the set:

- If all valid AIDs match, COMPLD is returned with a matching list of cross-connections.
- If some valid AIDs match but not all, COMPLD is returned with a matching list of cross-connections.
- If all valid AIDs fail to match, DENY is returned.

For example, consider the command **RTRV-CRS-VC3:[<TID>]:VC-9-ALL:<CTAG>**; where VC-9-ALL maps to VC-9-{1,2,3,10,11,12} because there is a single-port STM-4 card in Slot 3 with VC-4 defined for VC-9-4 and VC-9-7. In this example, the set is traversed and returns only the VC-3 cross-connections that exist using endpoints in that set. If no cross-connections are retrieved, COMPLD is returned.

1.8.2.3 Explicit List Grouped With Implicit List

When you have determined the implicit list, apply the rules in the [“1.8.2.2 Implicit List of AIDs—Single AID With Wildcard” section on page 1-10](#) to the implicit list and the rules from the [“1.8.2.1 Explicit List of AIDs—No Wildcards” section on page 1-10](#) to the explicit list. Apply the logic in [Table 1-3](#) to the results from the two subsets.

1.9 User Security Levels

User security levels limit the amount of time a user can leave the system idle before the TL1 session is locked to prevent unauthorized users from making changes. Higher security levels have shorter timeouts. Starting with Release 4.0, timeouts can be provisioned (by a Superuser) from CTC. If provisioned, it only affects users who are not currently logged in. A user that is logged in has to log out and log back in before the new timeouts will take affect. A Superuser can provision security levels through TL1 with the SET-ATTR-SECUDFLT command.

Table 1-4 shows security levels and their default timeouts.

Table 1-4 Security Default Timeouts

Security Level	Default Timeout
Retrieve	Unlimited
Maintenance	60 minutes
Provisioning	30 minutes
Superuser	15 minutes

1.10 Keyboard Shortcuts

TL1 has the ability to store previously issued commands so that they can be recalled for future use. A maximum of 20 commands are stored. All types of commands are stored, including invalid commands. If the session is a GNE session, it will store commands sent to both the gateway network element (GNE) and the end network element (ENE).

- Pressing **Ctrl-R** recalls the last command issued. Each time Ctrl-R is pressed, a previously issued command is displayed.
- Pressing **Ctrl-F** recalls commands in the forward direction.

When a command has been recalled, you can use the Backspace key to edit the command as necessary. Cursor keys (for example, left and right arrows) are not permitted for editing.



Note

Command recall keys are only available when using a serial port session or an interactive Telnet session (for example, **telnet <hostname> 3083**).

1.11 Mixed Mode Timing Support

Although TL1 supports mixed mode timing, Cisco strongly advises against its implementation. Mixed mode timing is not a recommended timing mode because of the inherent risk of creating timing loops. Refer to Telcordia document GR-436-CORE, *Digital Network Synchronization Plan* for recommended synchronization planning. For further assistance, contact the Cisco Technical Assistance Center (TAC) at www.cisco.com or call (800) 553-2447 for unresolved problems.

1.12 Default Values

This section lists the default values applied by the system when they are not explicitly specified during provisioning.

1.12.1 MS-SPRing

Table 1-5 lists the default MS-SPRing values that are applied by the system when they are not explicitly specified during MS-SPRing provisioning (ENT-MSSPR).

Table 1-5 MS-SPRing Default Values

MS-SPRing Parameter	Default
RVRTV	Y
RVTM	5.0 minutes
SRVRTV	Y
SRVTM	5.0 minutes

1.12.2 Cross-Connections

Table 1-6 lists the default cross-connection values that are applied by the system when they are not explicitly specified during circuit creation (ENT-CRS).

Table 1-6 Cross-Connections Default Values

Cross-Connection Parameter	Default
CCT	2WAY for both VCp and VC11 cross-connections

1.12.3 Environment

Table 1-7 lists the default environment alarms and controls values applied by the system when they are not explicitly specified during environment alarms and controls provisioning.

Table 1-7 Environment Default Values

Commands	Parameter Default
OPR-EXT-CONT	CONTTYPE is provisioned in the respective AID. There is no default for it. It is only used as a filter if entered. DUR always defaults to CONT.
RTRV-ATTR-CONT	There is no default for CONTTYPE. It is only used as a filter if entered.
RTRV-ATTR-ENV	There is no default for either NTFCNCDE or ALMTYPE, which are only used as filters if entered.

Table 1-7 Environment Default Values (continued)

Commands	Parameter Default
RTRV-EXT-CONT	CONTTYTYPE defaults to the control type associated with the AID.
SET-ATTR-ENV	NTFCNCDE defaults to NR. ALMTYPE defaults to NULL. ALMMSG defaults to \“Env Alarm Input 1\”.

1.12.4 Equipment

Table 1-8 lists the default equipment values that are applied by the system when they are not explicitly specified during equipment provisioning.

Table 1-8 Equipment Default Values

Commands	Parameter Default
ALW-SWTOPROTN-EQPT, INH-SWTOPROTN-EQPT, ALW-SWTOWKG-EQPT, and ING-SWTOWKG-EQPT	DIRN defaults to BTH.
ENT-EQPT	PROTID, PRTYPE, RVRTV, and RVTM default to NULL.
SW-DX-EQPT	MODE defaults to NORM.
SW-TOPROTN-EQPT and SW-TOWKG-EQPT	MODE defaults to NORM. DIRN defaults to BTH.

1.12.5 Performance

Table 1-9 lists the default performance values that are applied by the system when they are not explicitly specified during performance provisioning.

Table 1-9 Performance Default Values

Commands	Parameter Default
INIT-REG-<MOD2>	LOCN defaults to NEND (near end).
RTRV-PM-<MOD2>	LOCN defaults to NEND. TMPPER defaults to 15 minutes.
RTRV-TH-<MOD2>	MONTYPE defaults to CVL for STM/OCN. MONTYPE defaults to ESP for VCp. MONTYPE defaults to UASV for VC11. LOCN defaults to NEND. TMPPER defaults to 15 minutes.
SET-PMMODE-<VC_PATH>	PMSTATE defaults to ON.
SET-TH-<MOD2>	LOCN defaults to NEND. TMPPER defaults to 15 minutes.

1.12.6 Ports

Table 1-10 lists the default port values that are applied by the system when they are not explicitly specified during port provisioning.

Table 1-10 *Ports Default Values*

Ports	Parameter Default
STM Line	DCC defaults to N. TMGREF defaults to N. SYNCMSG defaults to Y. SENDDUS defaults to N. PJMON defaults to 0. SFBER defaults to 1E-4. SDBER defaults to 1E-7. MODE defaults to SDH. PST defaults to UNLOCKED.

1.12.7 SDH Line Protection

Table 1-11 lists the default SDH line protection values that are applied by the system when they are not explicitly specified during SDH line protection provisioning.

Table 1-11 *SDH Line Protection Default Values*

Commands	Parameter Default
EX-SW-<STM>	ST (switch type) is optional. For MS-SPRing protection switch only, ST defaults to MS-SPRing switch type.
STM Line Protection	PROTID defaults to the protecting port of the protection group (SLOT-#(OCN)PORT-#). It is a string that can have a maximum length of 32 characters. RVRTV defaults to N (nonrevertive mode). RVTM defaults to 5.0 minutes. PSDIRN defaults to UNI.
OPR-PROTNSW-<STM>	ST (switch type) is optional. For MS-SPRing protection switch only, ST defaults to MS-SPRing switch type.

1.12.8 VC Paths

Table 1-12 lists the default VC path values that are applied by the system when they are not explicitly specified during VC path provisioning.

Table 1-12 VC Paths Default Values

VC Paths	Parameter Default
VC Path	SFBER, SDBER, RVRTV, and RVTM apply to SNCP VC paths only. SFBER defaults to 1E-4. SDBER defaults to 1E-6. RVRTV defaults to N. RVTM defaults to empty because RVRTV is N when SNCP VCp is created. EXPTRC defaults to a copy of the provisioned string or NULL when TRCMODE is OFF mode. EXPTRC defaults to the user entered string when the TRCMODE is MANUAL mode. EXPTRC defaults to a copy of the acquired received string or NULL if the string has not been acquired when the TRCMODE is AUTO mode. INCTRC defaults to the incoming string (NULL) when the TRCMODE is under OFF mode. INCTRC defaults to a copy of the received string or NULL if the string has not been received when the TRCMODE is under MANUAL or AUTO mode.

1.12.9 Synchronization

Table 1-13 lists the default synchronization values that are applied by the system when they are not explicitly specified during synchronization provisioning.

Table 1-13 Synchronization Default Values

Synchronization	Parameter Default
BITS	LINECDE defaults to HDB3. FMT defaults to E1-CRCMF. SYNCMSG defaults to Y. PST defaults to UNLOCKED.
NE-SYCN	TMMDE defaults to EXTERNAL. RVRTV defaults to Y. RVTM defaults to 5.0 minutes.
SYCN	PRI STATUS defaults to ACT. SEC STATUS defaults to STBY. THIRD STATUS defaults to STBY.

1.12.10 Testing

Table 1-14 lists the default testing values that are applied by the system when they are not explicitly specified during testing provisioning.

Table 1-14 **Testing Default Values**

Commands	Parameter Default
OPR-LPBK	LPBKTYPE defaults to FACILITY.
RLS-LPBK	LPBKTYPE defaults to the current existing loopback type.

1.13 Parameter Types

This section provides a description of all message parameter types defined for the TL1 messages used in the Cisco NCS 2002 and Cisco NCS 2006. Individual parameters are listed within each command description.

1.13.1 ATAG Description

The autonomous message tag (ATAG) is used for message sequencing. There are four streams of autonomous messages and each stream corresponds to a sequence. The sequence numbers increment by one for each autonomous message within that stream. The format and range of ATAG differs for each stream. The four streams are:

1. Alarmed events: These include REPT ALM and REPT EVT (except REPT EVT SESSION) messages as well as the REPT SW autonomous message.

The ATAG format is x.y, where:

- x is the sequence number of this alarmed event. This is an integer in the range of 0 to 9999.
- y is the sequence number of the previous alarmed event that is related to this alarmed event. This is an integer in the range of 0 to 9999.

If there is no such previous related event, then y will be the same as x. For example, the first time an alarm is raised, you will receive the autonomous message:

```
TID-000 1998-06-20 14:30:00
* 1346.1346 REPT ALM T1
"FAC-1-1:MN,LOS,NSA,,,:\"Loss Of Signal\",DS1-14"
;
```

When this alarmed event/condition is cleared, you will receive the autonomous message:

```
TID-000 1998-06-20 14:31:00
A 1349.1346 REPT ALM T1
"FAC-1-1:CL,LOS,NSA,,,:\"Loss Of Signal\",DS1-14"
;
```

2. Database change messages: The REPT DBCHG message falls into this category.

The ATAG format is x, where x is the sequence number of the database change update message. This is an integer in the range of 0 to 9999. For example:

```
TID-000 1998-06-20 14:30:00
A 96 REPT DBCHG
"TIME=18-01-05,DATE=1970-01-01,SOURCE=2,USERID=CISCO15,
DBCHGSEQ=96:ENT-EQPT:SLOT-3"
;
```



Note The ATAG is the same as the DBCHGSEQ field in the REPT DBCHG output.

3. PM reports: The REPT PM messages fall into this category.

The ATAG format is x, where x is the sequence number of the PM report. This is an integer in the range of 0 to 9999. For example:

```
TID-000 1998-06-20 14:30:00
A5 REPT PM DS1
"FAC-3-1:CVL,10,PRTL,NEND,BTH,15-MIN,05-25,14-46"
;
```

This sequence number is global across all existing PM schedules.

4. Autonomous messages specific to a TL1 session: These messages are usually related to the security aspect of the TL1 session. Only the autonomous messages REPT EVT SESSION and CANC fall under this category. This is an integer in the range 0 to 9999. For example:

```
TID-000 1998-06-20 14:30:00
A 1 CANC
"User"
;
```

1.13.2 CTAG Description

The CTAG is included in each command by the user and is repeated by the NE in the response to allow the user to associate the command and response messages. The valid values for a CTAG are strings of up to 6 characters composed of identifiers (alphanumeric, beginning with a letter) or nonzero decimal numbers (a string of decimal digits with an optional nontrailing period).

A zero in the response field is valid when indicating an error; for example, issuing a semicolon by itself results in:

```
TID-000 1998-06-20 14:30:00
M 0 DENY IISP
/* Input, Garbage */
;
```

1.13.3 TID Description

The TID is the name of the NE where the command is addressed. TID is the Telcordia name for the system.

1.13.4 Parameter Notes

The following list contains general notes that apply to parameters:

- If a parameter is set to a value that is inconsistent with something already in the database and that value is not changed to a consistent value, then the command is denied.
- If a parameter is set to a value that is consistent with what is already in the database, but another parameter in the same command is incompatible, then the command is denied.
- The correct way to issue a command where parameters might be in conflict is to:

- Issue that command and change all relevant parameters to compatible values.
- Issue the command again to change the target values.
- The default values for command attributes can be seen using the RTRV commands, provided they are not altered by a provisioning command.
- The default for an optional field of an ED command is either the provisioned default value or the last provisioned value in the previous ED command.

1.14 Log Out of TL1

When you have finished using TL1, you must log out of the session. Logging out of TL1 only has to be done once per session.

Step 1 If you logged into TL1 via Cisco Transport Controller (CTC), you must log out by pressing the **Disconnect** button or by issuing the CANC-USER command as shown in the following steps.

If you logged into TL1 via Telnet or craft interface, you must log out by issuing the CANC-USER command.

Input Format:

CANC-USER:[<TID>]:<USERID>:<CTAG>;

- TID is the name of the node you want to access. If you only want to query the node you connected to, leave the TID blank.
- USERID is the user ID. Maximum 10 alphanumeric characters.
- CTAG is any non-blank character series that does not have to be unique.

Input Example:

CANC-USER:PETALUMA:DXT:100;

Step 2 Confirm you receive a COMPLD response to indicate the command was completed successfully.

Response Example:

TID001 03-07-22 02:45:12

M 100 COMPLD;



Provisioning Procedures

2.1 Setting Up TL1 Communication

The period during which a user is logged into the Cisco NCS 2002 or Cisco NCS 2006 is called a session. There are three options you can use to open a session (log in):

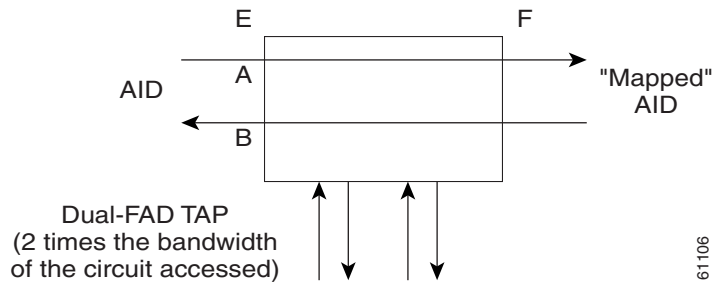
- Cisco Transport Controller (CTC)
- Telnet
- Craft interface

2.2 Test Access

The test access (TACC) feature allows a third-party Broadband Remote Test Unit (BRTU) to create nonintrusive test access points (TAPs) to monitor the circuits on the Cisco NCS 2002 or Cisco NCS 2006 for errors. The test access feature also allows the circuit to be split (intrusive), so that the transmission paths can be tested for bit errors through the use of various bit test patterns. The two BRTUs supported by the Cisco NCS 2002 or Cisco NCS 2006 are the Hekimian/Spirent BRTU-93 (6750) and the TTC/Acterna Centest 650.

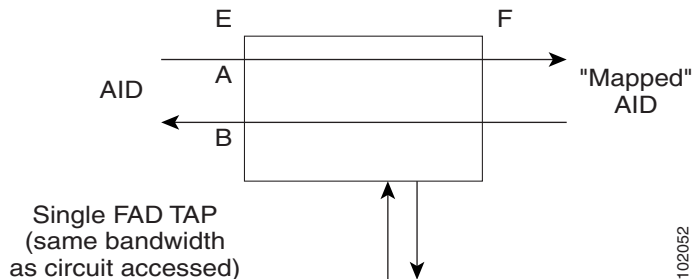
The test access functionality provides TL1 commands for creating and deleting TAPs, connecting or disconnecting TAPs to circuit cross-connects and changing the mode of test access on the Cisco NCS 2002 or Cisco NCS 2006. You can view test access information in CTC; in node view click the **Maintenance > Test Access** tabs.

A TAP provides the capability to connect the circuit under test to a BRTU. This connection initially provides in-service monitoring capability to permit the tester to determine that the circuit under test is idle. The monitor connection should not disturb the circuit under test. The access point and remote test unit (RTU) also provide the capability of splitting a circuit under test. A split consists of breaking the transmission path of the circuit under test. This is done out of service. The two sides of the access point are called the Equipment (E) and Facility (F) directions. For a 4-wire or 6-wire circuit, the transmission pairs within the access point are defined as the A and B pairs. The circuit under test should be wired into the access point so the direction of transmission on the A pair is from E to F, and the transmission direction for the B pair is from F to E ([Figure 2-1](#)).

Figure 2-1 *Circuit With No Access Dual FAD TAP*

A dual facility access digroup (FAD) TAP uses twice the bandwidth of the circuit under test. This can be specified by the TAPTYPE parameter as shown in ED-<MOD2> command syntax in the [“2.2.2 TAP Creation and Deletion”](#) section on page 2-3. The values are SINGLE and DUAL. It defaults to DUAL.

A single FAD TAP uses half the bandwidth as that of the dual FAD, for example, it will use the same bandwidth as the circuit accessed for the TAP creation. This can be specified by the TAPTYPE parameter as shown in the [“2.2.2 TAP Creation and Deletion”](#) section on page 2-3. The values are SINGLE and DUAL. The MONEF, SPLTEF, and LOOPEF modes are not supported by single FAD TAPs ([Figure 2-2](#)).

Figure 2-2 *Circuit With No Access (Single FAD TAP)*

2.2.1 Test Access Terminology

The terminology in [Table 2-1](#) is used in conjunction with test access.

Table 2-1 *Test Access Terminology*

Term	Definition
BRTU	Broadband remote test unit
DFAD	Dual facility access digroup
FAD	Facility access digroup
FAP	Facility access path
LOOPE	Split/loop access on A and B paths equipment side
LOOPF	Split/loop access on A and B paths facility side
MONE	Monitor access with signal detector on A path
MONF	Monitor access with signal detector on B path

Table 2-1 Test Access Terminology

Term	Definition
MONEF	Monitor access with signal detector on A and B paths
QRS	Quasi-random signal (bit test pattern)
SPLTA	Split access on A path with signal detector from equipment, QRS on facility side
SPLTB	Split access on B path with signal detector from equipment, QRS on equipment side
SPLTE	Split access on A and B paths with signal detector from equipment, QRS on equipment side
SPLTF	Split access on A and B paths with signal detector from equipment, QRS on facility side
SPLTEF	Split access on A and B paths for testing in both equipment and facility directions
TACC	Test access
TAP	Test access path/point

The following path naming conventions apply to test access:

- E—Equipment test access point direction
- F—Facility test access point direction
- A—Transmission path (the direction of transmission on the A pair is from E to F)
- B—Transmission path (the transmission direction for the B pair is from F to E)

2.2.2 TAP Creation and Deletion

TL1 supports commands to create, delete, connect, change, retrieve, and disconnect TAPs.

2.2.2.1 ED-<rr>

The edit command (ED-<rr>) is used to change an existing port/virtual container (VC) to a TAP.



Note

<rr> indicates one of the following parameters: **E1, E3, DS3I, VC12, VC3, VC4, VC42C, VC43C, VC44C, VC48C, VC416C, VC464C.**

Input Format:

ED-(E1, E3, DS3I, VC12, VC3, VC4, VC42C, VC43C, VC44C, VC48C, VC416C, VC464C):[<TID>]:<AID>:<CTAG>[:::TACC=<TACC>],[TAPTYPE=<TAPTYPE>];

Edit an existing port/VC and change it to a TAP so it can be used when requesting TACC connections. This includes an optional parameter TACC=n that defines the port/VC as a test access point with a selected unique TAP number. This TAP number will be used when requesting test access connections to circuit cross-connects under test. The TAP creation will fail if the port/VC already has a cross-connect on it.

The TAPTYPE parameter values are SINGLE and DUAL. The MONEF, SPLTEF, and LOOPEF modes are not supported by single FAD TAPs. It defaults to DUAL.



Note

- This command generates a REPT DBCHG message.

- The alarms and conditions on TACC paths can be retrieved by the RTRV-ALM-ALL or RTRV-ALM-<MOD2> commands.
- The TAP is a persistent object; it will exist even after the user has logged out of the TL1 session.

The following rules apply to TAP numbers:

- A TAP number is an integer in the range of 1 to 999. When TACC=0 is specified, the TAP is deleted (if already present).
- A TAP number is unique across E1, E3, DS3I, VC12, VC3, VC4, VC42C, VC43C, VC44C, VC48C, VC416C, and VC464C TAPs in the system.
- A TAP number is not editable.

2.2.2.2 ED-E1

When an ED-E1 command is executed with a specified TACC value for a given E1 port/facility, a dual facility access digroup (DFAD) is created by using the specified port/facility and the consecutive port/facility.

The command in [Example 2-1](#) creates a DFAD on FAC-1-1 and FAC-1-2.

Example 2-1 Create a DFAD on FAC-1-1 and FAC-1-2

```
ED-E1::FAC-1-1:12::TACC=1;

DV9-99 1970-01-02 03:16:11
M 12 COMPLD
;
```



Note

These ports/facilities cannot be used for the creation of cross-connections until the TAP is deleted.

2.2.2.3 ED-E3

When an ED-E3 is executed with a specified TACC value for a given E3 port/facility, a DFAD is created by using the specified port/facility and the consecutive port/facility.

The command in [Example 2-2](#) creates an E3 DFAD on FAC-2-1 and FAC-2-2.

Example 2-2 Create an E3 DFAD on FAC-2-1 and FAC-2-2

```
ED-E3:: FAC-2-1:12::TACC=2;

DV9-99 1970-01-02 03:16:11
M 12 COMPLD
;
```



Note

These ports/facilities cannot be used for the creation of cross-connections until the TAP is deleted.

2.2.2.4 ED-DS3I

The ED-DS3I command is used for DS3 access on a DS3i card. When an ED-DS3I is executed with a specified TACC value for a given DS3i card, a DFAD is created by using the specified facility and the consecutive port/facility.

The command in [Example 2-3](#) creates DFAD on FAC-16-1 and FAC-16-1.

Example 2-3 Create a DFAD on FAC-16-1 and FAC-16-1

```
ED-DS3I::FAC-16-1:12::TACC=3;

DV9-99 1970-01-02 03:16:11
M 12 COMPLD
;
```



Note

These ports/facilities cannot be used for the creation of cross-connections until the TAP is deleted.

2.2.2.5 ED-VC4n

When an ED-VC4n is executed for a TACC, it assigns the VC path for the first two-way test access connection and VC+1 as the second two-way connection. Similarly, for VC42c, VC43c, VC44c, VC48c, VC416c, the next consecutive VC of the same width is chosen. The TAP creation will fail if either of the consecutive VC's are not available.

The command in [Example 2-4](#) creates a TAP on VC4-5-1-1 and VC4-5-1-2.

Example 2-4 Create a TAP on VC4-5-1-1 and VC4-5-1-2.

```
ED-VC4::VC4-5-1-1:12::TACC=4;

DV9-99 1970-01-02 03:16:11
M 12 COMPLD
;
```



Note

These VC paths cannot be used for creation of cross-connects until the TAP is deleted.

The command in [Example 2-5](#) creates a VC48C Dual TAP on VC4-6-1-1 and VC4-6-1-25.

Example 2-5 Create a VC48C Dual TAP on VC4-6-1-1 and VC4-6-1-25.

```
ED-VC48C::VC4-6-1-1:12::TACC=5;

DV9-99 1970-01-02 03:16:11
M 12 COMPLD
;
```



Note

These VC paths cannot be used for creation of cross-connects until the TAP is deleted.

2.2.2.6 ED-VC12

When an ED-VC12 is executed for a TACC, a VC12 TAP is created. The specified VC12 access identifier (AID) is taken as the first VC12 connection, and the consecutive VC12 connection is used as the second path for the TAP.

The command in [Example 2-6](#) creates a VC12 TAP on VC12-1-1-1-1 and VC12-1-1-1-2-1.

Example 2-6 Create a VC12 TAP on VC12-1-1-1-1 and VC12-1-1-1-2-1

```
ED-VC12::VC12-1-1-1-1-1:12:::TACC=6;

DV9-99 1970-01-02 03:16:11
M 12 COMPLD
;
```



Note

These VC paths cannot be used for creation of cross-connects until the TAP is deleted.

2.2.2.7 ED-VC3

When an ED-VC3 is executed for a TACC, a VC3 TAP is created. The specified VC3 AID is taken as the first VC3 connection, and the consecutive VC3 connection is used as the second path for the TAP.

The command in [Example 2-7](#) creates a VC3 TAP on VC3-1-1-1 and VC3-1-1-2.

Example 2-7 Create a VC3 TAP on VC3-1-1-1 and VC3-1-1-2

```
ED-VC3::VC3-1-1-1-1:12:::TACC=6;

DV9-99 1970-01-02 03:16:11
M 12 COMPLD
;
```



Note

These VC paths cannot be used for creation of cross-connects until the TAP is deleted.

2.2.3 Connect Test Access Points

The connect test access points command (CONN-TACC-<rr>) is used to make a connection between the TAP and the circuit or cross-connect under test.



Note

<rr> indicates one of the following parameters: **E1, E3, DS3I, VC12, VC3, VC4, VC42c, VC43c, VC44c, VC48c, VC416c, VC464c.**

Input Format:

CONN-TACC-(E1, E3, DS3I, VC12, VC3, VC4, VC42c, VC43c, VC44c, VC48c, VC416c, VC464c):[<TID>]:<AID>:<CTAG>::<TAP>:MD=<MD>;

Connect the port/VC4n/VC3 defined by <AID> to the port/VC4n/VC3 defined by the <TAP> number. The mode of test access to the circuit/cross-connect is specified by <MD>. The modes can be either of Monitor (nonintrusive), Split, or Loop (intrusive) modes. The various modes are described in the [“2.2.9 Test Access Mode Definitions”](#) section on page 2-12.

**Note**

The connection is maintained only for the duration of the TL1 session (nonpersistent).

**Note**

The TAP number is displayed at the output if the CONN-TACC command completes successfully.

The following error codes are supported:

- RTBY—Requested TAP busy
- RTEN—Requested TAP does not exist
- SCAT—Circuit is already connected to another TAP
- SRCN—Requested condition already exists
- IIAC—Invalid access identifier (AID)
- EANS—Access not supported
- SRAC—Requested access configuration is invalid

The command in [Example 2-8](#) creates a connection between TAP number one and the port/facility FAC-1-3 with the access mode defined as MONE. The various modes are described in the “[2.2.9 Test Access Mode Definitions](#)” section on page 2-12.

Example 2-8 Create a Connection Between TAP 1 and FAC-1-3

```
CONN-TACC-E1::FAC-1-3:12::1:MD=MONE;

DV9-99 1970-01-02 02:51:54
M 12 COMPLD
1
;
```

2.2.4 Change Access Mode

The change access mode command (CHG-ACCMD-<rr>) is used to change the access mode.

**Note**

<rr> indicates one of the following parameters: E1, E3, DS3I, VC12, VC3, VC4, VC42c, VC43c, VC44c, VC48c, VC416c, VC464c.

Input Format:

CHG-ACCMD- (E1, E3, DS3I, VC12, VC3, VC4, VC42c, VC43c, VC44c, VC48c, VC416c, VC464c):[<TID>]:<TAP>:<CTAG>::<MD>;

Use this command to change the type of test access. This might be a change from monitoring the data to inserting data into the VC. This command can only be applied to an existing TAP connection. If a TAP connection does not exist, a RTEN error is returned.

The following error codes are supported:

- SRCN—Requested condition already exists
- SRAC—Requested access configuration is invalid
- RTEN—Requested TAP does not exist

The command in [Example 2-9](#) changes the access mode of TAP 1 to LOOPE.

Example 2-9 Change TAP 1 Access Mode to LOOPE

```
CHG-ACCMD-E1::1:12::LOOPE;
```

```
DV9-99 1970-01-02 02:59:43
M 12 COMPLD
;
```



Note

The access mode cannot be changed if the TAP is not connected.



Note

This command generates a REPT DBCHG message.

2.2.5 Retrieving Test Access Point Information

The following sections retrieve TAP information using the RTRV-<rr> and RTRV-TACC commands.

2.2.5.1 RTRV-<rr>

The RTRV-<rr> command retrieves TAP information.



Note

A generic ALL AID would behave similarly to an ALL AID such as, SLOT-ALL or FAC-1-ALL for all the RTRV-<rr> commands that support a generic ALL AID.



Note

<rr> indicates one of the following parameters: **E1, E3, DS3I, VC12, VC3, VC4, VC42c, VC43c, VC44c, VC48c, VC416c, VC464c.**

Input Format:

RTRV- (E1, E3, DS3I, VC12, VC3, VC4, VC42c, VC43c, VC44c, VC48c, VC416c, VC464c):[<TID>]:<AID>:<CTAG>;

This command is modified to include the return of a TAP number if the requested <AID> is defined as a TAP. An optional TACC=<TAPNUMBER> will appear in the output list if the requested <AID> is defined as a TAP. The example in [Example 2-10](#) retrieves TAP information for FAC-1-1.

Example 2-10 Retrieve TAP Information for FAC-1-1

```
RTRV-E1::FAC-1-1:D;
```

```
VA454E-96 2003-04-24 20:06:46
M D COMPLD
"FAC-1-1::LINECDE=HDB3,FMT=E1-MF,TACC=1,TAPTYPE=DUAL,SOAK=32:UNLOCKED,"
;
```


2.2.5.2 RTRV-TACC

The RTRV-TACC command can also be used to retrieve details associated with a TAP.

Input Format:

RTRV-TACC:[<TID>]:<TAP>:<CTAG>;

The TAP is identified by the TAP number. The ALL input TAP value means that the command will return all the configured TACCs in the NE. An example of the RTRV-TACC command is provided in [Example 2-11](#).

Example 2-11 Retrieve Details for TAP 241

```
RTRV-TACC:CISCO:241:CTAG;

      TID-000 1998-06-20 14:30:00
M 001 COMPLD
"241:VC-2-1-1.VC-2-2,MONE,VC-12-1-1,VC-13-1-1"
;
```

2.2.6 Disconnect Test Access Points

TAPs can be disconnected in the following ways:

- Issue the DISC-TACC command.
- Delete or modify the accessed connection.
- Drop the TL1 session for any reason, including logout or a dropped Telnet session.
- Switch or reset a TCC2/TCC2P/TCC3/TSC card.

The disconnect TAP (DISC-TACC) command disconnects the TAP and puts the connection back to its original state (no access).

Input Format:

DISC-TACC:[<TID>]:<TAP>:<CTAG>;

The command in disconnects TAP 1 from the circuit/cross-connect under test.

Example 2-12 Disconnect TAP 1 from the Circuit/Cross-Connect Under Test

```
DISC-TACC::1:12;

      DV9-99 1970-01-02 02:59:43
M 12 COMPLD
;
```



Note

This command generates a REPT DBCHG message.

The following error codes are supported:

- SADC—Already disconnected
- SRTN—Unable to release TAP

2.2.7 Delete Test Access Points

To delete a TAP, issue the edit TAP command with the TACC set to zero.

Input Format:

ED-<VC_PATH>:[<[TID]>]:<AID>:<CTAG>::TACC=0;;



Note

The TACC number must be set to zero in order to delete a TAP.



Note

If a TAP is not removed, the VC bandwidth will be stranded.

2.2.8 Test Access Configurations

This section shows single node and multinode test access configurations. [Figure 2-3](#) shows a single node test access configuration. [Figure 2-4](#) shows a multinode (MONE) test access configuration.

Use the following commands to configure test access:

Step 1 ED-VC4::VC4-1-1-1:90::TACC=1;

This command changes VC4-1 and VC4-2 on Slot 1 to a TAP. The CTAG is 90. It sets the TACC number to 1.

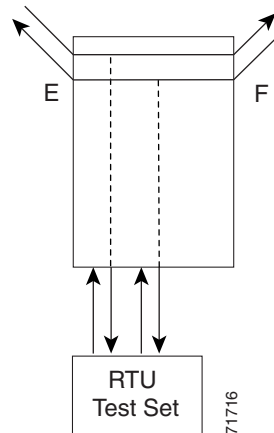
Step 2 CONN-TACC-VC4::<AID for E or F depending on MD>:91::1:MONE

This command connects the <AID> to the TACC defined by TAP 1 on the E side. The CTAG is 91.

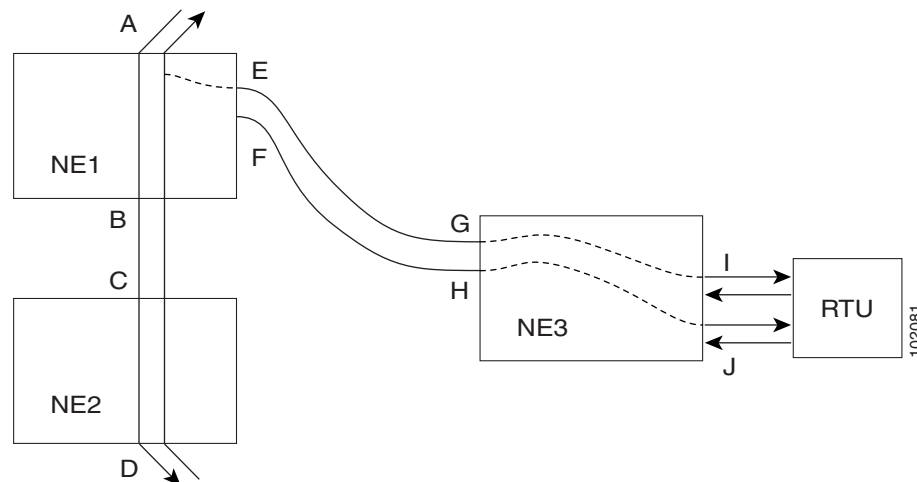


Note

The connection made in the CONN-TACC command can use MONE to connect to the F side AID. The AID provided designates the E side and the other automatically becomes the F side. For example, if an <AID F> is supplied to a MONE connection, then the top line would be connected to the other side of the path, or what is shown in [Figure 2-3](#) as the F side. When a CONN-TACC is set up, these designations cannot change until a DISC-TACC or another CONN-TACC command is executed. The connection is based on the AID supplied.

Figure 2-3 *Single Node View (Node 1)*

In the [Figure 2-3](#) configuration, there might be a single DS-3 port wired up, configured as 14 dual FADs (28 VTs).

Figure 2-4 *Multi-Node View (MONE Example)*

The following commands are performed on NE3:

ENT-CRS-VC4::<AID I-G>:100::2WAY;

A connection, not a TAP. CTAG is 100.

ENT-CRS-VC4::<AID J-H>:101::2WAY;

Second connection, not a TAP.

The following commands are performed on NE1:

Assuming the path from A to B is already entered, the A and B points in [Figure 2-4](#) refer to entry and exit points on the node or different cards. The E/F designators refer to the two-way connections from NE3.

The following command creates a TAP with VC4-1-1-1 and VC4-1-1-2 through NE1. TAP number assigned is 4.

ED-VC4::VC4-1-1-1:D::TACC=4;

The following command connects TAP 4 to the circuit:

CONN-TACC-VC4::<AID A or B>:102::4:<MD>



Note

The I and J connections above are TAPs in [Figure 2-3](#), but normal connections in [Figure 2-4](#).

2.2.9 Test Access Mode Definitions

The following diagrams show what the different test access modes (<MD>) refer to. [Figure 2-5](#) shows a circuit with no access (dual FAD TAP) and [Figure 2-6](#) shows a circuit with no access (single FAD TAP). The subsections that follow show the circuits in each test access mode. The QRS can be generated by an outside source, for example, the empty connection of the BRTU.

The subsections that follow describe the modes:

- MONE, MONF, and MONEF access modes are non-service effecting and can be applied to a locked (in service) port state.
- LOOPE, LOOPF, SPLTE, SPLTF, SPLTEF, SPLTA, SPLTB, and SPLTAB access modes are intrusive and can only be applied to a circuit/port that is in the Unlocked_Maintenance port state. The NE will change the state of the circuit under test to Unlocked_Maintenance during the period of TACC and restore it to the original state when the connection between the TAP and the circuit is dropped.

Figure 2-5 *Circuit With No Access (Dual FAD TAP)*

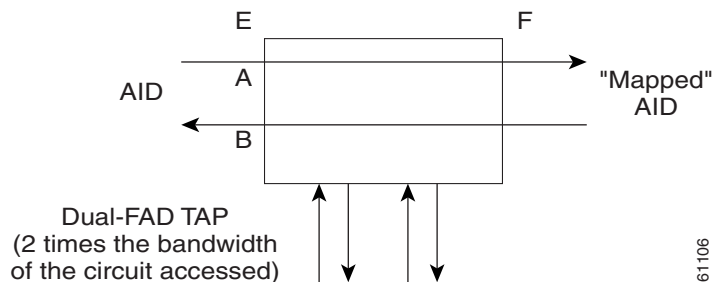
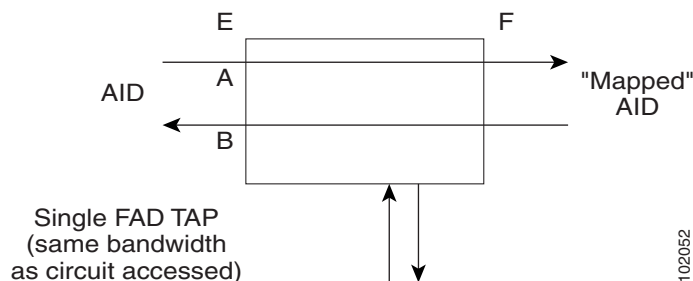


Figure 2-6 *Circuit With No Access (Single FAD TAP)*



2.2.9.1 MONE

Monitor E (MONE) mode indicates a monitor connection provided from the facility access digroup (FAD) to the A transmission path of the accessed circuit (Figure 2-7 and Figure 2-8). This is a nonintrusive mode.

Figure 2-7 MONE Access Mode Single TAP

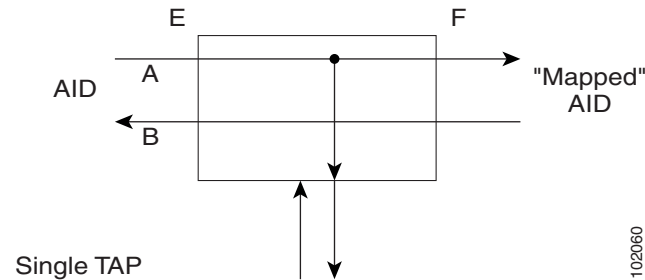
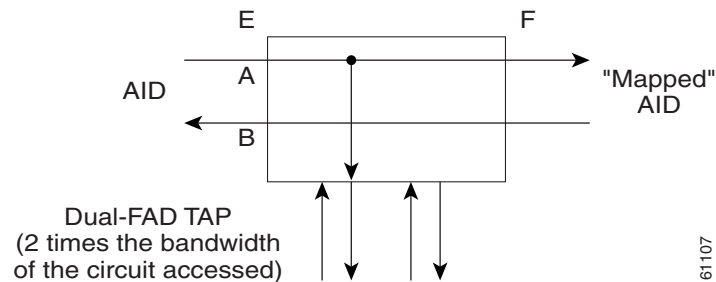


Figure 2-8 MONE Access Mode Dual TAP



2.2.9.2 MONF

Monitor F (MONF) mode indicates that the FAD is providing a monitor connection to the B transmission path of the accessed circuit (Figure 2-9 and Figure 2-10). This is a nonintrusive mode.

Figure 2-9 MONF Access Mode Single TAP

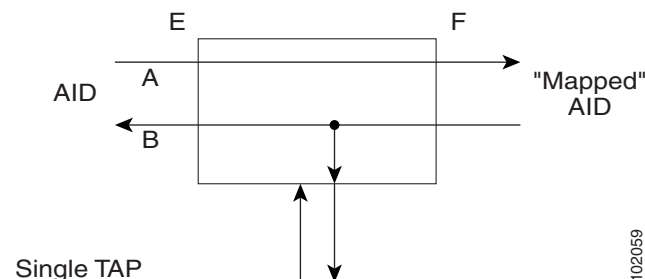
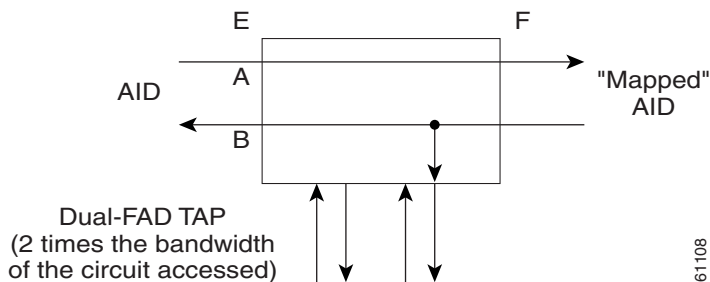


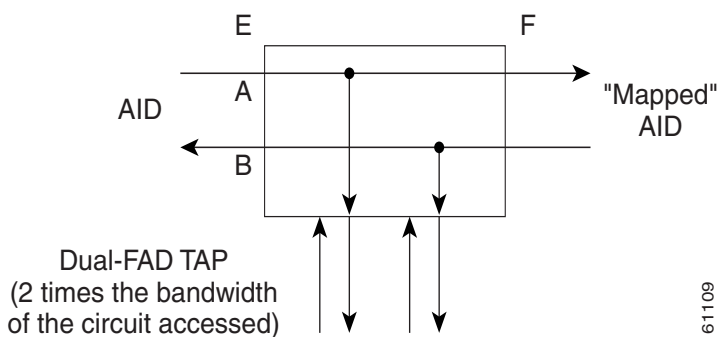
Figure 2-10 *MONF Access Mode Dual TAP***Note**

The MONE and SPLTA modes are applicable to unidirectional circuits from E to F. The MONF and SPLTB modes are applicable to unidirectional circuits from F to E.

2.2.9.3 MONEF

Monitor EF (MONEF) mode is a monitor connection provided from the FAD1 (odd pair) of a DFAD, to the A transmission path, and from FAD2 (even pair) of the same DFAD, to the B transmission path of the accessed circuit. This is a nonintrusive mode ([Figure 2-11](#)).

MONEF for T3 (DS3 HCDS) indicates that the odd pair of a facility access path (FAP) is providing a monitor connection to the A transmission path and from that the even pair of an FAP to the B transmission path of the accessed circuit.

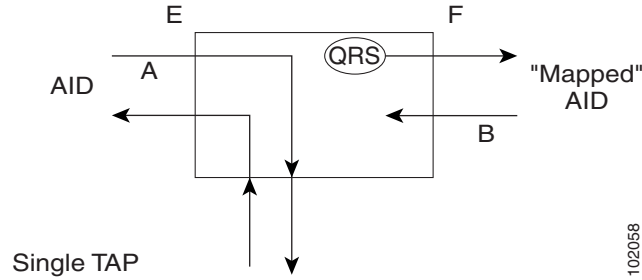
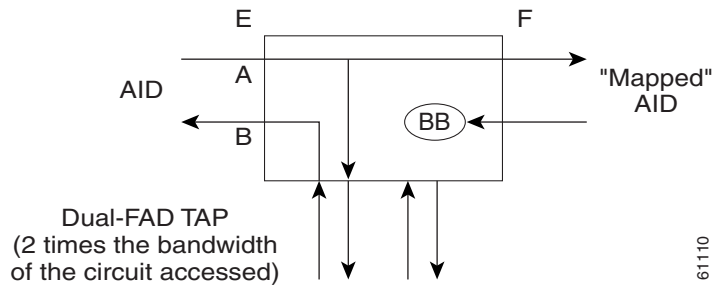
Figure 2-11 *MONEF Access Mode Dual TAP*

2.2.9.4 SPLTE

Split E (SPLTE) mode splits both the A and B paths and connects the E side of the accessed circuit to the FAD ([Figure 2-12](#) and [Figure 2-13](#)).

**Note**

QRS is not supported. The connection will remain as-is.

Figure 2-12 *SPLTE Access Mode Single TAP***Figure 2-13** *SPLTE Access Mode Dual TAP*

2.2.9.5 SPLTF

Split F (SPLTF) mode splits both the A and B paths and connects the F side of the accessed circuit to the FAD (Figure 2-14 and Figure 2-15).


Note

QRS is not supported. The connection will remain as-is.

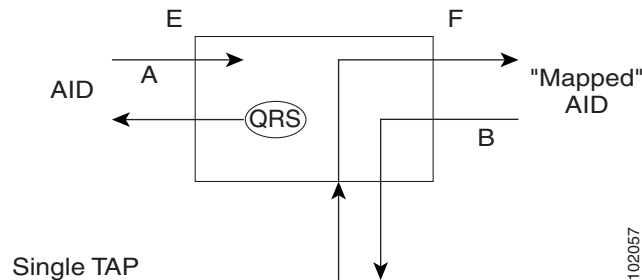
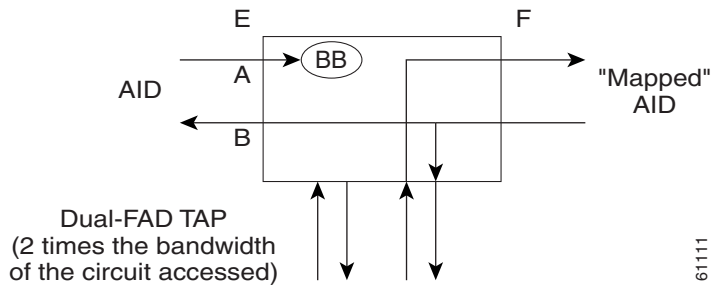
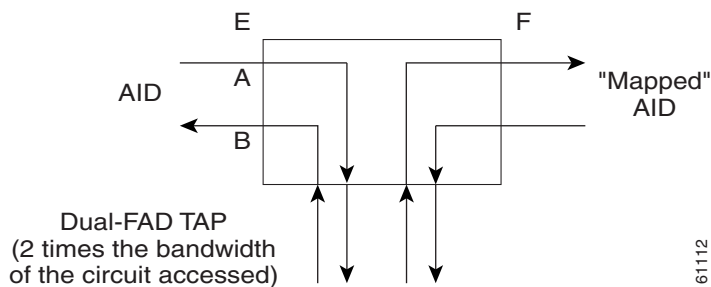
Figure 2-14 *SPLTF Access Mode Single TAP*

Figure 2-15 *SPLTF Access Mode Dual TAP*

2.2.9.6 SPLTEF

Split EF (SPLTEF) mode for T1 (DS1 HCDS) splits both the A and B paths, connects the E side of the accessed circuit to FAD1 and the DFAD pair, and connects the F side to the FAD2 of the same DFAD pair ([Figure 2-16](#)).

SPLTEF for T3 (DS3 HCDS) indicates to split both the A and B paths and connect the E side of the accessed circuit to the odd pair of the FAP and the F side to the even pair of the FAP.

Figure 2-16 *SPLTEF Access Mode Dual TAP*

2.2.9.7 LOOPE

Loop E (LOOPE) mode splits both the A and B paths, connects the incoming line from the E direction to the outgoing line in the E direction, and connects this looped configuration to the FAD ([Figure 2-17](#) and [Figure 2-18](#)). Loop E and F modes are basically identical to the SPLT E and F modes except that the outgoing signal is the incoming signal and not the signal from the remote test unit (RTU).


Note

QRS is not supported. The connection will remain as-is.

Dual-FAD TAP
(2 times the bandwidth
of the circuit accessed)

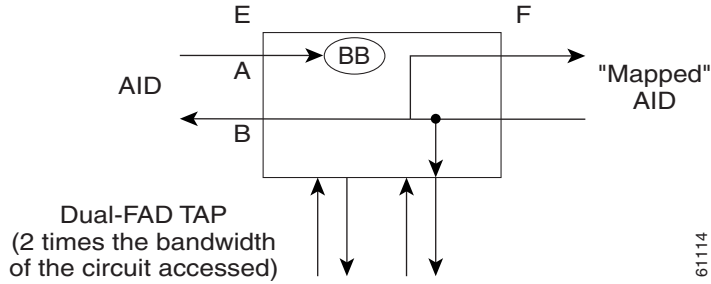
61113

Loop F (LOOPF) mode splits both the A and B paths, connects the incoming line from the F direction to the outgoing line in the F direction and connect this looped configuration to the FAD (Figure 2-19 and Figure 2-20).



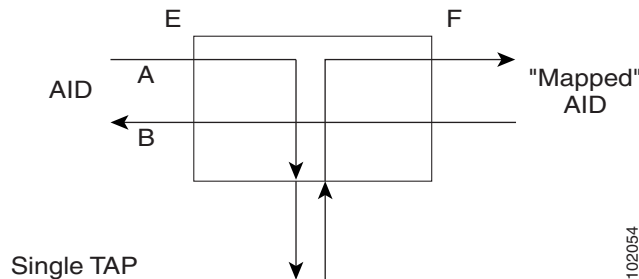
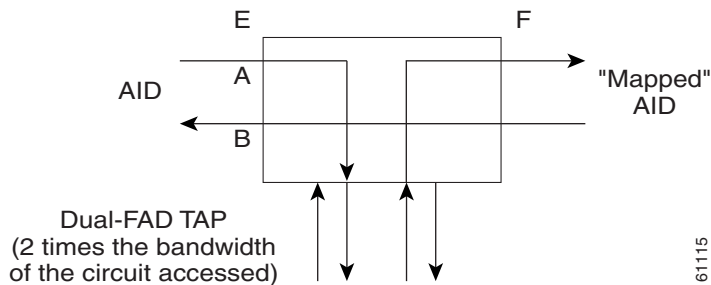
QRS is not supported. The connection will remain as-is.

The diagram illustrates a "Single TAP" system. A large rectangular box represents the system. On the left side, there is an input labeled "E" with a line entering the box. This line splits into two paths: one entering an oval labeled "BB" and another entering an oval labeled "QRS". From the "BB" oval, a line exits the box to the right, labeled "F", and is identified as the "Mapped" AID. From the "QRS" oval, a line exits the box to the left, labeled "B", and is identified as the AID. A feedback loop is shown where the "Mapped" AID line (F) is connected to the input line (E) via a junction point. A label "Single TAP" is placed below the box. The number "102055" is written vertically on the right side of the diagram.

Figure 2-20 *LOOPF Access Mode Dual TAP*

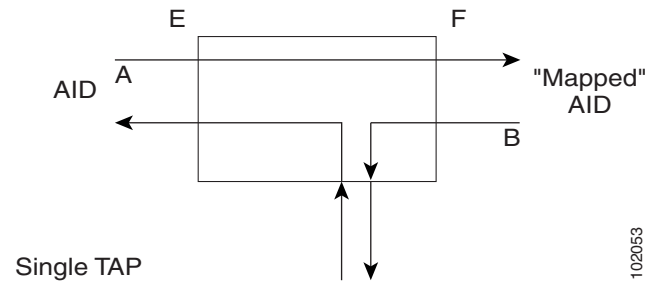
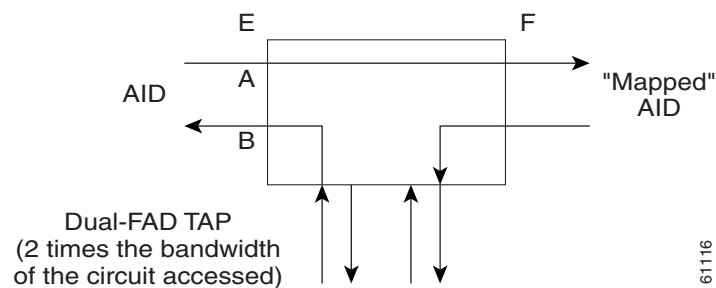
2.2.9.9 SPLTA

Split A (SPLTA) mode indicates that a connection is provided from both the E and F sides of the A transmission path of the circuit under test to the FAD and splits the A transmission path ([Figure 2-21](#) and [Figure 2-22](#)). These modes are similar to the SPLTE and SPLTF modes, except the signals are sent to the RTU, not the NE signal configuration.

Figure 2-21 *SPLTA Access Mode Single TAP***Figure 2-22** *SPLTA Access Mode Dual TAP*

2.2.9.10 SPLTB

Split B (SPLTB) mode indicates that a connection is provided from both the E and F sides of the B transmission path of the circuit under test to the FAD and splits the B transmission path ([Figure 2-23](#) and [Figure 2-24](#)).

Figure 2-23 *SPLTB Access Mode Single TAP***Figure 2-24** *SPLTB Access Mode Dual TAP*

2.2.10 Unmapped AID Test Access Point Connections

The Cisco NCS 2002 and Cisco NCS 2006 support connections to unmapped AIDs (unmapped circuits). The TAPs can be connected to an unmapped AID, for example, an AID that does not have a cross-connect on it. The access modes supported are: MONE, SPLTE, and LOOPE.

[Example 2-13](#) creates a TAP on VC4-5-1-1.

Example 2-13 *Create a TAP on VC4-5-1-1*

```
ED-VC4::VC4-5-1-1:12::TACC=1;
```

```
DV9-99 1970-01-02 03:16:11
M 12 COMPLD
;
```

[Example 2-14](#) creates an unmapped AID connection with a MONE access mode.

Example 2-14 *Create an Unmapped AID Connection with a MONE Access Mode*

```
CONN-TACC-VC4::VC4-5-1-3:12::1:MD=MONE;
```

```
DV9-99 1970-01-02 02:51:54
M 12 COMPLD
1
;
```

**Note**

VC4-5-1-3 does not have a cross-connect on it. VC4-5-1-3 becomes unusable until the connection is disconnected by the DISC-TACC command.

**Note**

The AID provided in the CONN-TACC command designates the E side and the other automatically becomes the F side.

**Note**

In the case of all one-way circuits (1-way, SNCP_HEAD, SNCP_DROP, SNCP_DC, SNCP_EN), if the AID specified is the source AID, the direction is designated as From E in [Table 2-2 on page 2-21](#). If the AID specified is the destination AID or the drop side, the direction is designated as From F in [Table 2-2 on page 2-21](#).

2.2.10.1 One-Way Circuit

The examples in this section assume that a VC TAP is already created with a TAP number of 1.

```
ENT-CRS-VC3::VC-5-1,VC-5-2:12::1WAY;
DV9-99 1970-07-01 20:29:06
M 12 COMPLD;

CONN-TACC-VC3::VC-5-1:12::1:MD=MONF;
DV9-99 1970-01-01 20:29:47
M 12 DENY
EANS
VC-5-1
/*INCORRECT TAP MODE*/
```

The AID specified in the above CONN-TACC command is the source AID for the one-way circuit. In this case, only MONE and SPLTA modes are allowed because there is no B path in the case of a one-way circuit (see [Table 2-2 on page 2-21](#)).

```
CONN-TACC-VC3::VC-5-1:12::1:MD=MONE;
DV9-99 1970-01-01 20:30:09
M 12 COMPLD

DISC-TACC::1:12;
DV9-99 1970-01-01 20:30:20
M 12 COMPLD
;
```

However, if the AID specified is the destination AID as shown below, the modes allowed are MONF and SPLTB.

```
CONN-TACC-VC3::VC-5-2:12::1:MD=MONF;
DV9-99 1970-01-01 20:30:32
M 12 COMPLD
```

**Note**

- The same examples apply for SNCP_HEAD, SNCP_DROP, SNCP_DC, and SNCP_EN, which are all one-way circuits.
- The connections are made only to the working path, irrespective of which path is currently active.

2.2.10.2 Two-Way Circuits

For two-way circuits, all the modes are allowed as shown in [Table 2-2](#). The same applies for SNCP_SNCP and SNCP circuit types. In the case of SNCP_SNCP and SNCP circuits, the working path is connected irrespective of which path is currently active.

2.2.10.3 Unmapped AID

As explained in the “[2.2.10 Unmapped AID Test Access Point Connections](#)” section on page 2-19, connections can be made to an AID without a cross-connect on it. The modes supported are MONE, SPLTE, and LOOPE as shown in [Table 2-2](#).



Note

The AID provided in the CONN-TACC command designates the E side and the other automatically becomes the F side.

Table 2-2 Modes Supported by Circuit Type

Circuit Type (Direction)	MONE	MONF	MONEF	SPLTE	SPLTF	SPLTEF	LOOPE	LOOPF	SPLTA	SPLTB
One-way (from E ¹)	X	—	—	—	—	—	—	—	X	—
One-way (from F ²)	—	X	—	—	—	—	—	—	—	X
Two-way	X	X	X	X	X	X	X	X	X	X
SNCP	X	X	X	X	X	X	X	X	X	X
SNCP_HEAD (from E)	X	—	—	—	—	—	—	—	X	—
SNCP_HEAD (from F)	—	X	—	—	—	—	—	—	—	X
SNCP_DROP SNCP_DC SNCP_EN (from E)	X	—	—	—	—	—	—	—	X	—
SNCP_DROP SNCP_DC SNCP_EN (from F)	—	X	—	—	—	—	—	—	—	X
SNCP_SNCP	X	X	X	X	X	X	X	X	X	X
Unmapped AID	X	—	—	X	—	—	X	—	—	—

1. In the case of all one-way circuits (1-way, SNCP_HEAD, SNCP_DROP, SNCP_DC, and SNCP_EN), if the AID specified is the source AID, the direction is designated as “from E” in this table.
2. In the case of all one-way circuits (1-way, SNCP_HEAD, SNCP_DROP, SNCP_DC, and SNCP_EN), if the AID specified is the destination AID or the drop side, the direction is designated as “from F” in this table.

2.3 TL1 Gateway

This section describes the TL1 gateway and provides procedures and examples for implementing TL1 gateway on the Cisco NCS 2002 and Cisco NCS 2006.

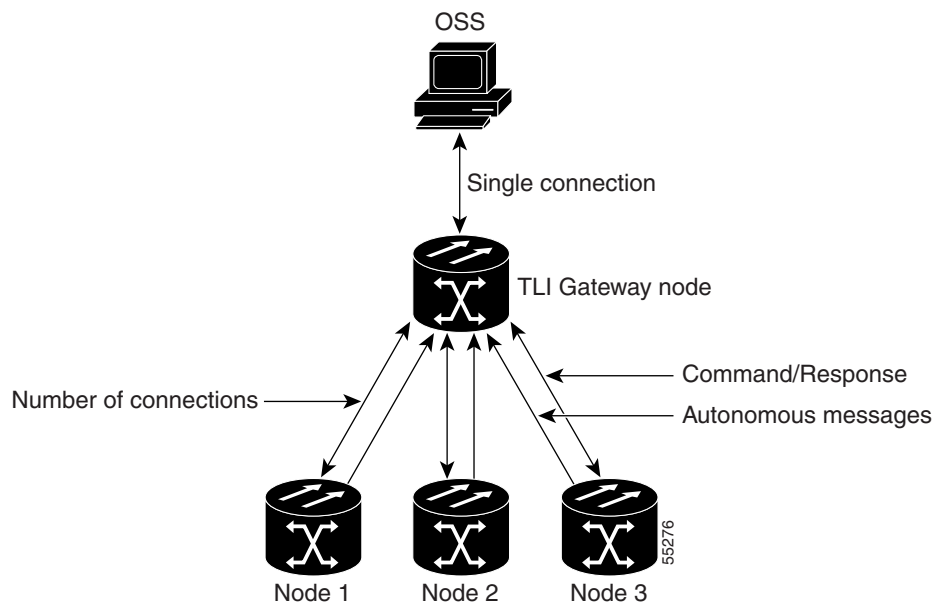
2.3.1 Gateway Network Element Topology

You can issue TL1 commands to multiple nodes through a single connection through the TL1 gateway. Any node can serve as a Gateway Network Element (GNE), End Network Element (ENE), or Intermediate Network Element (INE). A node becomes a GNE when a TL1 user connects to it and enters a command destined for another node. An ENE is an end node because it processes a TL1 command that is passed to it from another node. An INE is an intermediate node because of topology; it has no special hardware, software, or provisioning.

To implement the TL1 gateway, use the desired ENE's TID in the ACT-USER command to initiate a session between the GNE and the ENE. After a session is established, you must enter the ENE's TID in all subsequent commands that are destined for the ENE. From the GNE, you can access several remote nodes, which become the ENEs. The ENEs are the message destinations or origins. The INE handles the data communications channel (DCC) TCP/IP packet exchange. However, if the ENE is directly connected through DCC to the GNE, the INE does not exist.

The GNE session is the connection that multiplexes TL1 messages between the operation support system (OSS)/craftsperson and the GNE. The GNE demultiplexes incoming OSS TL1 commands and forwards them to the remote ENE. The GNE also multiplexes incoming responses and autonomous messages to the GNE session. The ENE session is the connection that exchanges messages between the GNE and the remote ENE. [Figure 2-25](#) shows the GNE topology.

Figure 2-25 Example of a GNE Topology



2.3.2 TL1 Sessions

Each NE can support up to a maximum of 20 concurrent communication sessions (connections from an OS/NE to the GNE). The TL1 connections can be made through telnet sessions from the LAN or from the craft/serial port connection on the NE. One TL1 session is reserved for the active serial port connection. The remaining 19 sessions are used for TL1 sessions through the LAN (wire-wrap, active serial port, or DCC). [Table 2-3](#) shows the number of serial port and LAN connections per platform.

Table 2-3 *Number of TL1 Sessions per Platform*

Platform	Number of Serial Port Sessions	Number of LAN Sessions	Total Number of TL1 Sessions
Cisco NCS 2002	1	19	20
Cisco NCS 2006	1	19	20

2.3.3 TL1 Gateway and ENE Sessions

Only a limited number of TL1 users logged into an NE at any given time can establish sessions to other ENEs. The active serial port sessions are reserved and can always become a GNE session. The number of ENE sessions is based on the number of gateway communications sessions (GNE sessions).

Each NE can support up to 12 concurrent communication gateway sessions, depending on the NE type. The maximum number of ENE sessions also varies depending on the NE type.

You can dynamically distribute the maximum number of ENE sessions to balance the number of concurrent gateway communication sessions. The GNE treats the concurrent gateway communication sessions and ENE/GNE limit as a resource pool. It continues to allocate resources until the pool is exhausted. When the pool is exhausted, the GNE returns an “All Gateways in Use” message or an “All ENE Connections in Use” message.



Note

The speed of the TL1 gateway and the maximum number of connections are limited by shared system resources, such as CTC, CTM, etc. The response time is slow as connections are increased and activity on these connections increases. Alarm storms, additional users, network latency, etc. also increase response time.

The gateway resource pools for each platform are shown in [Table 2-4](#).

Table 2-4 *Gateway Resource Pool*

Platform	Maximum Number of GNE Sessions	Maximum Number of ENEs over IP DCC	Maximum Number of ENEs over OSI DCC
Cisco NCS 2002	11 (10 + 1) ¹	176	176 ²
Cisco NCS 2006	11 (10 + 1) ³	176	176 ⁴

1. If there are any active Socket Over TL1 sessions, the maximum number of GNE sessions that can be established is equal to the number of GNE sessions possible minus the number of Socket Over TL1 sessions. For example, if there are two active Socket Over TL1 sessions, the maximum number of GNE sessions is nine (11-2=9).
2. If there are any active COPY-RFILE command instances, the maximum number of ENE sessions over OSI DCC that can be established is equal to the number of possible ENE sessions over OSI DCC minus the number of COPY-RFILE command instances. For example, if there are 10 active COPY-RFILE command instances, the maximum number of ENE sessions over OSI DCC is 166 (176-10=166).

3. If there are any active Socket Over TL1 sessions, the maximum number of GNE sessions that can be established is equal to the number of GNE sessions possible minus the number of Socket Over TL1 sessions. For example, if there are two active Socket Over TL1 sessions, the maximum number of GNE sessions is nine ($11-2=9$).
4. If there are any active COPY-RFILE command instances, the maximum number of ENE sessions over OSI DCC that can be established is equal to the number of possible ENE sessions over OSI DCC minus the number of COPY-RFILE command instances. For example, if there are 10 active COPY-RFILE command instances, the maximum number of ENE sessions over OSI DCC is 166 ($176-10=166$).

2.3.4 Implementing TL1 Gateway



Note

Issuing commands to specific nodes in the network is accomplished by entering a unique node name in the TID field in each TL1 message. The TID field is synonymous with the name of the node and is the second token in a TL1 command.

The following procedures demonstrate TL1 gateway on a four-node ring (without TL1 gateway in [Figure 2-26](#) and with TL1 gateway in [Figure 2-27](#)), where:

- Node 0 is the GNE.
- Node 1 is the ENE 1.
- Node 2 is the INE 2.
- Node 3 is the ENE 3.

Figure 2-26 Four-Node Ring Without TL1 Gateway

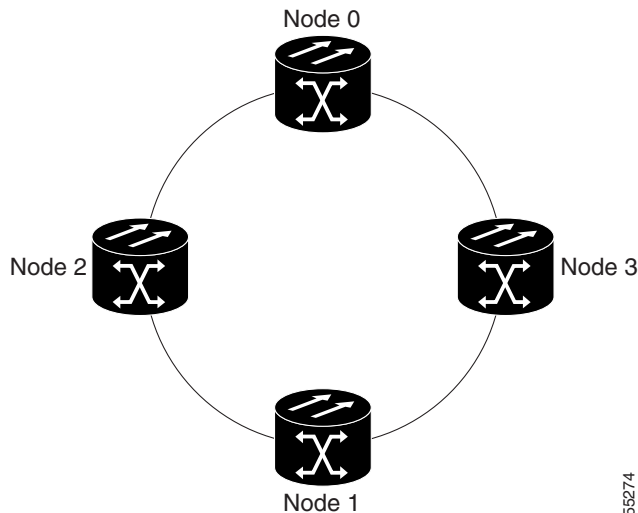
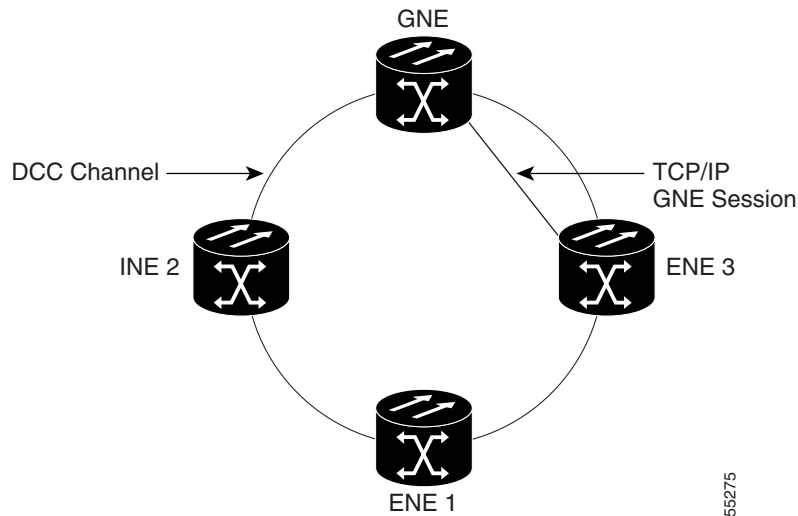


Figure 2-27 Four-Node Ring With TL1 Gateway

Log Into a Remote ENE

-
- Step 1** Telnet or connect through the serial port to Node 0, which will become the GNE.
- Step 2** To connect to the ENE 1 node, enter the TL1 login command using the following input example:
ACT-USER:NODE1:<USERNAME>:1234:<PASSWORD>;
 The GNE forwards the login to ENE 1. After successful login, ENE 1 sends a COMPLD response.
- Step 3** When you are logged into ENE 1, enter the following TL1 login command to connect to ENE 3:
ACT-USER:NODE3:<USERNAME>:1234:<PASSWORD>;
 The GNE forwards the login to ENE 3. After successful login, the ENE 3 sends a COMPLD response.
-

Forward Commands by Specifying the ENE TID (Node 1 or Node 3)

To forward commands when you are logged into ENE 1 and ENE 3, enter a command and designate a specific TID, as shown in the following examples.

Enter the following command to retrieve the header of Node 1:

RTRV-HDR:NODE1::1;

Enter the following command to retrieve the header of Node 3:

RTRV-HDR:NODE3::3;

Receive Autonomous Messages from the Remote ENE

To receive autonomous messages from the remote ENE, you must log into the remote ENE. When you are logged in, you will begin to receive autonomous messages. The source of the message is identified in the header of the message.

Log Out of a Remote ENE

To disconnect from a remote ENE, you must use the CANC-USER command. To disconnect ENE1, enter the following command:

```
CANC-USER:NODE1:<USERNAME>:1;
```

To disconnect ENE2, enter the following command:

```
CANC-USER:NODE3:<USERNAME>:3;
```

The GNE forwards the logout to the remote ENEs. The GNE/ENE TCP session is closed.

2.4 Ring Provisioning

This section provides information and sample procedures for setting up VC circuits over existing subnetwork connection protection (SNCP) ring and multiplex section-shared protection ring (MS-SPRing) configurations using TL1, including:

- SNCP topology
- SNCP cross-connections
- Ring-to-ring interconnection
- One-way drop and continue

In Sections 2.4.4 through 2.4.10, the form “5/1/1” (for example) represents “Slot 5, Port 1, VC 1.” For VCs, add the normal VC Group and VC ID extensions. These examples also assume that the slots/ports have been autoprovisioned (through a plug-in event) and that the ports involved have been placed into the in-service (IS) state using a port configuration command, for example, ED-STMn.

2.4.1 SNCP Topology

No special configuration of the physical SNCP topology is required other than connecting the fibers to the desired ports on the desired nodes. The east and west paths must exit a node at different ports (to ensure link diversity), but there are no other physical topology restrictions.

Cisco NCS 2002 and Cisco NCS 2006 networks give you the option to set up path-protected mesh networks (PPMNs). PPMNs extend the protection scheme of an SNCP from the basic ring configuration to the meshed architecture of several interconnected rings.

2.4.2 SNCP Cross-Connections

To create an SNCP cross-connection using TL1, you only need to designate it as a one-way or two-way cross-connect. The AID must be more explicit. For example, to create a one-way SNCP circuit over the network with Nodes A, B, C, and D and Segments A-B, B-D, A-C, C-D, enter the following commands (Node A is the source node and Node D is the destination node):

```
ENT-CRS-VC1:A:FROM,TO1&TO2:CTAG1::1WAY;
```

```
ENT-CRS-VC1:B:FROM,TO:CTAG2::1WAY;
```

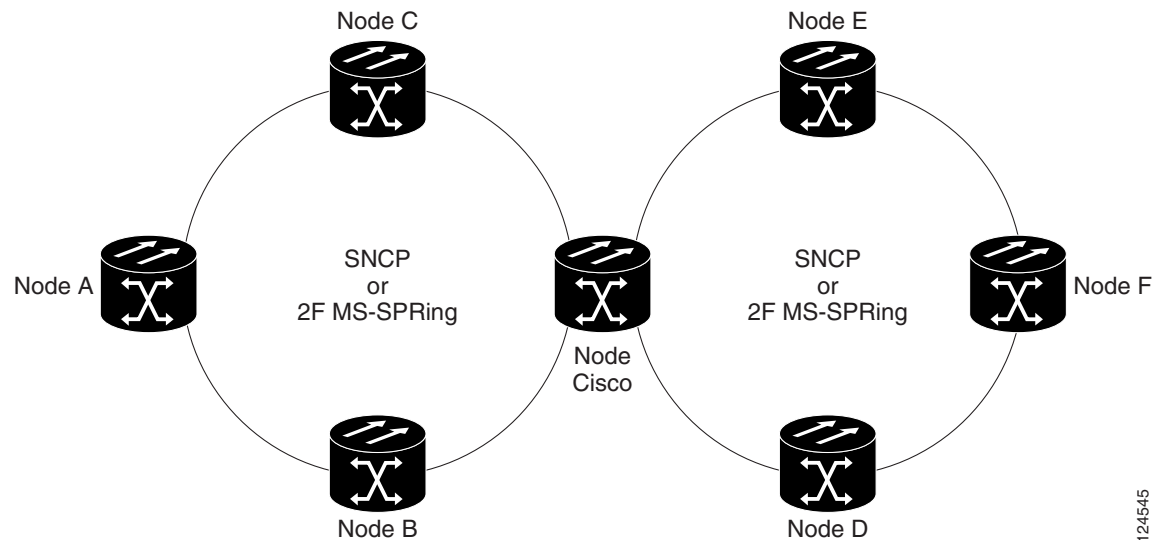
```
ENT-CRS-VC1:C:FROM,TO:CTAG3::1WAY;
```

```
ENT-CRS-VC1:D:FROM1&FROM2,TO:CTAG4::1WAY;
```

2.4.3 Ring-to-Ring Interconnection

In this section, both rings traverse the same node; therefore, only a single cross-connection is required to create the ring-to-ring connection. This is shown in [Figure 2-28](#). The node named “Cisco” is in the nexus.

Figure 2-28 Network Map With Cisco Node Showing Ring-to-Ring Interconnection



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2.4.4 SNCP-to-SNCP Connection Example

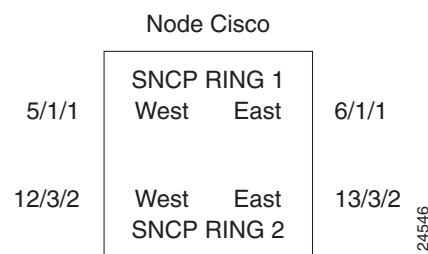
This example, illustrated in [Figure 2-29](#), uses an STM-3-4 to feed Ring 2. Ring 1 can have any STM-N trunk card, but the trunk card is most likely a single-port STM-16 or STM-4.



Note

The VC calculation formula is: $((\text{Port \#} - 1) * \text{Number of VC per port}) + \text{VC\#}$.
VC 12/3/2 maps to VC-12-8 $((3 - 1) * 3) + 2$.

Figure 2-29 SNCP-to-SNCP Connection Specifications Through The Cisco Node



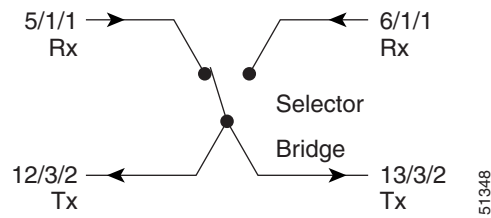
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Use the following command to create a selector between 5/1/1 and 6/1/1, which is bridged to Ring 2 (12/3/2 and 13/3/2):

```
ENT-CRS-VC1:CISCO:VC-5-1&VC-6-1,VC-12-8&VC-13-8:CTAG1::2WAY;
```

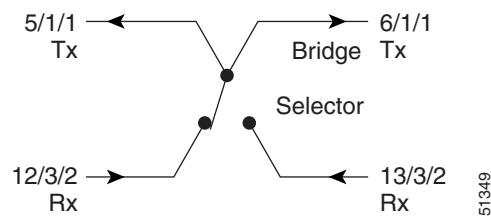
This is illustrated in [Figure 2-30](#).

Figure 2-30 Selector Between 5/1/1 and 6/1/1



The command also creates a selector between 12/3/2 and 13/3/2 to a bridge to Ring 1 (5/1/1 and 6/1/1), as shown in [Figure 2-31](#).

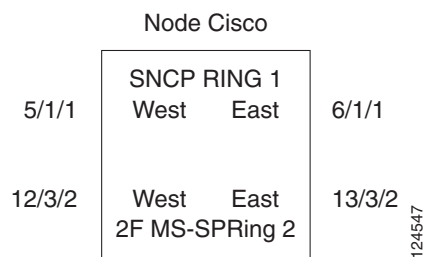
Figure 2-31 Selector Between 12/3/2 and 13/3/2



2.4.5 SNCP to Two-Fiber MS-SPRing Connection Example

This example, illustrated in [Figure 2-32](#), uses a SNCP endpoint with a drop on a two-fiber MS-SPRing and the west span of the two-fiber MS-SPRing (Ring 2) for the active path of the circuit. The example also uses multiport addressing for Ring 2 and is based on a multiport STM-4 card, where $13/3/2 = \text{VC-13-26}$ and where $26 = (((3 - 1) * 12) + 2)$. (This is only important for computing the VC AID for multiport cards.)

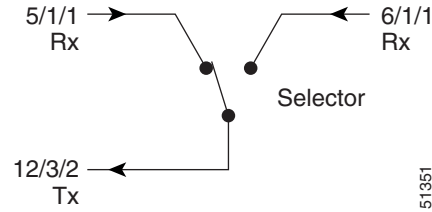
Figure 2-32 SNCP to Two-Fiber MS-SPRing



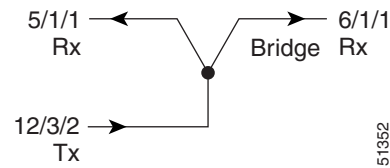
Use the following command to create a selector between 5/1/1 and 6/1/1, which connects to 12/3/2 on Ring 2:

```
ENT-CRS-VC1:CISCO:VC-5-1&VC-6-1,VC12-26:CTAG2::2WAY;
```

This is shown in [Figure 2-33](#).

Figure 2-33 Selector Between 5/1/1 and 6/1/1

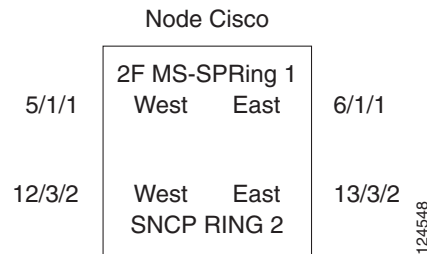
The command also creates a bridge from 12/3/2 to Ring 1 (5/1/1 and 6/1/1), as shown in [Figure 2-34](#).

Figure 2-34 Bridge From 12/3/2 to Ring 1

In this configuration, a two-fiber MS-SPRing switch can automatically reconnect the selector output to the protection path on the east port (12/3/2 assuming STM-4) if necessary.

2.4.6 Two-Fiber MS-SPRing to SNCP Connection Example

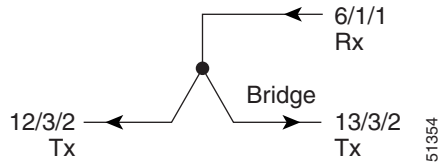
This example, illustrated in [Figure 2-35](#), uses a SNCP endpoint with a drop on a two-fiber MS-SPRing and uses the east span of the two-fiber MS-SPRing (Ring 1) for the active path of the circuit. For VC addressing, the SNCP is an STM-1 (for example, VC-13-8).

Figure 2-35 Two-Fiber MS-SPRing to SNCP

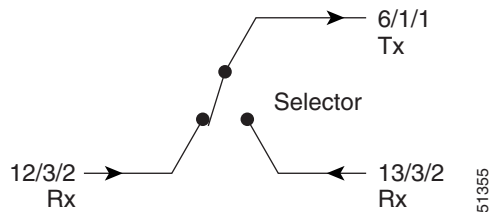
Use the following command to create a bridge from 6/1/1 to Ring 2 (12/3/2 and 13/3/2):

ENT-CRS-VC1:CISCO:VC-6-1,VC-12-8&VC-13-8:CTAG3::2WAY;

This is shown in [Figure 2-36](#).

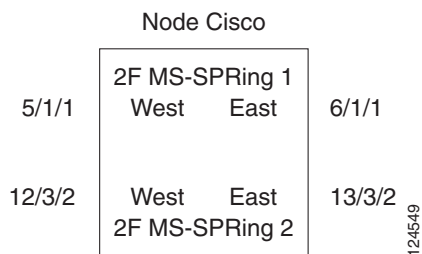
Figure 2-36 Bridge From 6/1/1 to Ring 2

The command also creates a selector between 12/3/2 and 13/3/2 to Ring 1 (6/1/1) as shown in [Figure 2-37](#).

Figure 2-37 Selector Between 12/3/2 and 13/3/2 to Ring 1

2.4.7 Two-Fiber MS-SPRing to Two-Fiber MS-SPRing Connection Example

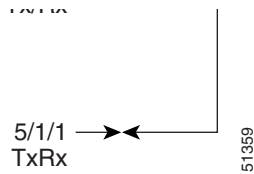
All protection for a two-fiber MS-SPRing interconnecting to a two-fiber MS-SPRing is performed at the line level. You can make the connection with a two-way cross-connect from a VC on the working side of the two-fiber MS-SPRing span of Ring 1 to a VC on the working side of a two-fiber MS-SPRing span on Ring 2. The connections can be east-to-east, east-to-west, west-to-east, and west-to-west. This example, illustrated in [Figure 2-38](#), uses Ring 1 west to Ring 2 east and assumes an STM-12-4 in Slots 12 and 13 for subtending to a two-fiber MS-SPRing (Ring 2).

Figure 2-38 Two-Fiber MS-SPRing to Two-Fiber MS-SPRing

Use the following command to create a two-way connection from 5/1/1 to 13/3/2:

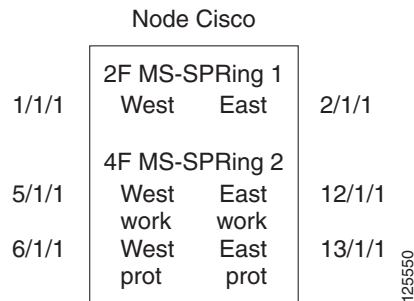
```
ENT-CRS-VC1:CISCO:VC-5-1,VC-13-26:CTAG4::2WAY;
```

This is shown in [Figure 2-39](#).

Figure 2-39 Two-Way Connection from 5/1/1 to 13/3/2

2.4.8 Two-Fiber MS-SPRing to Four-Fiber MS-SPRing Connection Example

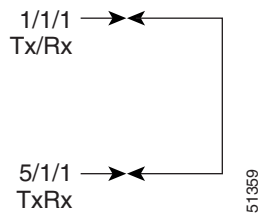
All protection for a two-fiber MS-SPRing interconnecting to a four-fiber MS-SPRing is performed at the line level. You can make the connection with a simple two-way cross-connect from the appropriate side, east or west, of the two-fiber MS-SPRing to the working fiber of the appropriate side, east or west, of the four-fiber MS-SPRing, as shown in [Figure 2-40](#).

Figure 2-40 Two-Fiber MS-SPRing to Four-Fiber MS-SPRing

Use the following command to create a two-way connection from 1/1/1 to 5/1/1:

```
ENT-CRS-VC1:CISCO:VC-1-1,VC-5-1:CTAG5::2WAY;
```

This is shown in [Figure 2-41](#).

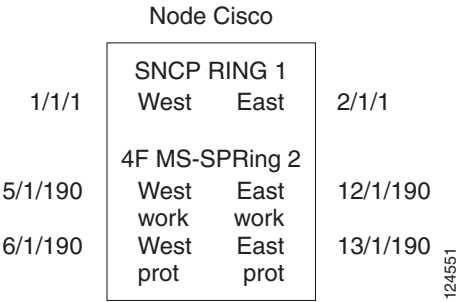
Figure 2-41 Two-Way Connection from 1/1/1 to 5/1/1

In the event of a failure, the software will automatically switch the traffic to the appropriate line and path.

2.4.9 SNCP to Four-Fiber MS-SPRing Connection Example

This example uses the west span of the four-fiber MS-SPRing (Ring 2) for the active path of the circuit. The example also assumes that the four-fiber MS-SPRing travels over STM-64 spans, as shown in Figure 2-42.

Figure 2-42 SNCP to Four-Fiber MS-SPRing

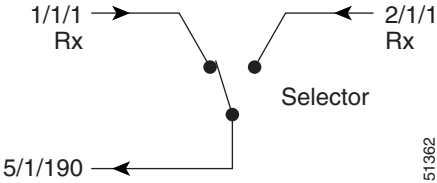


Use the following command to create a selector between 1/1/1 and 2/1/1 to Ring 2 (5/1/190):

ENT-CRS-VC1:CISCO:VC-1-1&VC-2-1&VC-5-190:CTAG6::2WAY;

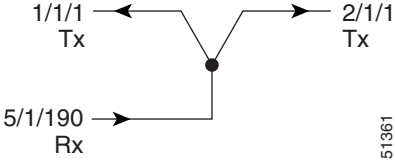
This is shown in Figure 2-43.

Figure 2-43 Selector Between 1/1/1 and 2/1/1 to Ring 2 (5/1/190)



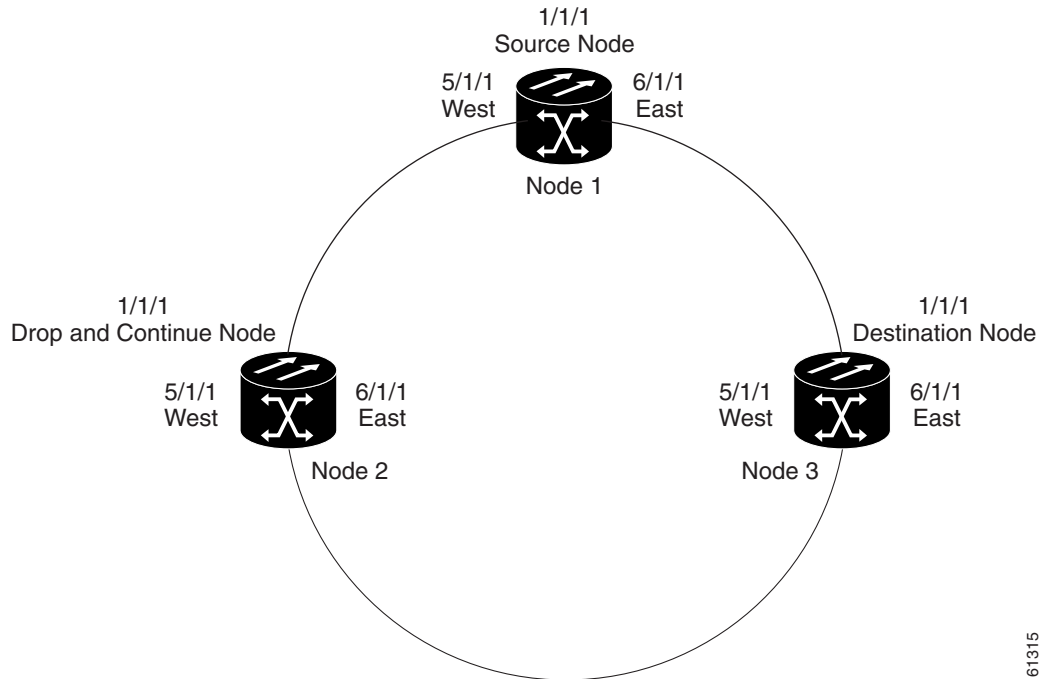
The command also creates a bridge from 5/1/190 to Ring 1 (1/1/1 and 2/1/1), as shown in Figure 2-44 on page 2-32.

Figure 2-44 Bridge from 5/1/190 to Ring 1 (1/1/1 and 2/1/1)



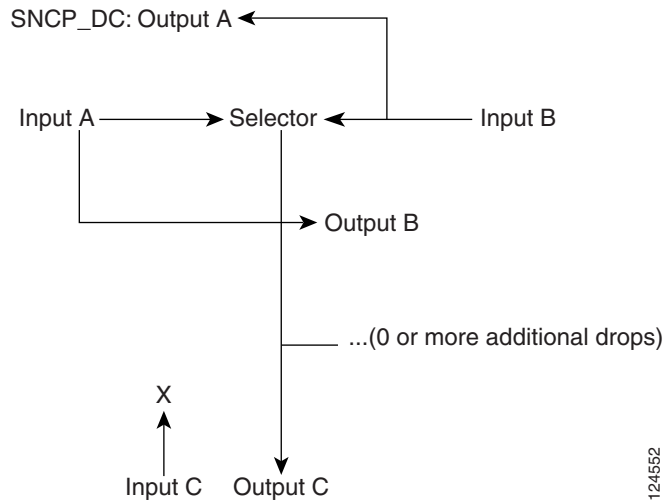
2.4.10 One-Way Drop and Continue

The following examples show how to create a one-way drop and continue cross-connect. The examples use three nodes (Node 1, Node 2, and Node 3) in a ring configuration (Figure 2-45). Node 1 is the source node, Node 2 has the drop and continue, and Node 3 is the destination.

Figure 2-45 One-Way Drop and Continue

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Figure 2-46 shows a circuit diagram example of the orientation of AIDs associated with the ENT-CRS command used to establish drop and continue connections.

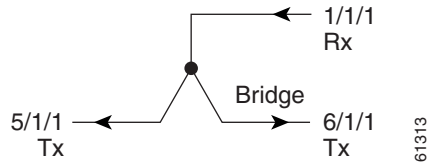
Figure 2-46 Orientation of AIDs Used to Establish Drop and Continue Connections

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2.4.10.1 Node 1 Configuration Example (Source Node)

To configure Node 1 in the one-way drop-and-continue example, issue the following command on Node 1 (see Figure 2-47):

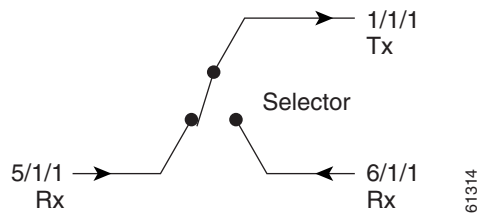
```
ENT-CRS-VCn::VC-1-1,VC-5-1&VC-6-1:CTAG::1WAY;
```

Figure 2-47 Bridge from 1/1/1 to 5/1/1 and 6/1/1

2.4.10.2 Node 2 Configuration Example (Drop and Continue Node)

To configure Node 2 in the one-way drop-and-continue example, issue the following command on Node 2 (see [Figure 2-48](#)):

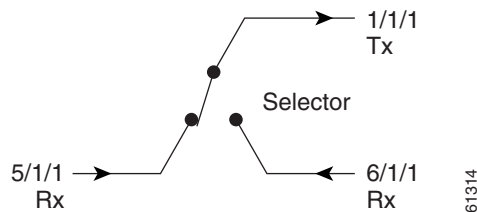
```
ENT-CRS-VCn::VC-5-1&VC-6-1,VC-1-1:CTAG::1WAYDC;
```

Figure 2-48 Selector Between 5/1/1 and 6/1/1 to 1/1/1

2.4.10.3 Node 3 Configuration Example (Destination Node)

To configure Node 3 in the one-way drop-and-continue example, issue the following command on Node 3 (see [Figure 2-49](#)):

```
ENT-CRS-VCn::VC-5-1&VC-6-1,VC-1-1:CTAG::1WAY;
```

Figure 2-49 Selector Between 5/1/1 and 6/1/1 to 1/1/1

2.5 PCA Provisioning

You can provision or retrieve protection channel access (PCA) cross-connections on two-fiber and four-fiber MS-SPRing topologies at these supported VC rates: STM-4 (two-fiber only), STM-16, and STM-64. The traffic on the protection channel is referred to as extra traffic and has the lowest priority level. Extra traffic will be preempted by any working traffic that requires the use of the protection channel.

In a two-fiber MS-SPRing, the extra traffic is provisioned on the upper half of the bandwidth path. In a four-fiber MS-SPRing, the extra traffic is provisioned on the protect fiber. The PCA provisioning feature allows you to establish the PCA cross-connection on the protection path of the two-fiber MS-SPRing and the protection channel of the four-fiber MS-SPRing only when the query is an explicit request.

There are two PCA connection types: 1WAYPCA and 2WAYPCA. The PCA cross-connection is provisioned only when the user provides an explicit request using the ENT-CRS-VCp/VC12 commands. If the cross-connection is a PCA cross-connection, either 1WAYPCA or 2WAYPCA is shown in the cross-connect type field of the RTRV-CRS-VCp/VC12 command output.

1WAYPCA and 2WAYPCA are only used in the TL1 user interface to provide usability and visibility for the user to specify a PCA cross-connection type in the TL1 cross-connection commands.


Note

The network must be configured as either a two-fiber or four-fiber STM-4, STM-16, or STM-64 MS-SPRing.


Note

The VC path cross-connection can be established with TL1 commands (ENT-CRS-xxx).


Note

Because the RTRV-CSR-xxx command does not include the optional CTYPE field to specify a connection type, the output result reports the matched cross-connections based on the queried AID(s); therefore, the retrieved cross-connection inventory can contain both PCA and non-PCA cross-connections.

2.5.1 Provision a PCA Cross-Connection

[Example 2-12](#) shows the input format for provisioning a PCA cross-connection.

Example 2-15 Provision a PCA Cross-Connect: Input Format

```
ENT-CRS-<PATH>:[<TID>]:<FROM>,<TO>:<CTAG>::[<CCT>][::];
<PATH>::={VC_PATH, VC12}
[<CCT>]::={1WAY, 1WAYDC, 1WAYEN, 2WAY, 1WAYPCA, 2WAYPCA},
{VC_PATH}::={VC3, VC4, VC42C, VC43C, VC44C, VC48C, VC416C, VC464C}
```

where:

- VC represents all of the VC bandwidth cross-connections.
- VC12 represents the VC12_5 cross-connection.
- CCT defaults to 2WAY.

[Example 2-16](#) shows an input example of provisioning a VC4 PCA cross-connection.

Example 2-16 Provision a PCA Cross-Connect: Example

```
ENT-CRS-VC4::VC4-1-1,VC4-2-1:123::2WAYPCA;
```

**Note**

If the cross-connect type (CCT) of this cross-connection provisioning command is either 1WAYPCA or 2WAYPCA, and the NONE value of both <FROM> and <TO> AID is PCA AID, an IIAC (Input, Invalid PCA AIDs) error message is returned.

**Note**

If sending this command with a non-PCA CCT, and one or two AIDs are the PCA AIDs, an IIAC (The PCA AID Is Not Allowed for the Queried CCT Type) error message is returned.

2.5.2 Retrieve a PCA Cross-Connection

Use the input format in [Example 2-17](#) to retrieve a PCA cross-connection.

Example 2-17 Retrieve a PCA Cross-Connect: Input Format

```
RTRV-CRS-[<PATH>]: [<TID>]: <AID>: <CTAG> [:::]; <PATH>::={VC_PATH, VC12, VC}
```

If PATH is VC, it will retrieve all of the VC cross-connections based on the queried AIDs:

<AID>={FacilityAIDs, VCAIDs, VC12AIDs, ALL}

[Example 2-18](#) shows the output format of the PCA VCp cross-connection retrieval command.

Example 2-18 Output Format of PCA STSp Cross-Connect Retrieve Command

```
"<FROM>, <TO>: 2WAYPCA, VC4"
```

[Example 2-19](#) shows the output format of the PCA VC cross-connection retrieval command.

Example 2-19 Output Format of PCA VT Cross-Connect Retrieve Command

```
"<FROM>, <TO>: 2WAYPCA"
```

2.6 FTP Software Download

**Note**

FTP timeout is 30 seconds and is not user-configurable.

The file transfer protocol (FTP) software download feature downloads a software package to the inactive flash partition residing on the TCC2/TCC2P/TCC3/TSC/CTX-MA card. FTP software download provides for simplex and duplex TCC2/TCC2P/TCC3/TSC/CTX-MA card downloads, success and failure status, and in-progress status at 20 percent increments.

2.6.1 COPY-RFILE

The COPY-RFILE command downloads a new software package from the location specified by the FTP URL into the inactive flash partition residing on the TCC2/TCC2P/TCC3/TSC/ CTX-MA card. COPY-RFILE can also be used to back up and restore the database file.



Note

Since Software Release 5.0, PACKAGE_PATH is relative to your home directory, instead of being an absolute path from the root directory of the NE. If you want to specify an absolute path, start the path with the string '%2F'.

The input format of the COPY-RFILE command is:

**COPY-RFILE:[<TID>]:<SRC>:<CTAG>::TYPE=<XFERTYPE>,[SRC=<SRC1>],
[DEST=<DEST>],[OVWRT=<OVWRT>],[FTTD=<FTTD>];**

where:

- <SRC> is the type of file being transferred.
- <XFERTYPE> is the file transfer protocol.
- <SRC1> specifies the source of the file to be transferred. <SRC1> is a string. Only the FTP URL is supported. In a nonfirewall environment, the format for the URL is:

**“FTP://FTP_USER[:FTP_PASSWORD]]@FTP_HOST_IP[:FTP_PORT]
/PACKAGE_PATH[:TYPE=I]”**

where:

- FTP_USER is the user ID to connect to the computer with the package file.
- FTP_PASSWORD is the password used to connect to the computer with the package file.
- FTP_HOST_IP is the IP address of the computer with the package file. Domain name server (DNS) lookup of hostnames is not supported.
- <FTP_PORT> defaults to 21.
- PACKAGE_PATH is the long path name to the package file starting from the home directory of the logged-in user.

In a firewall environment, the hostname should be replaced with a list of IP addresses each separated by an ampersand (&) character. The first IP address should be for the computer where the package file is stored. Subsequent IP addresses are for firewall computers moving outward toward the edge of the network until the final IP address listed is the computer that outside users use to first access the network.

For example, if your topology is:

“FTPHOST <-> GNE3 <-> GNE2 <-> GNE1 <-> ENE”

the FTP URL is:

**FTP://FTP_USER:FTP_PASSWORD@FTP_HOST_IP@GNE3@GNE2@GNE1/
PACKAGE_PATH**

- <DEST> specifies the destination of the file to be transferred. The comments for the SRC parameter are also valid here. <DEST> is a string.
- If <OVWRT> is YES, then files are overwritten. Currently only YES is supported. Using a NO value for <OVWRT> will result in an error message.

- <FTTD> is the format of the URL should be “FTTD://[FTTD_USER][:FTTD_PASSWORD]] @FTTD_HOST_TID” where:
 - FTTD_USER is the used to connect to the FTTD host.
 - FTTD_PASSWORD is the password used to connect to FTTD host.
 - FTTD_HOST_IP is the TID of the FTTD host. DNS and network service access point (NSAP) names are not supported.

**Note**

- FTP is the only allowed file transfer method.
- The use of the SWDL and the extended FTP URL syntax are required by the COPY-RFILE syntax.

2.6.2 APPLY

The APPLY command can activate or revert software depending on the version of software loaded on the active and protect flash. An error is returned if you attempt to activate to an older software load or try to revert to a newer software load. If this command is successful, the appropriate flash is selected and the TCC2/TCC2P2/TCC3/TSC/CTX-MA card will reboot.

The input format for the APPLY command is as follows:

APPLY:[<TID>]::<CTAG>[::<MEM_SW_TYPE>];

where <MEM_SW_TYPE> indicates memory switch action during the software upgrade.

2.6.3 REPT EVT FXFR

REPT EVT FXFR is an autonomous message used to report the start, completion, and completed percentage status of the FTP software download. REPT EVT FXFR also reports any failure during the software upgrade including invalid package, invalid path, invalid user ID/password, and loss of network connection.

**Note**

The “FXFR_RSLT” is only sent when the “FXFR_STATUS” is COMPLD.

The “BYTES_XFRD” is only sent when the “FXFR_STATUS” is IP or COMPLD.

The output format of the REPT EVT FXFR message is as follows:

```
SID DATE TIME
A ATAG REPT EVT FXFR
  "<FILENAME>,<FXFR_STATUS>,[<FXFR_RSLT>],[<BYTES_XFRD>]"
;
```

where:

- <FILENAME> indicates the transferred file path name and is a string. When a package is being transferred between the FTP server and the controller cards, the filename field will contain the string “active”. Following this transfer, if there is a second controller card on the node, the file will be copied over to the second card. While this is happening, REPT EVT FXFR messages will be generated with a filename of “standby”.
- <FXFR_STATUS> indicates the file transferred status: Start, IP (in progress), or COMPLD.
- <FXFR_RSLT> indicates the file transferred result: success or failure. <FXFR_RSLT> is optional.
- <BYTES_XFRD> indicates the transferred byte count. <BYTES_XFRD> is a string and is optional.

2.6.4 Downloading New Software

The following procedure downloads new software to the TCC2/TCC2P/TCC3/TSC/CTX-MA card using TL1.

Download New Software



Note

Only Superusers can download and activate software.

Step 1	Copy the new software package (for example, 15XXXSDH-0340-X02E-2804.pkg) to an FTP host.
Step 2	Establish a TL1 session with the target NE.
Step 3	Log in with the ACT-USER command.
Step 4	Check the working and protect software on the NE by issuing the RTRV-NE-GEN command, for example:

RTRV-NE-GEN:::1;

The output should be similar to the following:

VA454-94 1970-01-06 22:22:12

M 1 COMPLD

```

“IPADDR=10.76.44.112,IPMASK=255.255.255.128,DEFRTR=10.76.44.1,IPV6ENABLE=N,
IIOPPORT=57790,NAME=\\\"454-SDH-112\\\",SWVER=9.00.00,LOAD=09.00-008G-19.05,
PROTSWVER=9.00.00,PROTLOAD=09.00-008F-06.23,DEFDESC=\\\"Factory Defaults\\\",
PLATFORM=NCS 2002,SECUMODE=NORMAL,SUPPRESSIP=NO,
MODE=SINGLESELF,AUTOPM=NO,SERIALPORTECHO=Y,OSIROUTINGMODE=ES,
NET=39840F8000000000000000000000000059B12DB3000”
:

```

- Step 5** Issue the COPY-RFILE command. This command will initiate the download process. See the “2.6.1 COPY-RFILE” section on page 2-37 for command syntax.

In [Example 2-20](#), the package is located in “/usr/share/doc/vintara” in the host 10.77.22.199. The user ID and passwords are TL1 and CISCO454SDH. The directory path of the package is similar to what you will see during an FTP session.

Example 2-20 Issue the COPY-RFILE Command

```
COPY-RFILE::RFILE-
PKG:CTAG::TYPE=SWDL, SRC="FTP://TL1:CISCO454SDH@10.77.29.199
/%2FUSR/CET/VINTARA/NCS-0340-X02E-2804.PKG";
```

```
DEV208 1970-01-10 11:51:57
M CTAG COMPLD
;
```

Step 6 If any of the parameters are wrong or if the host is not accessible, a REPT EVT FXFR message will report errors. A download failure might be due to one or more of the following:

- Directory path of the package is invalid or not found.
- Package is invalid
- Package not found on specified path.
- User ID/password or hostname is invalid.
- Host is not accessible.
- Firewall user ID/password or host is invalid.
- Node rebooted or lost connection during download.
- Software download is already in progress.
- The node or the host timed out during FTP protocol (see [Example 2-21](#)).

Example 2-21 REPT EVT FXFR when Node or Host Timed Out During FTP Protocol

```
DEV208 1970-01-10 11:52:02
A 2816.2816 REPT EVT FXFR
  "SLOT-11:SFTWDOWN-FAIL,TC,,,,,,,,:\"SOFTWARE DOWNLOAD FAILED\",TCC"
;
```

Step 7 If the download is successful, the REPT EVT FXFR message will report an active start, as shown in [Example 2-22](#).

Example 2-22 REPT EVT FXFR Message Reporting an Active Start

```
DEV208 1970-01-10 11:52:15
A 2818.2818 REPT EVT FXFR
  "ACTIVE START"
;
```

Step 8 A SFTDOWN minor alarm is raised to indicate that the software download is in progress ([Example 2-23](#)). The SFTDOWN alarm will clear when the download is complete.

Example 2-23 SFTDOWN Minor Alarm

```
DEV208 1970-01--10 11:52:15
* 2817.2817 REPT ALM EQPT
  "SLOT-7:MN,SFTWDOWN,NSA,,,,:\"SOFTWARE DOWNLOAD IN PROGRESS\",TCC"
;
```

Use the in-progress status at any time during the software download to verify the RTRV-NE-GEN command ([Example 2-24](#)).

Example 2-24 RTRV-NE-GEN Command**RTRV-NE-GEN**

```

VA454-94 1970-01-06 22:22;12
M 1 COMPLD
  "IPADDR=10.76.44.112,IPMASK=255.255.255.128,DEFRTR=10.76.44.1,IPV6ENABLE=N,II
OPPORT=57790,NAME=\"454-SDH-112\",SWVER=9.00.00,LOAD=09.00-008G-19.05,PROTSWV
ER=9.00.00,PROTLOAD=09.00-008F-06.23,DEFDESC=\"Factory Defaults\",PLATFORM=NCS
2002,SECUMODE=NORMAL,SUPPRESSIP=NO,MODE=SINGLESHELF,AUTOPM=NO,SERIALPORTECHO=Y,
OSIROUTINGMODE=ES,NET=39840F80000000000000000000000000059B12DB3000"
;

```

- Step 9** The download progress is reported by the REPT EVT FXFR message, which will report a message after every 20 percent of download is complete as shown ([Example 2-25](#)).

Example 2-25 REPT EVT FXFR Messages During Software Download

```

DEV208 1970-01-10 11:53:12
A 2820,2820 REPT EVT FXFR
  "ACTIVE,IP,,20"
;

DEV208 1970-01-10 11:53:12
A 2820,2820 REPT EVT FXFR
  "ACTIVE,IP,,40"
;

DEV208 1970-01-10 11:53:12
A 2820,2820 REPT EVT FXFR
  "ACTIVE,IP,,60"
;

DEV208 1970-01-10 11:53:12
A 2820,2820 REPT EVT FXFR
  "ACTIVE,IP,,80"
;

```

- Step 10** If the TL1 session times out during download or if the user terminates the TL1 session, the download will continue. The download completion can be confirmed by issuing the RTRV-NE-GEN command and verifying the PROTLOAD ([Example 2-26](#)).

Example 2-26 Verifying the PROTLOAD**RTRV-NE-GEN:::1;**

```

VA454-94 1970-01-06 22:22:12
M 1 COMPLD
  "IPADDR=10.76.44.112,IPMASK=255.255.255.128,DEFRTR=10.76.44.1,IPV6ENABLE=N,II
OPPORT=57790,NAME=\"454-SDH-112\",SWVER=9.00.00,LOAD=09.00-008G-19.05,PROTSWV
ER=9.00.00,PROTLOAD=09.00-008F-06.23,DEFDESC=\"Factory Defaults\",PLATFORM=NCS 2002,
SECUMODE=NORMAL,SUPPRESSIP=NO,MODE=SINGLESHELF,AUTOPM=NO,SERIALPORTECHO=Y,
OSIROUTINGMODE=ES,NET=39840F80000000000000000000000000059B12DB3000"
;

```

- Step 11** REPT EVT FXFR confirms the completion of the software download ([Example 2-27](#)).

Example 2-27 Confirm Download Completion

```
DEV208 1970-01-10 12:01:16
A 2825,2825 REPT EVT FXFR
  "ACTIVE,COMPLD,SUCCESS"
;
```

Step 12 The SFTDOWN alarm clears when the download is complete ([Example 2-28](#)).

Example 2-28 Download is Complete

```
DEV208 1970-01-10 11:52:15
* 2826,2817 REPT ALM EQPT
  "SLOT-7:CL,SFTWDOWN,NSA,,,:\"SOFTWARE DOWNLOAD IN PROGRESS\",TCC"
;
```

2.6.5 Activating New Software

After the software is successfully downloaded, the new software that resides in the protect load must be activated to run on the NE. The APPLY command can be used to activate and revert depending on the version of the protect software and the newly downloaded software (see the [“2.6.2 APPLY” section on page 2-38](#) for correct APPLY syntax).

Activate New Software

Step 1 If the protect software is newer than the working software, activate it as shown:

APPLY::1::ACT;

```
DEV208 1970-01-10 13:40:53
M 1 COMPLD
;
```

An error is reported if a revert is attempted with a newer protect software.

Step 2 If the APPLY command is successful, log out of the TL1 session using the CANCEL-USER command:

CANCEL-USER::CISCO15:1;

```
VA454-94 1970-01-07 01:18:18
M 1 COMPLD
;
```

Step 3 After a successful completion of the APPLY command, the NE will reboot and the TL1 session will disconnect. When the NE comes up after the reboot, it will be running the new software. Traffic switches are possible during activation.

2.6.6 Remote Software Download/Activation Using the GNE

In a network with regenerator section data communications channel (RS-DCC)-connected Cisco NCS 2002 and Cisco NCS 2006s remote download and activation are possible using the GNE/ENE feature supported in TL1. The GNE must be connected by a LAN and the remaining ENEs can download the new software package through fiber from the GNE.

For remote software downloading, complete the steps in the [“Download New Software” procedure on page 2-39](#) and the [“Activate New Software” procedure on page 2-42](#), but ensure that the TID in each command is filled with the ENE node name.

Each GNE can support 11 (TCC2/TCC2P/TCC3) concurrent communication gateway sessions and up to a maximum of 176 (TCC2/TCC2P/TCC3) ENEs/GNE. For more information on TL1 gateway, see the [“2.3 TL1 Gateway” section on page 2-22](#).

After activating the nodes ([Example 2-29](#)), five simultaneous software downloads can be initiated using the COPY-RFILE command with appropriate TIDs, as shown in [Example 2-30](#). All downloads will be independent of each other and download speeds might differ.

Example 2-29 Activating the Nodes for Simultaneous Software Downloads

```
ACT-USER:NODE1:CISCO15:1;
ACT-USER:NODE2:CISCO15:1;
ACT-USER:NODE3:CISCO15:1;
ACT-USER:NODE4:CISCO15:1;
ACT-USER:NODE5:CISCO15:1;
```

Example 2-30 Downloading Software on Multiple Nodes Simultaneously

```
COPY-RFILE:NODE1:RFILE-PKG:CTAG::TYPE=SWDL, SRC="FTP://TL1:
CISCO454@10.77.29.199/USR/CET/VINTARA/NCS 2002-0340-X02E-2804.PKG";

COPY-RFILE:NODE2:RFILE-PKG...
COPY-RFILE:NODE3:RFILE-PKG...
COPY-RFILE:NODE4:RFILE-PKG...
COPY-RFILE:NODE5:RFILE-PKG...
```

To download software to an ENE through a GNE, the FTDD URL in the COPY-RFILE command must be used as shown in [Example 2-31](#). The FTDD parameter has the following format:

“FTDD://USERID:PASSWORD@TL1 GNE NODENAME:21”. Prior to Release 6.0, Port 21 is mandatory. In Release 6.0 and later, Port 21 is optional.

Example 2-31 Downloading Software to an ENE through a GNE

```
GNE = NODE1
ENE = NODE2

COPY-RFILE:NODE2:RFILE-PKG:1::TYPE=SWDL, SRC=FTP://USER-ID:PASSWORD@HOST-IP//USERS/JDOE/
NCS 2002-XXXX-XXXX-XXXX.PKG, OVWRT=YES, FTDD="FTDD://USERID:PASSWORD@NODE1:21"
```

Individual REPT EVT FXFR messages can be isolated using the node names. RTRV-NE-GEN also requires the individual node names to be entered in the TID in order to see a specific download status.

Activate the software using the APPLY command ([Example 2-32](#)) on all of the nodes using the GNE node.

**Note**

Activate the GNE last, after activating all of the ENes, or else ENE connectivity will be lost when the GNE starts to reboot for activation.

Example 2-32 Activate the Software Load

```
APPLY:NODE1::1::ACT;
APPLY:NODE2::1::ACT;
APPLY:NODE3::1::ACT;
APPLY:NODE4::1::ACT;
APPLY:NODE5::1::ACT;
```

2.7 Scheduled PM Report

Scheduled performance monitoring (PM) reporting is a feature that extends the capability of PM reporting for the Cisco NCS 2002 and Cisco NCS 2006. With scheduled PM reports, the system automatically and periodically generates the PM report of any specified facility or cross-connection.

The following rules apply to the creation of scheduled PM reports:

- The current maximum number of schedules allowed to be created for an NE is 1000. If you try to create more schedules in the NE when the maximum number of schedules has been created, an error message “Reach Limits Of MAX Schedules Allowed. Can Not Add More” is returned.
- Identical schedules are not allowed for one NE. Two schedules are considered identical if they have the same AID, MOD2 type, performance monitor type, performance monitor level, location, direction, and time period.
- The error message “Duplicate Schedule” is returned if you create a schedule that is a duplicate of an existing schedule. However, if the existing schedule expires (with the parameter <NUMINVL> equal to zero when retrieved by the RTRV-PMSCHED command, which means that there is no more performance monitoring report to be sent), then the new schedule with the identical parameter will replace the existing schedule.
- When you create a PM schedule, the minimum report interval should not be less than five minutes.

Use the following commands to schedule and manage PM reports:

- SCHED-PMREPT-<MOD2>
- ALW-PMREPT-ALL
- RTRV-PMSCHED-<MOD2>
- RTRV-PMSCHED-ALL
- INH-PMREPT-ALL
- REPT PM <MOD2>

2.7.1 Create a PM Schedule and Receive an Autonomous PM Report

Issue the SCHED-PMREPT-<MOD2> command to create a PM schedule.

**Note**

The minimum interval for the PM schedule cannot be set to less than five minutes.

Issue the ALW-PMREPT-ALL command to allow the current TL1 session to be able to receive the autonomous PM report.

2.7.2 Manage PM Schedules

Use the following commands to manage PM schedules:

- Create a PM schedule by issuing the SCHED-PMREPT-<MOD2> command.
- Delete a PM schedule by issuing the SCHED-PMREPT-<MOD2> command with the <NUMREPT> parameter equal to zero.

**Note**

The PM schedules created on a facility or a cross-connect will be automatically deleted if the card or the cross-connect are unprovisioned.

- Retrieve all the PM schedules created on the node by issuing the RTRV-PMSCHED-ALL command. Retrieve a particular MOD2 type of PM schedule by issuing the RTRV-PMSCHED-<MOD2> command.

**Note**

The system will not automatically delete the schedules that are expired. For example, assume that a schedule is created to report PM ten times. After ten PM reports are sent, the schedule is expired. The expired schedule can be identified by its <NUMINVL> field (equal to zero) in the response of the RTRV-PMSCHED command.

2.7.3 Enable or Disable a TL1 Session to Receive Autonomous PM Reports

Enable a TL1 session to receive a scheduled PM report by issuing the ALW-PMREPT-ALL command.

**Note**

By default, a TL1 session is disabled to receive PM reports. The ALW-PMREPT-ALL command enables a TL1 user to receive all the scheduled PM and automatic autonomous performance monitoring (AutoPM) reports from the system, regardless of whether or not the schedule is created by this TL1 user or by any other TL1 user.

Disable a TL1 session to receive any scheduled PM report by issuing the INH-PMREPT-ALL command.

2.8 Automatic Autonomous PM

The automatic autonomous performance monitoring (AutoPM) report is a feature that extends the capability of PM reporting for the Cisco NCS 2002 and Cisco NCS 2006. With this feature enabled, the system automatically generates the PM report for all cross-connections. AutoPM is disabled by default. When enabled, an automatic report is generated every 15 minutes, which is the default interval. AutoPM can be enabled or disabled only through CTC.

Issue the RTRV-NE-GEN TL1 command on the node to retrieve the AutoPM configuration.

To enable or disable a TL1 session to receive AutoPM reports see the [“2.7.3 Enable or Disable a TL1 Session to Receive Autonomous PM Reports”](#) section on page 2-45.

2.9 Bridge and Roll

Bridge and roll functionality allows live traffic to be moved (rolled) from one entity to another. This section provides information and sample procedures for single-rolling, dual-rolling, and protection rolling for one-way or two-way circuits using TL1 commands, including:

- **Path Level Rolling**—Rolls cross-connections at the VC11, VC12, VC3, and VCNc rate for all supported time-division multiplexing (TDM) drops (STM1, STM4, STM16, and STM64). Individual rolls are done at the Path level.
- **Line Level Rolling**—Rolls all cross-connections from one port/facility to another port/facility.
- **Bulk Rolling**—Rolls a subset of cross-connections from one port/facility to another port/facility.

There are two roll modes:

- In automatic mode, the leg to be rolled is automatically dropped upon detection of a valid input signal on the new path.
- In manual mode, the leg to be rolled is retained upon detection of a valid signal on the new path. The leg must be dropped manually.



Caution

If you have created a roll on the circuit and it has detected a valid signal, do not cancel it. Cancelling a valid roll will cause a traffic hit of more than 1300 ms. If you want to revert back from a valid roll, complete the roll and use bridge and roll again to roll it back.



Caution

Performing bridge and roll on a VC4-64c (STM64c circuit) might cause a traffic hit of 50 ms.



Note

The path width rules for creating circuits apply when rolling circuits. For example, if you roll a VC4 starting at VC#1, you cannot roll it to another port and start it at VC#2. You have to start it at VC#1.

2.9.1 Restrictions

The following restrictions apply for bridge and roll using TL1 in this release:

- Rolling is not allowed on electrical cards or Ethernet cards.
- Rolling is not allowed on hairpin circuits.
- Rolling is not allowed on monitor circuits.
- Rolling is not allowed on any cross-connection that is involved in test access.
- Rolling is not allowed on any cross-connection that is involved in cross-connect loopbacks.
- Rolling is not allowed on any port that is involved in facility or equipment loopbacks. This restriction applies to both “roll from” and “roll to.”
- When rolling on a 1+1 protected circuit, the “roll to” cannot be on the protect port of the protection group.
- Rolling on a MS-SPRing protected circuit cannot violate the rules governing MS-SPRing circuits: a circuit that traverses a MS-SPRing must use the same STS number on the ring between source and destination.

- Rolling on an MS-SPRing protected circuit will be denied if there is an existing protection switch on the ring. If the protection switch happens after the roll is initiated, the system will not monitor valid signals on the “roll to” path until the protection switching is cleared.
- Rolling on an SNCP protected circuit cannot violate the rules governing SNCP circuits: SNCP circuits must have one bridge and one selector.
- The bridge and selector of an SNCP protected circuit cannot be rolled away.
- In the case of a dual roll on an SNCP protected circuit, both roll points have to be on either the working or protect path of the circuit. For example, you cannot specify one roll point on the working path and the other roll point on the protect path of the circuit being rolled.
- When rolling on a SNCP protected circuit, the “roll to” cannot be line protected (1+1 or MS-SPRing protected). TL1 can only ensure this on the bridge and selector node, not on the intermediate node.
- When rolling on a mixed protection circuit, the roll points have to be within the same protection domain.
- Rolling using TL1 can be performed on a CTC-created cross-connection.



Note If a roll is created using TL1, it cannot be edited or deleted by CTC.

- Rolling using TL1 can be performed on a TL1 cross-connection.



Note If a roll is created using CTC, it cannot be edited or deleted by TL1.

- If the intermediate path of a circuit is being rolled away to another circuit, the second circuit cannot carry any live traffic.



Note After a roll is completed, the second circuit will form the new intermediate path of the original circuit.

- Rolling cannot be performed on low order path tunnel or VC low order path aggregation point (VAP) circuits passing through less than four nodes.

The following restrictions apply for bridge and roll using TL1 virtual concatenation (VCAT) in this release:

- For non-open-ended VCAT circuits, you cannot change the source or destination of the circuit.
- For open-ended VCAT circuits, you can change the source or destination of the circuit, but only on the open end.

The following restrictions apply for bridge and roll using TL1 common fiber-routed VCAT circuits in this release:

- Rolling cannot change the common fiber property of a common fiber-routed VCAT circuit.
- When rolling on a VCAT member circuit, in order not to change the common fiber property of a common fiber-routed VCAT circuit, you can roll the member from one time slot to a different time slot within the same fiber.

2.9.2 Bridge and Roll TL1 Commands

The following commands are used for bridge and roll:

- DLT-BULKROLL-<STM_TYPE>

This command deletes an attempted rolling operation or completes an attempted rolling operation. This command supports Line level and bulk rolling, but cannot be used for Path level rolling. The rolls that are created using the ENT-BULKROLL-<STM_TYPE> command can be deleted using the DLT-BULKROLL-<STM_TYPE> command.

- DLT-ROLL-<MOD_PATH>

This command deletes an attempted rolling operation or completes an attempted rolling operation.

- ED-BULKROLL-<STM_TYPE>

This command edits information about rolling traffic from one endpoint to another without interrupting service. This command can use the CMDMDE option to force a valid signal. The only parameter that can be edited is CMDMDE. The time slots cannot be edited. This commands supports Line level and bulk rolling, but cannot be used for Path level rolling.

- ED-ROLL-<MOD_PATH>

This command edits information about rolling traffic from one endpoint to another without interrupting service. This command can use the CMDMDE option to force a valid signal. The only parameter that can be edited is CMDMDE. The time slots cannot be edited.

- ENT-BULKROLL-<STM_TYPE>

This command enters information about rolling traffic from one endpoint to another without interrupting service. This commands supports Line level and bulk rolling, but cannot be used for single Path level rolling.

- ENT-ROLL-<MOD_PATH>

This command enters information about rolling traffic from one endpoint to another without interrupting service. This command supports VC Path-level rolling only.

- RTRV-BULKROLL-<STM_TYPE>

This command retrieves roll data parameters. This command supports Line level and bulk rolling, but cannot be used for Path level rolling.

- RTRV-ROLL-<MOD_PATH>

This command retrieves roll data parameters.

2.9.3 Two-Way Circuit Single Roll and Dual Roll Procedures

Single roll operation moves either the source or destination of a circuit to a new endpoint on the same node or on a different node. In single roll operation, you only choose one roll point during the process.

Dual roll operation reroutes a segment between two roll points of a circuit. In dual roll operation, you choose two roll points during the process. The new route can be one of the following:

- A new link (no circuit is required)
- Another circuit (created before or during the bridge and roll process)

Create a Two-Way Circuit Single Roll or Dual Roll

To create a two-way circuit single roll or dual roll, enter the ENT-ROLL-<MOD_PATH> command or the ENT-BULKROLL-<STM_TYPE> command depending on the type of roll you want to perform.

The input formats are as follows:

- **ENT-ROLL-*<MOD_PATH>*:*[<TID>*]:*<FROM>*,*<TO>*:*<CTAG>*::*RFROM=<RFROM>*,*RTO=<RTO>*,*RMODE=<RMODE>*,*[CMDMDE=<CMDMDE>*];**
- **ENT-BULKROLL-*<STM_TYPE>*:*[<TID>*]:*<FROM>*:*<CTAG>*::*RTOSTART=<RTOSTART>*,*[RFROMSTART=<RFROMSTART>*],*[RFROMEND=<RFROMEND>*],*RMODE=<RMODE>*,*[CMDMDE=<CMDMDE>*];**

Step 1 Choose the type of roll you want to perform and enter the corresponding command:

- For automatic rolling onto the same facility, but different STS (path roll), use the **ENT-ROLL-*<MOD_PATH>*** command as shown in the following example:

ENT-ROLL-VC3:CISCO:VC4-1-1-1,VC4-2-1-1:1::RFROM=VC4-2-1-1,RTO=VC4-3-1-1,RMODE=MAN,CMDMDE=FRCD;

- For manual rolling onto the same facility, but different VC (path roll), use the **ENT-ROLL-*<MOD_PATH>*** command as shown in the following example:

ENT-ROLL-VC3:CISCO:VC4-1-1-1,VC4-2-1-1:1::RFROM=VC4-2-1-1,RTO=VC4-3-1-1,RMODE=MAN,CMDMDE=FRCD;

- For rolling onto a different facility with the same or different VC (line roll), use the **ENT-BULKROLL-*<STM_TYPE>*** command as shown in the following example:

ENT-BULKROLL-STM16:CISCO:FAC-5-1:123:::RTOSTART=VC4-6-1-1,RFROMSTART=VC4-5-1-1,RFROMEND=VC4-5-1-4,RMODE=AUTO,CMDMDE=FRCD;

This command will roll all the VC paths to a facility on Slot 6 with the same VC as shown in [Table 2-5](#).

Table 2-5 Two-Way Circuit Single or Dual Line Roll with ENT-BULKROLL

Path	Before Roll	After Roll
VC4#1	VC4-5-1-1	VC4-6-1-1
VC4#2	VC4-5-1-2	VC4-6-1-2
VC11#1 on VC4#3	VC11-5-1-3-1-1	VC11-6-1-3-1-1
VC11#2 on VC4#3	VC11-5-1-3-2-4	VC11-6-1-3-2-4
VC4#4	VC4-5-1-4	VC4-6-1-4
VC4#5	VC4-5-1-5	VC4-6-1-5
VC11#3 on VC4#6	VC11-5-1-6-1-1	VC11-6-1-6-1-1

- For rolling a set of circuits onto a different facility (bulk roll), use the **ENT-BULKROLL-*<STM_TYPE>*** command as shown in the following example:

ENT-BULKROLL-STM16:CISCO:FAC-5-1:123:::RTOSTART=VC4-6-1-1,RFROMSTART=VC4-5-1-1,RFROMEND=VC4-5-1-4,RMODE=AUTO,CMDMDE=FRCD;

This command will roll the paths shown in [Table 2-6](#).

Table 2-6 Two-Way Circuit Single or Dual Bulk Roll with ENT-BULKROLL

Path	Before Roll	After Roll
VC4#1	VC4-5-1-1	VC4-6-1-1
VC4#2	VC4-5-1-2	VC4-6-1-2

Table 2-6 Two-Way Circuit Single or Dual Bulk Roll with ENT-BULKROLL (continued)

Path	Before Roll	After Roll
VC11#1 on VC4#3	VC11-5-1-3-1-1	VC11-6-1-3-1-1
VC11#2 on VC4#3	VC11-5-1-3-2-4	VC11-6-1-3-2-4
VC4#4	VC4-5-1-4	VC4-6-1-4

Step 2 If you performed a manual roll, you must confirm the circuit is valid by issuing the RTRV-BULKROLL-<STM_TYPE> command. The input format of the command is as follows:

```
RTRV-BULKROLL-<STM_TYPE>:[<TID>]:<SRC>:<CTAG>;
```

The following is an example of the command input:

```
RTRV-BULKROLL-STM4:CISCO:FAC-3-1:1;
```

2.9.4 One-Way Circuit Single Roll and Dual Roll Procedures

Single roll operation moves either the source or destination of a circuit to a new endpoint, either onto the same node or onto a different node. In single roll operation you only choose one roll point during the process.

Dual roll operation reroutes a segment between two roll points of a circuit. In dual roll operation, you choose two roll points during the process. The new route can be one of the following:

- A new link (no circuit is required)
- Another circuit (created before or during the bridge and roll process)

Create a One-Way Circuit Single Roll

To create a one-way circuit single roll, enter the ENT-ROLL-<MOD_PATH> command or the ENT-BULKROLL-<STM_TYPE> command, depending on the type of roll you want to perform. The input formats for these commands are as follows:

- ENT-ROLL-<MOD_PATH>:[<TID>]:<FROM>,<TO>:<CTAG>:::RFROM=<RFROM>,RTO=<RTO>,RMODE=<RMODE>,[CMDMDE=<CMDMDE>];



Note For a one-way destination roll, the roll mode (RMODE) must be manual (MAN).

- ENT-BULKROLL-<STM_TYPE>:[<TID>]:<FROM>:<CTAG>:::RTOSTART=<RTOSTART>,[RFROMSTART=<RFROMSTART>],[RFROMEND=<RFROMEND>],RMODE=<RMODE>,[CMDMDE=<CMDMDE>];

Step 1 Choose the type of roll that you want to perform and enter the corresponding command:

- For automatic rolling onto the same facility, but different VC (path roll), use the ENT-ROLL-<MOD_PATH> command as shown in the following example:

```
ENT-ROLL-VC3:CISCO:VC4-1-1-1,VC4-2-1-1:1:::RFROM=VC4-2-1-1,RTO=VC4-3-1-1,RMODE=MAN,CMDMDE=FRCD;
```

- For manual rolling onto the same facility, but different VC (path roll), use the ENT-ROLL-<MOD_PATH> command as shown in the following example:

```
ENT-ROLL-VC3:CISCO:VC4-1-1-1,VC4-2-1-1:1::RFROM=VC4-2-1-1,RTO=VC4-3-1-1,
RMODE=MAN,CMDMDE=FRCD;
```

- For rolling onto a different facility with the same or different VC (line roll), use the ENT-ROLL-<MOD_PATH> command as shown in the following example:

```
ENT-ROLL-VC3:CISCO:VC4-1-1-1,VC4-2-1-1:1::RFROM=VC4-2-1-1,RTO=VC4-3-1-1,
RMODE=MAN,CMDMDE=FRCD;
```

This command will roll all the VC paths to a facility on Slot 6 with the same STS as shown in [Table 2-7](#).

Table 2-7 One-Way Circuit Single Line Roll with ENT-BULKROLL

Path	Before Roll	After Roll
VC4#1	VC4-5-1-1	VC4-6-1-1
VC4#2	VC4-5-1-2	VC4-6-1-2
VC11#1 on VC4#3	VC11-5-1-3-1-1	VC11-6-1-3-1-1
VC11#2 on VC4#3	VC11-5-1-3-2-4	VC11-6-1-3-2-4
VC4#4	VC4-5-1-4	VC4-6-1-4
VC4#5	VC4-5-1-5	VC4-6-1-5
VC11#3 on VC4#6	VC11-5-1-6-1-1	VC11-6-1-6-1-1

- For rolling a set of circuits onto a different facility (bulk roll), use the ENT-BULKROLL-<STM_TYPE> command as shown in the following example:

```
ENT-BULKROLL-STM16:CISCO:FAC-5-1:123::RTOSTART=VC4-6-1-1,
RFROMSTART=VC4-5-1-1,RFROMEND=VC4-5-1-4,RMODE=AUTO,CMDMDE=FRCD;
```

This command will roll the paths shown in [Table 2-8](#).

Table 2-8 One-Way Circuit Single Bulk Roll with ENT-BULKROLL

Path	Before Roll	After Roll
VC4#1	VC4-5-1-1	VC4-6-1-1
VC4#2	VC4-5-1-2	VC4-6-1-2
VC11#1 on VC4#3	VC11-5-1-3-1-1	VC11-6-1-3-1-1
VC11#2 on VC4#3	VC11-5-1-3-2-4	VC11-6-1-3-2-4
VC4#4	VC4-5-1-4	VC4-6-1-4

Step 2 If you performed a manual roll, you must confirm that the circuit is valid by issuing the RTRV-BULKROLL-<STM_TYPE> command using the following format:

```
RTRV-BULKROLL-<STM_TYPE>:[<TID>]:<SRC>:<CTAG>;
```

An example of the RTRV-BULKROLL-<STM_TYPE> input follows:

```
RTRV-BULKROLL-STM4:CISCO:FAC-3-1:1;
```

Create a One-Way Circuit Dual Roll

In this procedure, both the source and destination nodes are rolled. There are two types of dual rolls:

- Dual roll for a single circuit within the same facilities but to a different time slot.
- Dual roll for a single circuit from one span card to another span card.

-
- Step 1** Determine the type of roll that you want to perform on the source node and follow the steps in the [“Create a One-Way Circuit Single Roll” section on page 2-50](#).
- Step 2** Determine the type of roll that you want to perform on the destination node and follow the steps in the [“Create a One-Way Circuit Single Roll” section on page 2-50](#).
-

2.9.5 Protection Rolling Procedures

To perform protection rolls, follow the procedures in the [“2.9.3 Two-Way Circuit Single Roll and Dual Roll Procedures” section on page 2-48](#) and the [“2.9.4 One-Way Circuit Single Roll and Dual Roll Procedures” section on page 2-50](#).



Note

Before performing a protection roll, either from one protection group to another or within the same protection group, the protection group must already be provisioned.

[Table 2-9](#) shows the kind of protection rolls that are supported from one domain to another. In the table, an X indicates that the roll is allowed and a dash indicates that the roll is not allowed.

Table 2-9 Supported Protection Rolls

Roll From Domain	Roll To Domain				
	MS-SPRing	PCA	1+1	SNCP	Unprotected
MS-SPRing	X	X	X	—	X
PCA	X	X	X	—	X
1+1	X	X	X	—	X
SNCP	—	—	—	X	—
Unprotected	X	X	X	—	X

2.10 Remote Monitoring-Managed PMs

This section describes the retrieval, threshold setting, threshold crossing alerts (TCAs), and scheduled PM reporting for all remote monitoring (RMON)-managed PM data.

The cards that support RMON PMs include: G1K-4, CE-1000-4, ML1000-2/ML100T-12, FC_MR-4, MXP_MR_2.5G/MXPP_MR_2.5G, and ML-100T-8/CE-100T-8. The PM types for these cards include Ethernet statistic types defined in the standard SNMP/RMON MIB, and also include other statistic types managed by RMON, for example, the Fibre Channel statistical types.

When creating an RMON threshold, there are two threshold values that need to be specified. The first threshold is the rising threshold and the other is the falling threshold. There are other parameters that need to be specified when creating the RMON threshold, for example, the startup type and the sample type.

**Note**

There can be more than one threshold defined for each RMON statistic type.

The current bucket is not defined by the RMON. RMON-managed PM only shows the history data of the PMs and the data accumulated since the last time the counters are cleared (RAW-DATA).

In the RMON TCA, the accumulation time period is not the predefined PM bucket accumulation time, such as 15-MIN or 1-DAY. It can be any integer (any time greater than 10 seconds) that is defined when creating the RMON threshold.

2.10.1 RTRV-PM-<MOD2>

The RTRV-PM-<MOD2> command retrieves the RMON-managed PMs.

The TL1 modifiers FSTE, GIGE, and POS are used to retrieve the RMON-managed Ethernet PM, if the Ethernet port is an FSTE, GIGE, or POS port type. The FC modifier retrieves the RMON-managed Fibre Channel PM.

There are three accumulation time periods for RMON statistics: 1-MIN, 1-HR, and RAW-DATA. For RMON-managed PMs, only history PM buckets and RAW-DATA are supported and there is no current bucket defined for RMON-managed PMs. When RAW-DATA is specified in the input of RTRV-PM, the date and time specified in the input will be ignored. The MONDAT and MONTM in the output will be the last time the counters were cleared. RAW-DATA is the default TPER value for RMON-managed PM retrieval.

Because RMON PM only supports the history data if the accumulation time period is 1-MIN, 15-MIN, 1-HR, or 1-DAY, you must specify the correct history PM bucket for the RTRV-PM command to succeed.

When retrieving PM, if an unsupported MONTYPE is specified, an error message is returned.

Currently there is no support of LOCN (location) and DIRN (direction) for RMON-managed data statistics.

Input Format

```
RTRV-PM-<MOD2>:[<TID>]:<AID>:<CTAG>::[<MONTYPE>],[<MONLEV>],[<LOCN>],
[<DIRECTION>],[<TPER>],[<DATE>],[<TIME>];
```

Input Example

```
RTRV-PM-GIGE:TID:FAC-2-1:123::ETHERSTATSOCTETS,,,1-MIN,04-11,12-45;
RTRV-PM-GIGE:TID:FAC-2-1:123::,,,RAW-DATA;
```

Output Format

```
SID DATE TIME
M CTAG COMPLD
  ""<AID>,[<AIDTYPE>]:<MONTYPE>,<MONVAL>,[<VLDTY>],[<LOCN>],[<DIRECTION>],
  [<TPER>],[<MONDAT>],[<MONTM>]"
;
```

Output Example

```
TID-000 1998-06-20 14:30:00
M 001 COMPLD
  "FAC-2-1,GIGE:etherStatsOctets,21,COMPL,,1-MIN,04-11,12-45"
;
```

Table 2-10 shows the error messages associated with the RTRV-PM-<MOD2> command.

Table 2-10 Error Messages for RTRV-PM-<MOD2>

Error Code	Description	Scenario When the Error Message is Sent
IDNV	TMPER Type Not Supported	The TMPER parameter specified is not applicable for the MOD2 type. For example, 1-MIN is not applicable for STM16 PM types.
IDNV	Current Interval Not Supported For RMON PMs	The current interval is specified by default, or is explicitly specified by MONDAT/MONTM, when the TMPER is 1-MIN, 15-MIN, 1-HR, or 1-DAY.

2.10.2 ENT-RMONTH-<MOD2_RMON>

The ENT-RMONTH-<MOD2_RMON> command creates a threshold type (an entry in the RMON alarm table) for an RMON statistic, for the RMON-managed PMs. An event (TCA) is generated and reported when the threshold is crossed in the appropriate direction during the sampled time period. More than one threshold can be created by using different parameters (rising/falling threshold), for each MONTYPE.

This command applies to G1000, GIGE, FSTE, POS, and FC data objects.

Input Format

```
ENT-RMONTH-<MOD2_RMON>:[<TID>]:<SRC>:<CTAG>::<MONTYPE>,,,<INTVL>:
RISE=<RISE>,FALL=<FALL>,[SAMPLE=<SAMPLE>],[STARTUP=<STARTUP>][:];
```

Input Example

The following example creates an entry in the RMON threshold table for the etherStatsOctets statistic type with an interval equal to 100 seconds, rising threshold of 1000, falling threshold of 100, DELTA sampling type and the startup type of RISING-OR-LTING.

```
ENT-RMONTH-GIGE:CISCO:FAC-2-1:123::ETHERSTATSOCTETS,,,100:RISE=1000,
FALL=100,SAMPLE=DELTA,STARTUP=RISING-OR-LTING;
```

Table 2-11 shows the error messages associated with the ENT-RMONTH-<MOD2_RMON> command.

Table 2-11 Error Messages for ENT-RMONTH-<MOD2_RMON>

Error Code	Description	Scenario When the Error Message is Sent
IDNV	Invalid Interval	The input interval value is less than 10.
IDRG	Invalid Threshold Value	The rising or falling threshold is less than 0, or the falling threshold is greater than or equal to the rising threshold.
IDNV	Invalid MONTYPE value	The MONTYPE is not applicable to the data type (represented by the MOD2).

Table 2-11 Error Messages for ENT-RMONTH-<MOD2_RMON> (continued)

Error Code	Description	Scenario When the Error Message is Sent
IIDT	Cannot Create More RMON Threshold	The number of RMON threshold created reached the maximum (256).
IIDT	Duplicate RMON Threshold	There is already a threshold created with the exact parameters.

2.10.3 DLT-RMONTH-<MOD2_RMON>

The DLT-RMONTH-<MOD2_RMON> command deletes a threshold type (an entry in the RMON alarm table) created for a MONTYPE (RMON statistic type). Because there can be multiple thresholds created for a particular MONTYPE, you must specify all the necessary parameters for the threshold in order to identify the particular threshold to be deleted.

This command applies to G1000, GIGE, FSTE, POS, and FC data objects.

Input Format

DLT-RMONTH-<MOD2>[:<TID>]:<AID>:<CTAG>::<MONTYPE>,,,<INTVL>:RISE=<RISE>,
FALL=<FALL>,[SAMPLE=<SAMPLE>],[STARTUP=<STARTUP>][:];

Input Example

The following example deletes an entry in the RMON threshold table for the etherStatsOctets statistic type, with an interval equal to 100 seconds, rising threshold of 1000, falling threshold of 100, DELTA sampling type, and the startup type of BOTH.

DLT-RMONTH-GIGE:CISCO:FAC-2-1:123::ETHERSTATSOCTETS,,100:RISE=1000,FALL=100,
SAMPLE=DELTA,STARTUP=BOTH;

Table 2-12 shows the error messages associated with the DLT-RMONTH-<MOD2_RMON> command.

Table 2-12 Error Messages for DLT-RMONTH-<MOD2_RMON>

Error Code	Description	Scenario When the Error Message is Sent
IDNV	Invalid Interval	The input interval value is less than 10.
IDRG	Invalid Threshold Value	The rising or falling threshold is less than 0, or the falling threshold is greater than or equal to the rising threshold.
IDNV	Invalid MONTYPE value	The MONTYPE is not applicable to the data type (represented by the MOD2).
SROF	RMON Threshold Does Not Exist	The RMON threshold you are trying to delete does not exist.

2.10.4 RTRV-RMONTH-<MOD2_RMON>

The RTRV-RMONTH-<MOD2_RMON> command retrieves the thresholds defined in the RMON alarm table.

Input Format

```
RTRV-RMONTH-<MOD2>:[<TID>]:<AID>:<CTAG>:[<MONTYPE>]>,,,[<INTVL>]:
[RISE=<RISE>],[FALL=<FALL>],[SAMPLE=<SAMPLE>],[STARTUP=<STARTUP>];
```

Input Example

The following example retrieves all the thresholds defined in the RMON threshold table for the etherStatsOctets statistics type.

```
RTRV-RMONTH-GIGE:TID:FAC-2-1:123::ETHERSTATSOCTETS;
```

The following example retrieves all the thresholds with the DELTA sampling type, RISING startup type, and etherStatsOctets statistics type, defined in the RMON threshold table.

```
RTRV-RMONTH-GIGE:CISCO:FAC-2-1:123::ETHERSTATSOCTETS:SAMPLE=DELTA,
STARTUP=RISING;
```

Output Format

```
SID DATE TIME
M CTAG COMPLD
"<AID>,[<AIDTYPE>]:<MONTYPE>,,,[<INTVL>]:INDEX=<INDEX>,RISE=<RISE>,
FALL=<FALL>,SAMPLE=<SAMPLE>,STARTUP=<STARTUP>"
;
```

Output Example

```
TID-000 1998-06-20 14:30:00
M 001 COMPLD
"FAC-2-1,GIGE:ETHERSTATSOCTETS,,,100:INDEX=2,RISE=1000,FALL=100,
SAMPLE=DELTA,STARTUP=RISING"
;
```

Table 2-13 shows the error messages associated with the RTRV-RMONTH-<MOD2_RMON> command.

Table 2-13 Error Messages for RTRV-RMONTH-<MOD2_RMON>

Error Code	Description	Scenario When the Error Message is Sent
IDNV	Invalid Interval	The input interval value is less than 10.
IDRG	Invalid Threshold Value	The rising or falling threshold is less than 0, or the falling threshold is greater than or equal to the rising threshold.
IDNV	Invalid MONTYPE value	The MONTYPE is not applicable to the data type (represented by the MOD2).
SROF	RMON Threshold Does Not Exist	The RMON threshold that you are trying to delete does not exist.

2.10.5 REPT EVT <MOD2ALM> for Threshold Crossing Events

The REPT EVT <MOD2ALM> autonomous message reports the threshold crossing event for the RMON statistics.

The HT or LT is appended to the CONDTYPE when crossing the rising or falling threshold.

The table index for the threshold in the RMON alarm table is enclosed in the text of the TCA description. This table index is displayed in the output of the RTRV-RMONTH command also. You can retrieve additional information regarding the threshold that generates the TCA by issuing the RTRV-RMONTH command and comparing the output with corresponding table index.

Output Format

```
SID DATE TIME
M CTAG COMPLD
"<AID>:<CONDTYPE>,<CONDEFF>,<OCRDAT>,<OCRTM>,<LOCN>,<DIRN>,<MONVAL>,<THLEV>,<TMPER>:<DESC>,<AIDDET>]"
;
```

Output Example

```
VA454-23 2000-02-20 08:47:03
A 512.512 REPT EVT G1000
"FAC-2-1,G1000:T-ETHERSTATSOCTETS-HT,TC,09-30,23-59-59,,,1003,
1000,:"RMON THRESHOLD CROSSING ALARM # 1 \",G1000-4"
;
```

2.10.6 INIT-REG-<MOD2>

This command initializes the PM registers. This command applies to G1K-4, GIGE, FSTE, and FC data objects.

Only RAW-DATA is allowed to be specified for TMPER because no history data will be cleared for RMON-managed PMs by INIT-REG-<MOD2>.

2.10.7 SCHED-PMREPT-<MOD2>

This command schedules or reschedules the NE to report the PM data. The three accumulation time periods for RMON statistics are: 1-MIN, 1-HR, and RAW-DATA.

2.10.8 RTRV-PMSCHED-<MOD2>

This command retrieves the RMON statistics reporting schedule that was set for the NE by the SCHED-PMREPT-<MOD2> command.

The LOCN parameter is optional in the output of RTRV-PMSCHED-<MOD2>, and no LOCN information will be given in the output of RTRV-PMSCHED for RMON PM schedule.

2.10.9 REPT PM <MOD2>

This message reports autonomous monitoring statistics as a result of the schedule created by SCHED-PMREPT-<MOD2>.

The LOCN parameter is optional in the output of REPT PM <MOD2> message, and no LOCN information will be given in the output of REPT PM <MOD2>.

2.10.10 REPT DBCHG

Reports any changes to the NE that result from issuing the following commands:

- ENT-RMONTH-<MOD2>
- DLT-RMONTH-<MOD2>

Also reports when an RMON PM schedule is created or deleted through the SCHED-PMREPT-<MO2> command.

2.10.11 MONTYPE Defined for Ethernet Statistics and Condition Type for TCA

The names of Ethernet and Fibre Channel MONTYPES are defined exactly as they are defined in the corresponding SNMP MIB statistics group. For example, etherStatsUndersizePkts will be used as the name for the same RMON statistics defined in RFC 1757.

Unlike the PM of other SDH entities (such as VC path, STM), there are two condition types defined for the TCAs of each RMON-managed statistics type (Ethernet or Fibre Channel MONTYPE). One condition type is for the rising threshold, and the other is for the falling threshold. For example, there are two condition types for the etherStatsUndersizePkts statistics type: T-etherStatsUndersizePkts-HT for the rising threshold, and T-etherStatsUndersizePkts-LT for the falling threshold.



Note

For platform-specific PM information, refer to the Procedure Guide and Reference Manual of that platform.

2.10.12 Enumerated Types

2.10.12.1 TMPER

Table 2-14 shows the possible TMPER values.

Table 2-14 *TMPER Type*

Value	Description
1-DAY	Performance Parameter Accumulation Interval Length - Every 24 Hours. For RMON managed data statistics, 7 days of history data are available.
15-MIN	Performance Parameter Accumulation Interval Length - Every 15 Minutes. 32 days of history data are available.
1-MIN	Performance Parameter Accumulation Interval Length - Every 1 minute. Only applicable to RMON statistics. 60 days of history data are available.
1-HR	Performance Parameter Accumulation Interval Length - Every 1 Hours. Only applicable to RMON statistics. 24 days of history data are available.
RAW-DATA	The data shown is accumulated starting from the last time that the counters are cleared. This is only applicable to RMON managed PMs.

2.10.12.2 SAMPLE_TYPE

SAMPLE_TYPE (Table 2-15) describes how the data will be calculated during the sampling period.

Table 2-15 **SAMPLE_TYPE**

Value	Description
ABSOLUTE	Comparing directly
DELTA	Comparing with the current value of the selected variable subtracted by the last sample.

2.10.12.3 STARTUP_TYPE

STARTUP_TYPE (Table 2-16) indicates whether an event will be generated when the first valid sample is crossing the rising or falling threshold.

Table 2-16 **STARTUP_TYPE**

Value	Description
RISING	Generate the event when the sample is greater than or equal to the rising threshold.
FALLING	Generate the event when the sample is smaller than or equal to the falling threshold.
RISING-OR-FALLING	Generate the event when the sample is crossing either the rising threshold or it the falling threshold.

2.10.13 Notes for Card Types

The PM for the client port and/or chunk port (OCH) can include both the RMON-managed PM and the SDH PM when the client payload is provisioned as 1GFC, 2GFC, 10GFC, 1GFICON, 2GFICON, GIGE, or 10GIGE for the following cards:

- MXP_2.5G_10G
- TXP_MR_10G
- TXP_MR_2.5G
- TXP_MR_10E
- MXP_MR_2.5G

2.10.13.1 Client Port of Cards

When the client port of a card is provisioned as 1GFC, 2GFC, 10GFC, 1GFICON, 2GFICON, GIGE, or 10GIGE, the applicable PM for the client port includes both the RMON-managed PM and the SDH PM. Therefore, the behavior of the RTRV-PM-MMOD2>, INIT-REG-<MOD2>, and SCHED-PMREPT-<MOD2> commands is different from the Ethernet or Fibre Channel port of the other cards where only RMON PM is applicable. The differences include:

- LOCN and DIRN parameters are applicable to the RTRV-PM-<MOD2>, INIT-REG-<MOD2>, and SCHED-PMREPT-<MOD2> commands because they are applicable to the SDH PM. When the LOCN or DIRN parameter is specified, it only applies to the SDH PM.

- Because 1-MIN, 1-HR, and RAW-DATA are not applicable to SDH PM, no SDH PM would be returned in the output of the RTRV-PM command. If RAW-DATA is specified in the input of the INIT-REG command, no SDH PM counter will be cleared.
- When the accumulation time period is specified as 15-MIN or 1-DAY and the PM history bucket is specified as 0 (current bucket), only SDH PM will be returned in the output of the RTRV-PM command. No RMON-managed PM will be included in the output of the RTRV-PM command because RMON PM does not have current bucket.
- An SDH PM MONTYPE cannot be specified in the input of the INIT-REG command. Only the SDH PM counters are cleared. When the ALL MONTYPE is specified, both the RMON and the SDH PM counters are cleared.
- The commands used to manage RMON thresholds (ENT-RMONTH, DLT-RMONTH, and RTRV-RMONTH) are only applicable to the RMON PM of the client port. The SDH PM thresholds of the client port are still managed by the SET-TH and RTRV-TH commands. For example, if the client port type of an MXP_MR_2.5G card is provisioned as GIGE, the following commands would be used to create an RMON threshold:

ENT-RMONTH-GIGE::FAC-2-1-1:1::IFINOTETS,,,,1000:RISE=1000,FALL=900;

and the following command would be used to set the SDH PM threshold:

SET-TH-GIGE::FAC-2-1-1:1LBCL-MIN,0.2;

2.10.13.2 OCH Port of Cards

The optical channel (OCH) port of the TXP_MR_10G and TXP_MR_10E cards include the RMON-managed 8B10B PM as well as the other SDH PM when their client port is provisioned as GIGE, 10GIGE, 1GFC, 2GFC, or 10GFC.

The RTRV-PM-OCH, INIT-REG-OCH, SCHED-PMREPT-OCH, and REPT PM OCH commands have similar behaviors as mentioned in the [“2.10.13.1 Client Port of Cards”](#) section on page 2-59.

2.11 Rules for Framing Type Autoprovisioning in CTC Versus TL1

The E1, E3, and DS3i cards can autosense framing and set the format accordingly; however, this framing autosense feature can only be set using CTC. Use CTC to set the frame format (FMT) attribute on E1, E3, and DS3i cards to autoprovision. The FMT field will blank out for a few seconds while the card determines the framing mode received by that particular port. The FMT field is set accordingly to unframed, M23, or CBit. If the card is not present (preprovisioned), setting the FMT field to autoprovision will result in the FMT field defaulting to unframed.

The TL1 interface does not support the autoprovision option for the E1, E3, and DS3i cards; it only supports unframed, M23, or CBit. If autoprovision is selected from CTC and at the same time the TL1 command RTRV-E3 is issued, the TL1 output will indicate the FMT field as unframed during the time period that the card (if present) is autosensing the frame format. If the card is not present (preprovisioned), the response of the RTRV-E3 command (after CTC sets the FMT to autoprovision) will indicate the FMT field as unframed.

2.12 Provisioning Rules for Transponder and Muxponder Cards

This section provides provisioning rules associated with the following cards and their pluggable port modules (PPMs):

- MXP_2.5G_10G
- TXP_MR_10G
- TXP_MR_2.5G
- TXPP_MR_2.5G
- MXP_2.5G_10E
- TXP_MR_10E
- MXP_MR_2.5G
- MXPP_MR_2.5G
- GE_XP
- 10GE_XP
- GE_XPE
- 10GE_XPE
- OTU2_XP
- ADM_10G

2.12.1 PPM Provisioning Rules

To provision PPMs, use the **ENT-EQPT** command.

[Example 2-33](#) provisions the first PPM.

Example 2-33 Provision the first PPM on Slot 2

```
ENT-EQPT::PPM-2-1:100::PPM-1PORT;
```

To delete PPM provisioning, use the **DLT-EQPT** command.

2.12.2 Payload Provisioning Rules

Use the following rules when provisioning payload:

- PPM must first be provisioned.
- When changing the payload data type:
 - All ports being edited must be in the OutOfServiceandManagement,Disabled state because this change is traffic affecting.
 - All ports being edited must not have any DCC terminations.
 - All ports being edited must not be part of any timing source.
 - The section trace mode of all ports being edited must be OFF.

- For all regeneration and retiming (2R) payload types, trunk ports must not have generic communications channel (GCC) termination or optical transport network/forward error correction (OTN/FEC) enabled.
- Payload cannot be changed if any ports being edited are part of a Y-cable protection group.
- The payload cannot be changed if any of the ADM-10G and OTU2_XP ports being edited are part of the APS (Automatic Protection Switching) protection group.
- Only the TXP, GE_XP, 10GE_XP, GE_XPE, 10GE_XPE, and OTU2_XP cards can be used for the 10GIGE payload. Termination mode must be set to TRANSPARENT-ALARM INDICATION SIGNAL (AIS) or TRANSPARENT-SQUELCH (TRANSPARENT-SQUELCH is only supported on TXP_MR_10E).
- To set the payload to other than STM1, STM4, STM16, or STM64, the termination mode must be set to TRANSPARENT-AIS or TRANSPARENT-SQUELCH (TRANSPARENT-SQUELCH is only supported on TXP_MR_10E). For Fibre Channel cards and all 2R payload types, the termination mode is not applicable and must be set to TRANSPARENT-AIS or TRANSPARENT-SQUELCH.
- Changing the payload while in a regeneration group requires unprovisioning the regeneration group, unprovisioning the payload, reprovisioning the payload, and reprovisioning the regeneration group.

To provision the payload, use the following commands:

- **ENT-(OCn, nGIGE, nGFC, 2R)**
- **DLT-(OCn, nGIGE, nGFC, 2R)**
- **ED-(OCn, nGIGE, nGFC, 2R)**

Examples of provisioning payload commands include:

- ENT-STM4
- ENT-10GIGE
- ED-2GFC

2.12.3 STM Payload Provisioning Parameters

SDH payloads are supported by NCS cards according to [Table 2-17](#). These payloads are configurable only for the Section and Line layers. STM layers cannot be provisioned or retrieved.

Table 2-17 Payload/Card Mode Support

Card Type	Payload	Card Mode
TXP_MR_10G	STM64	NCS-LINE
	10GIGE	NCS-SECTION NCS-TRANS-AIS With REGEN group: NCS-TRANS-AIS
MXP_2.5G_10G	STM16	NCS-LINE NCS-SECTION NCS-TRANS-AIS

Table 2-17 Payload/Card Mode Support (continued)

Card Type	Payload	Card Mode
TXP_MR_2.5G and TXPP_MR_2.5G	1GIGE, 1GF, 1GFICON, 2GFICON, ESCON, ISC1, ISC3, ETRCLO, DV6000, HDTV, D1VIDEO	With REGEN group: NCS-TRANS-AIS Must be NCS-TRANS-AIS. Requires the DWRAP and FEC disabled on the network/OCH ports.
	STM1, STM4, STM16	NCS-LINE NCS-SECTION NCS-TRANS-AIS
TXP_MR_10E	STM64	NCS-LINE NCS-SECTION NCS-TRANS-AIS NCS-TRANS-SSQUELCH
	10GIGE, 10GFC	NCS-TRANS-AIS NCS-TRANS-SQUELCH With REGEN group: NCS-TRANS-AIS NCS-TRANS-SQUELCH
MXP_2.5G_10E	STM16	NCS-SECTION NCS-TRANS-AIS NCS-TRANS-SQUELCH
MXP_MR_2.5G AND MXPP_MR_2.5G	Port 1: 1GFC, 1GFICON, GIGE Port 2: 1GFC, 2GFC, 1GFICON, 2GFICON, GIGE ¹	FCGE ²
GE_XP and GE_XPE	GIGE, 10GIGE	GEXP-10x1Gx2-MXP GEXP-20x1G-MXP GEXP-L2ETH
10GE_XP and 10GE_XPE	GIGE, 10GIGE	10GEXP-TXP 10GEXP-L2ETH
OTU2_XP	OC192, 10GIGE	NCS-TRANS-AIS NCS-TRANS-SQUELCH NCS-SECTION NCS-LINE
ADM_10G	OC3, OC12, OC48, GIGE	—

1. If 2GFC or 2GFICON is on Port 2, then Port 1 must be unprovisioned. If Port 1 is provisioned then Port 2 cannot contain 2GFC or 2GFICON because of bandwidth limitations. Ports 3 through 8 are not available. ESCON payload is not supported.
2. ESCON and mixed card modes are not supported.

The configuration parameters for STM ports can be edited and retrieved using the ED-<STM_TYPE> and RTRV-<STM_TYPE> commands. The following conditions apply when using the parameters for these commands:

- Regenerator Section DCC (RS-DCC) and Multiplex Section DCC (MS-DCC) parameters are used to enable and disable RS-DCC and MS-DCC functionality, respectively.

- SYNMSG and SENDDUS synchronization parameters are applicable only to cards supporting synchronization: MXP-2.5G-10G, TXP-MR-10E, and MXP-2.5G-10E, OTU2_XP, and ADM-10G.
- Signal fail and signal degrade can be provisioned using SFBER and SDBER parameters, respectively.
- Soak time and administrative/service state parameters can be provisioned using SOAK, SOAKLEFT, PST, SST, and CMDMDE parameters.
- The SONET/SDH selection can be provisioned using the MODE parameter.
- The name of the facility can be provisioned using the NAME parameter.
- The J0 Section Trace parameters can be provisioned using the EXPTRC, TRC, INCTRC, TRCMODE, and TRCFORMAT parameters.

2.12.4 Termination Mode Provisioning Rules

The following rules apply when provisioning the termination mode:

- It is a card-level operation.
- Termination mode provisioning is only applicable to the STM1, STM4, STM16, and STM64 payload types.
- Changing termination mode requires:
 - a. All ports must be in OutOfService state because this change is traffic-affecting.
 - b. All ports must not have DCC termination (GCC is not applicable).
 - c. The J0 Section Trace Mode on all ports must be <OFF>.
 - d. The trunk port must not be part of any timing source.
 - e. If any port is Y-cable protected, these rules also apply to the peer slot.
- Section and Line termination mode is supported for the STM1, STM4, STM16, and STM64 payloads.
- You cannot change the termination mode if the port is part of a Y-cable protection or regeneration group.
- Termination mode provisioning does not apply to MXP_MR_2.5G, MXPP_MR_2.5G, and ADM-10G cards.

To set the termination mode, use the following commands:

- ENT-EQPT
- ED-EQPT

[Example 2-34](#) sets the termination mode of the card in Slot 1 to NCS-LINE.

Example 2-34 Set the Termination Mode

```
ED-EQPT::SLOT-1:116:::CARDMODE=NCS-LINE;
```


2.12.5 Wavelength Provisioning Rules

The following rules apply when provisioning the wavelength:

- Change the trunk wavelength of all the trunk ports to be in the Locked-Disabled state, because this change is traffic-affecting.
- Setting the wavelength to the first tunable wavelength will cause the first wavelength from the card manufacturing data to be used as the operational wavelength.
- If the provisioned wavelength is set to the first tunable wavelength, any removal of an operational card and subsequent replacement with a card for a different wavelength will not cause a mismatch alarm to be raised.
- To receive the mismatch alarm notification, you need to explicitly provision the wavelength and not use the first tunable wavelength.

To set the card-level wavelength, use the following commands:

- **ENT-EQPT**
- **ED-EQPT**

[Example 2-35](#) sets the card-level wavelength of the card in Slot 1 to 150.33.

Example 2-35 Set the Card-Level Wavelength

```
ED-EQPT:VA454-22:SLOT-1:116:::PWL=1530.33;
```

2.12.6 Regeneration Group Provisioning Rules

The following rules apply when provisioning the regeneration group:

- The TXPP and TXP versions of the transponder card can be used in a regeneration group.
- When the TXPP card is used as a regeneration group, the LOCKOUT_OF_PROTECTION, inhibit switching command is issued on the working trunk port.
- The inhibit switching command cannot be unlocked until the regeneration group is unprovisioned for the TXPP.
- Regeneration group provisioning is denied if there is a FORCE or MANUAL switching command already provisioned on the trunk ports for the TXPP.
- A regeneration group enables the continuation of the client signal across multiple spans.
- Peer slot must not be itself.
- Peer slot must at least be preprovisioned.
- Peer slot must not be part of another regeneration group.
- Peer slot must not be part of a Y-cable protection group.
- Same card type.
- Same payload type and data rate.
- Same ITU-T G.709 OTN status.
- Same FEC status.
- Termination mode has to be set to TRANSPARENT-AIS or TRANSPARENT-SQUELCH mode.

To set the card-level regeneration group, use the following commands:

- ED-EQPT
- ENT-EQPT

[Example 2-36](#) sets a card-level regeneration group for Slot 2.

Example 2-36 Set Card-Level Regeneration Group

```
ED-EQPT::SLOT-2:CTAG:::PROTID=SLOT-2,NAME=REGENGROUPNAME;
```

2.12.7 DCC/GCC Provisioning Rules

The following rules apply when provisioning DCC and GCC:

- The DCC can be provisioned on the client port of a TXP or MXP card.
- No 2R payload types support GCC.
- Provisioning a DCC requires:
 - Payload data type is set to STM1, STM4, STM16, or STM64.
 - Termination mode is set to Line or Section terminated if the card supports provisionable termination mode.
- The DCC can be provisioned on the trunk line provided that ITU-T G.709 is provisionable and ITU-T G.709 OTN status is turned off:
 - To provision a GCC on the trunk port, the ITU-T G.709 should be enabled.
 - To provision a DCC on the trunk port, the ITU-T G.709 should be disabled.
- Only the working client port in a Y-cable protection scheme is allowed to be provisioned with DCC.
- Only the working trunk port in a splitter protection scheme can be provisioned with DCC or GCC.

To provision DCC, use the **ED-(OCn, nGIGE, NGFC)** command.

[Example 2-37](#) provisions DCC.

Example 2-37 Provision DCC

```
ED-STM64::FAC-1-1-1:100:::COMM=DCC:OutOfService,AutomaticInService;
```

To provision GCC, use the **ED-OCH** command.

[Example 2-38](#) provisions GCC.

Example 2-38 Provision GCC

```
ED-OCH::CHAN-6-2:114:::COMM=GCC:OutOfService,AutomaticInService;
```

2.12.8 ITU-T G.709 OTN, FEC, and OTN SDBER/SFBER Provisioning Rules

The following rules apply when provisioning ITU-T G.709 OTN, FEC, and OTN SDBER/SFBER:

- The ITU-T G.709 OTN, FEC, and OTN SDBER/SFBER can only be provisioned on the trunk port.
- 2R (transparent) payload types (HDTV and passthrough) do not support ITU-T G.709 OTN or FEC.
- To enable ITU-T G.709 OTN:

- All trunk ports must be in the OutOfService state.
- All trunk ports must not have any RS-DCC provisioned.
- To disable ITU-T G.709 OTN:
 - All trunk ports must be in the OutOfService state.
 - All trunk ports must not have any GCC or active trail trace identification (TTI) mode provisioned.
- FEC status can be enabled only if ITU-T G.709 is enabled.
- To change FEC status, all trunk ports must be in the OutOfService state.
- Only ITU-T G.709 OTN, FEC status, and SDBER/SFBER settings on the working trunk port can be changed in the protected version of the TXP card. The value provisioned on the working trunk port is reflected on the protect trunk port.
- The ITU-T G.709 OTN is only provisionable in non-2R (or unframed) payload type.
- When ITU-T G.709 is turned on, the OTN SFBER value is always set to 1E-5 and no other bit error rate (BER) values are provisionable.

To provision ITU-T G.709, FEC, and OTN SDBER/SFBER, use the **ED-OCH** command.

[Example 2-39](#) provisions ITU-T G.709, FEC, and OTN SDBER/SFBER.

Example 2-39 Provision ITU-T G.709, FEC, and OTN SDBER/SFBER

```
ED-OCH::CHAN-6-2:114:::OSDBER=1E-6,DWRAP=Y,FEC=Y,:
OutOfService,AutomaticInService;
```

2.12.9 Synchronization Provisioning Rules

The following rules apply when provisioning synchronization:

- The TXP_MR_10G, TXP_MR_2.5G, and TXPP_MR_2.5G cards are through-timed (passthrough) and cannot be used as a timing source. The GE_XP, 10GE_XP, GE_XPE, and 10GE_XPE cards do not support synchronization provisioning.
- The TXP_MR_10E card can be used as a timing reference (only on the client port, not the trunk port).
- A MXP_MR_2.5G, MXPP_MR_2.5G, OTU2_XP, or ADM-10G card trunk port can be used as a timing source.
- Only MXP ports can be used for a timing source. A trunk port is only allowed as a timing reference if ITU-T G.709 is off and the termination mode is Line or Section.
- All client ports of the ADM-10G cards are available for timing source when configured as SDH. GIGE payload cannot be used for timing source. Interlink port cannot be used for synchronization.
- All client ports of the MXP cards are available for timing source irrespective of termination mode.

To set port-level synchronization attributes, use the following commands:

- **ENT-OCn**
- **ED-OCn**
- **ED-OCH**

[Example 2-40](#) sets port-level synchronization attributes.

Example 2-40 Set Port-Level Synchronization Attributes

```
ED-OC48::FAC-1-1-1:CTAG::SYNCSMSG=Y,SENDDUS=N;
ED-OCH::CHAN-6-2:114::SYNCSMSG=N,SENDDUS=Y;
```

2.12.10 Section Trace Provisioning (J0) Rules

The following rules apply when provisioning section trace (J0):

- The client and trunk ports support section trace only if the payload is STM1, STM4, STM16, or STM64.
- The client and the trunk ports support the section trace only in Line or Section termination mode.
- In Line termination mode, the supported trace modes are MANUAL and MANUAL_NO_AIS trace modes.
- In Section termination mode, the supported trace mode is only the MANUAL_NO_AIS trace mode.
- The section trace supports a 1- or 16-byte length trace format.
- The trace mode of AUTO and AUTO-NO-AIS are not supported.
- No trace is applicable for 2R (unframed) payload types, for example, DV-6000, HDTV, and ESCON.
- The section trace received string should appear when the card is in TRANSPARENT-AIS or TRANSPARENT-SQUELCH termination mode and the payload is STM1, STM4, STM16, or STM64.
- When the client port is configured in a Y-cable or APS protection group, the received string is always retrieved from the active client port.
- If the line is Y-cable or APS protected, section trace can only be provisioned on the working port. However, the provisioning is duplicated between the two ports. Both ports contain the same values. This rule applies to the following parameters: Mode, Format, Send String, and Expected String.
- The MXP_2.5G_10E card is used for client test connection on client ports. For the trunk port, the trail trace identification (TTI) is used.
- The TXP_MR_10E card is used to test connections on client trunk ports.
- On MXP_MR_2.5G/MXPP_MR_2.5G cards, the trunk port section trace can be provisioned following the rules for line terminated SDH.
- Section trace provisioning is not supported on GE_XP, 10GE_XP, GE_XPE, 10GE_XPE cards.

For section trace provisioning of client ports provisioned for OCn payload, use the ED-OCn command.

[Example 2-41](#) provisions section trace for client ports.

Example 2-41 Section trace provisioning of client ports

```
ED-OC48::FAC-6-1-1:10::EXPTRC="AAA",TRC="AAA",TRCMODE=MAN,
TRCFORMAT=16-BYTE;
```

For section trace provisioning of trunk/OCH NCS ports, use the ED-TRC-OCH command.

[Example 2-42](#) provisions section trace for client ports.

Example 2-42 Section Trace Provisioning of Trunk/OCH NCS Ports

```
ED-TRC-OCH::CHAN-6-2:10:::EXPTRC="AAA",TRC="AAA",TRCMODE=MAN,  
TRCLEVEL-J0,TRCFORMAT=64-BYTE;
```

2.12.11 Trail Trace Identification Provisioning Rules

The following rules apply when provisioning trail trace identification (TTI):

- For the TXPP_MR_2.5G card, TTI can be provisioned only on the working trunk port. However, the provisioning will be duplicated between the two ports. Both ports will contain the same values. This rule applies to the following parameters: Mode, Format, Send String, and Expected String.
- The TTI level trace supports only 64-byte length trace format.
- The TTI level trace supports only the MANUAL and MANUAL_NO_AIS trace modes.
- The TTI received string is always retrieved from the active trunk port.
- The TTI level trace can be provisioned for the section and path monitoring.
- MXP_MR_2.5G and MXPP_MR_2.5G cards do not support TTI.

To provision port-level trace, use the **ED-TRC-OCH** command.

[Example 2-43](#) provisions port-level trace.

Example 2-43 Provision Port-Level Trace

```
ED-TRC-OCH::CHAN-6-2:10:::EXPTRC="AAA",TRC="AAA",TRCMODE=MAN,  
TRCLEVEL=TTI-PM,TRCFORMAT=64-BYTE;
```

2.12.12 PM (Performance Monitoring) and Alarm Threshold Provisioning Rules

The following rules apply when provisioning PM parameters and alarm thresholds:

- When framing type is unframed, for example, HDTV or DV6000, only optics threshold provisioning and PM are applicable. Support for optics threshold provisioning and PM depends on the ESCON SFP type.
- Optics PM supports only Near End, 15MIN, and 1DAY interval buckets.
- When framing type is Fibre Channel or Ethernet (for example, 1GFC or 1G Ethernet):
 - (TXP_MR_2.5G/TXPP_MR_2.5G, MXP_2.5G_10G, and TXP_MR_10G only) Only 8B10B threshold provisioning and PM are available.
 - 2G Fibre Channel does not support 8B10B threshold provisioning and PM.
- When the framing type is GIGE/10GIGE, all monitored PM parameter terminology will follow the current chassis type.
- (TXP_MR_2.5G/TXPP_MR_2.5G, MXP_2.5G_10G, and TXP_MR_10G only) 8B10B applies to both transmit (Tx) and receive (Rx) directions.
- 8B10B PM supports only Near End, 15MIN, and 1DAY interval buckets.
- The 8B10B layer is not used for MXP_2.5G_10E and TXP_MR_10E cards.
- When the framing type is SONET/SDH, all monitored PM parameter terminology follows the current chassis type.
- The OTN thresholds are only applicable if the ITU-T G.709 OTN status is enabled.

- The FEC thresholds are only applicable if the ITU-T G.709 and FEC are enabled.
- If the line is configured in a Y-cable, APS protection, or splitter protection group, only the working line thresholds can be provisioned. The working line thresholds will be reflected on the protect line thresholds. This rule applies for all threshold types including ITU-T G.709 OTN and FEC thresholds.
- Payload PM can be independently retrieved for both the working and protect port.

To set port-level thresholds, use the **SET-TH-(OCn, nGIGE, nGFC, OCH)** command.

[Example 2-44](#) sets port-level thresholds.

Example 2-44 Set Port-Level Thresholds

```
SET-TH-OC48::FAC-1-1-1:123::CVL,12,NEND,,15-MIN;
SET-TH-OCH::CHAN-6-1:123::ES-PM,12,NEND,,15-MIN;
```

To retrieve port-level thresholds, use the **RTRV-PM-(OCn, nGIGE, nGFC, OCH)** command.

[Example 2-45](#) retrieves port-level thresholds.

Example 2-45 Retrieve Port-Level Thresholds

```
RTRV-PM-OC48::FAC-1-1-1:123::CVL,10-UP,NEND,BTH,15-MIN,04-11,12-45;
RTRV-PM-OCH::CHAN-6-1:123::ES-PM,10-UP,NEND,BTH,15-MIN,04-11,12-45;
```

2.12.13 Y-Cable Protection Group Provisioning Rules

The following rules apply when provisioning a Y-cable protection group:

- A Y-cable protection group can be created between the client ports of two unprotected TXPs and OTU2_XP cards.
- While in Y-cable protection, a TXP card cannot be part of a regeneration group.
- Only the working client port can be provisioned with RS-DCC.
- Y-cable cannot be provisioned for a protect version of the TXP_MR_2.5G card.
- Y-cable protection group is not supported on the ADM-10G card.
- Only the working ports (not the protect) can be provisioned with DCC and timing reference.

To provision Y-cable protection groups, use the following commands:

- ENT-FFP-(OCn, nGIGE, nGFC)
- DLT-FFP-(OCn, nGIGE, nGFC)
- ED-FFP-(OCn, nGIGE, nGFC)

[Example 2-46](#) provisions Y-Cable Protection Groups.

Example 2-46 Provision Y-Cable Protection Groups

```
ENT-FFP-OC48::FAC-1-1-1,FAC-2-1-1:100::PROTOTYPE=Y-CABLE,
PROTID=DC-METRO-1,RVRTV=Y,RVTM=1.0,PSDIRN=BI:
ENT-FFP-10GIGE::FAC-1-1-1,FAC-2-1-1:100::PROTOTYPE=Y-CABLE,
PROTID=DC-METRO-2,RVRTV=Y,RVTM=1.0,PSDIRN=BI;
```

2.12.14 Splitter Protection Group Provisioning Rules

The following rules apply when provisioning a splitter protection group:



Note

Splitter protection group provisioning rules apply only to the protect version of the TXP and OTU2_XP cards.

- Splitter protection groups cannot be created or deleted.
- Splitter protection groups are created automatically when a protect TXP card is provisioned.
- The only editable attributes for a splitter protection group are Revertive, Revertivetime, and Transponder mode.

To provision a splitter protection group, use the **ED-FFP-OCH** command.

[Example 2-47](#) provisions a splitter protection group:

Example 2-47 Provisioning Splitter Protection Group Attributes:

```
ED-FFP-OCH::CHAN-2-1:100:::PROTID=DC-METRO3,RVRTV=Y,
RVTM=5.0,PSDIRN=BI;
```

2.12.15 Loopback Provisioning Rules

The following rules apply when provisioning loopbacks:

- Loopbacks can be provisioned on the client and trunk ports.
- Both terminal and facility loopback types can be provisioned.
- Loopbacks are not applicable when the framing type is UNFRAMED (HDTV or DV6000).
- For the protect TXP card, the following loopback rules apply to the trunk ports:
 - Only one loopback is allowed to be provisioned at the trunk ports at any given time.
 - Loopback is allowed only if the sibling trunk port is in the OutOfService-Maintenance state.
 - Provisioning a loopback on a trunk port will trigger the LOCKOUT_OF_PROTECTION or LOCKOUT_OF_WORKING inhibit switching command, depending on whether the working or the protect port is placed in the loopback.
 - When a loopback is provisioned on a trunk port, both trunk ports will transmit the signal of the loopback port.
 - A loopback is denied if there is a FORCE or MANUAL switching command in place on the trunk ports.
 - You cannot remove the inhibit switching command issued as a result of the loopback. This inhibit switching command will be removed only when the loopback is removed.

Use the **OPR-LPBK-OCH** command to provision loopbacks.

[Example 2-48](#) is an example of operating a loopback.

Example 2-48 Operating a Loopback

```
OPR-LPBK-OCH::CHAN-2-1:1::,, ,TERMINAL;
```

2.12.16 Automatic Laser Shutdown Provisioning Rules

The following rules apply when provisioning automatic laser shutdown (ALS):

- ALS can be provisioned on the client and trunk ports. For an ADM-10G card, ALS can be provisioned on interlink ports as well.
- If the trunk port is configured in a splitter protection group, only the working trunk can be provisioned for ALS. However, provisioning on the working trunk port is reflected on the protect port.
- For an OTU2-XP card, ALS can be provisioned on the trunk ports. If the trunk port is configured in an APS protection group, only the working trunk port can be provisioned for ALS. However, provisioning on the working trunk port is reflected on the protect port.
- For the protected TXP card, ALS mode will only take effect when both ports receive a loss of signal (LOS).

To provision ALS, use the following commands:

- **ED-ALS**
- **ED-ALS-(OCn, nGIGE, nGFC, OTS, OMS, OCH)**

[Example 2-49](#) provisions ALS.

Example 2-49 Provision ALS

```
ED-ALS::FAC-1-1-1:100::ALSMODE=Y,ALSRCINT=130,ALSRCPW=35.1,RLASER=Y;
ED-ALS-OC192::FAC-1-1-1:100::ALSMODE=Y,ALSRCINT=130,ALSRCPW=35.1,
RLASER=Y;
```

2.12.17 Ethernet Provisioning Rules

Ethernet provisioning is applicable only when the card is configured in the GEXP-L2ETH or 10GEXP-L2ETH mode.

2.12.17.1 Bandwidth Profile Provisioning Rules

The following rules apply when provisioning Bandwidth profile:

- Bandwidth Profile (BWP) database (DB) is applicable to the entire node.
- Any row of the BWP represents a set of VLAN profile attributes.
- Each BWP is identified by a unique number in the range of 1 to 10000.
- BWP 0 is reserved for default profile. Since it contains the default manufacturing data, only retrieve (RTRV) command is applicable.
- NAME, CIR, CBS, PBS, PIR, and CFMSTATE parameters can be configured.

To provision BWP, use the following commands:

- **ENT-BWP-ETH**
- **DLT-BWP-ETH**
- **ED-BWP-ETH**
- **RTRV-BWP-ETH**

[Example 2-50](#) provisions BWP.

Example 2-50 Provision BWP

```
ENT-BWP-ETH:ROCKS:BWP-75:123:::NAME="MyBWP75",CIR=10,CBS=1M,PBS=1M,PIR=20,CFMSTATE=Y;
DLT-BWP-ETH:ROCKS:BWP-75:123;
ED-BWP-ETH:ROCKS:BWP-75:123:::NAME="MyBWP75",CIR=10,CBS=1M,PBS=1M,PIR=25,CFMSTATE=N;
RTRV-BWP-ETH:ROCKS:BWP-75:123;
```

When a BWP is created using the ENT-BWP-ETH command, it can be used in the ED-VLAN-ETH command to set up a relationship between the ETH port, VLAN, and BWP parameters. If BWP field is omitted the first time the ENT-VLAN-ETH command is executed, then BWP=0 default value is assumed. When a BWP is already associated with the ETH Port-VLAN couple, to detach the Profile and restore the default value, a BWP=0 is requested using the ED-VLAN-ETH command.

TL1 examples of BWP attach, retrieve, or detach are:

```
ED-VLAN-ETH:ROCKS:ETH-1-1-1:123::100:BWP=34;
RTRV-VLAN-ETH:ROCKS:ETH-1-1-1:123::100;;
ED-VLAN-ETH:ROCKS:ETH-1-1-1:123::100:BWP=0;
```

2.12.17.2 VLAN Provisioning Rules

The following rules apply when provisioning the VLAN:

- The VLAN database (DB) is applicable to the entire node.
- Any row of the database represents a VLAN.
- The VLAN DB can be in the range of 1 to 4069. VLAN 0 is reserved for untagged VLAN.
- Name and Protected parameters can be configured.
- There is a hardware limitation on the maximum number of VLANs on which the CIR (Committed Information Rate), CBS (Committed Burst Size), EBS (Excess Burst Size), EIR (Excess Information Rate), and Ingress rate limit is set:
 - For GE_XP and 10GE_XP cards, Ingress rate limit is set on 128 (maximum) VLANs per board.
 - For GE_XPE and 10GE_XPE cards, Ingress rate limit is set on 256 (maximum) VLANs per board.
- A VLAN can be created (ENT), deleted (DLT), modified (ED), and retrieved (RTRV).

To provision VLAN, use the following commands:

- **ENT-VLAN**
- **DLT-VLAN**
- **ED-VLAN**
- **RTRV-VLAN**

[Example 2-51](#) provisions VLAN.

Example 2-51 Provision VLAN

```
ENT-VLAN::VLAN-100:123::NAME="My VLAN",PROTN=N;
DLT-VLAN::VLAN-100:123;
ENT-VLAN::VLAN-100:123::NAME="Your VLAN",PROTN=Y;
RTRV-VLAN::VLAN-100:123
```

2.12.17.3 Link Integrity Rule

Link Integrity must be provisioned on a specific VLAN setting, that is, CFMSTATE=Y, in the bandwidth profile used by the VLAN.

To activate link integrity, use the **ED-BWP-ETH** command.

[Example 2-52](#) activates link integrity.

Example 2-52 Activate Link Integrity

```
ED-BWP-ETH:ROCKS:BWP-56:1:::NAME="MyBWP56",CIR=10,CBS=1M,PBS=1M,PIR=20,CFMSTATE=Y
```

The VLAN-AIS action depends on the AISACTION parameter set on the ETH port. The possible values are AIS-SQUELCH and AIS-NONE.

To set and retrieve the AISACTION value use the following commands:

- **ED-L2-ETH**
- **RTRV-L2-ETH**

[Example 2-53](#) sets and retrieves AISACTION parameter

Example 2-53 Set and Retrieve AISACTION Parameter

```
ED-L2-ETH::ETH-5-3-2-1:502:::AISACTION=AIS-SQUELCH;
RTRV-L2-ETH:TID:ETH-5-3-2-1:CTAG;
```

Since VLAN-AIS alarm on a ETH port is a summarization of multiple possible VLAN-X-AIS, the RTRV-VLAN-ETH command can be used to retrieve specific VLAN-X-AIS status on a single port as shown in the following examples:

```
RTRV-VLAN-ETH:TID:ETH-1-1-1:CTAG:::110;
RTRV-VLAN-ETH:TID:ETH-1-1-1:CTAG;
```

Link Integrity can be activated on a limited number of VLANs per board:

- For GE_XP and 10GE_XP cards, link integrity is enabled on 128 (maximum) VLANs.
- For GE_XPE and 10GE_XPE cards, the link integrity feature is enabled on 256 (maximum) VLANs.

2.12.17.4 L2 Provisioning Rules

An L2 Ethernet port is present for every 22 ports of the GE-XP card, and for every 4 ports of the 10GE-XP card.

The following rules apply when provisioning L2:

- An L2 Ethernet port is accessed by the ETH modifier.
- The access identifier (AID) of an L2 Ethernet port is same as the supporting facility, with ETH prefix instead of FAC.
- The following parameters can be edited:
 - PST, SST, CMDMDE, and so on—administrative or service state parameters.
 - NIMODE (UNI,NNI)—client ports default to UNI and trunk ports default to NNI.

- MACLEARNING, INGRESSCOS, ETHERCETYPE (CE type), ETHERSTYPE (Service Provider Type), BPDU, and BRIDGESTATE.
- ALWMACADDR and INHMACADDR—mutually exclusive parameters.
- QNQMODE and TRNPSVLAN—when QNQMODE is SELECTIVE the QNQ-ETH table should be referred for detailed VLAN association; when QNQMODE is TRANSPARENT, TRNPSVLAN contains VLAN ID of the only service provider's VLAN configured for the port.
- NAME—name of the facility.

To provision L2, use the following commands:

- **ED-L2-ETH**
- **RTRV-L2-ETH**

Example 2-54 provisions L2.

Example 2-54 Provision L2

```
ED-L2-ETH:CISCO:ETH-1-1-1:123:::NIMODE=NNI,MACLEARNING=Y,INGRESSCOS=7,
ETHERCETYPE=8100,ETHERSTYPE=8100,
ALWMACADDR=[aa-bb-cc-dd-ee-ff&zz-yy-ww-tt-ss-rr],BPDU=Y,BRIDGESTATE=DISABLED,
QNQMODE=TRANSPARENT,TRNPSVLAN=4096,NAME="Ethernet",IGMPROUTER=STATIC,
AISACTION=AIS-SQUELCH
RTRV-L2-ETH:PETALUMA:FAC-1-1:CTAG;
```

2.12.17.4.1 L2 Queue In Queue (QinQ) Provisioning Rules

The following rules apply when provisioning L2 Queue In Queue (QinQ):

- L2 QinQ associates a customer-end VLAN to a service provider VLAN.
- L2 QinQ is valid on port basis only when QNQMODE is SELECTIVE.
- The following association rules apply between the two VLAN types:
 - Add (ADD) the service provider VLAN when the customer-end VLAN (or a range of customer-end VLAN) matches, *or*
 - Translate (XLTE) the customer-end VLAN (or a range of customer-end VLAN) with service provider VLAN when it matches.

The default rule is ADD.

- The XLTE-ADD and DOUBLE-ADD rules for QinQ settings are not supported by the GE_XP and 10GE_XP cards.
- DOUBLE-ADD and XLTE-ADD are the newly introduced L2 QinQ rules. INTERNALVLAN and INGRESSCOS are the newly added parameters.
- When the DOUBLE-ADD and XLTE-ADD rules are activated, INTERNALVLAN parameter has to be provided.
- When DOUBLE-ADD rule is activated, the C-VLANs identified by FIRSTCEVLANID and LASTCEVLANID parameters will be added by the INTERNALVLAN parameter first and then added by the SVLANID parameter.
- When XLTE-ADD rule is activated, the C-VLANs identified by FIRSTCEVLANID and LASTCEVLANID parameters will be first translated to the INTERNALVLAN parameter and then will be added by the SVLANID parameter.

- The INGRESSCOS parameter is requested only if the INGRESSCOS parameter on the ETH port is set to VLAN operating mode. This means the INGRESSCOS parameter applied to this port may be different depending on the VLAN and its QinQ setting.
- Only when the Ethernet port Ingress COS value is set to CVLAN, the ENT-QNQ-ETH command can set the ingress value for QinQ.
- Ingress values for QinQ cannot be set when VLAN ranges are configured for QinQ.
- In retrieve command, the VLAN IDs can be optionally specified to filter CVLAN ID (or a range of them) and SVLAN ID. When the VLAN ID is not specified, all the VLAN IDs associated to the Ethernet port are returned.

To provision QinQ, use the following commands:

- **ENT-QNQ-ETH**
- **ED-QNQ-ETH**
- **RTRV-QNQ-ETH**
- **DLT-QNQ-ETH**

[Example 2-55](#) provisions QinQ.

Example 2-55 Provision QinQ

```
ENT-QNQ-ETH:ETH-2-10-1:123::10,10,100:RULE=XLTE;
RTRV-QNQ-ETH:ETH-2-10-1:123;
```

2.12.17.4.2 L2 Selective NNI Provisioning Rules

The L2 Selective NNI Provisioning applies to an L2 Ethernet port configured as NNI. The following rules apply when provisioning L2 Selective NNI:

- Any entry associates a SVLAN to the Ethernet port.
- User can add (ENT), remove (DLT), and retrieve (RTRV) a VLAN associated to the Ethernet port.
- In the RTRV command, the VLAN ID can be optionally specified in order to filter the SVLAN ID. If the VLAN ID is not specified, then all the VLAN IDs associated to the Ethernet port are returned.

To provision NNI, use the following commands:

- **ENT-NNI-ETH**
- **ED-QNQ-ETH**
- **RTRV-NNI-ETH**

[Example 2-56](#) provisions NNI

Example 2-56 Provision NNI

```
ENT-NNI-ETH:ETH-2-10-1:123::10;
RTRV-NNI-ETH:ETH-2-10-1:123::10;
```

2.12.17.5 Internet Group Management Protocol Rules

The Internet Group Management Protocol (IGMP) can be activated on a specific VLAN by setting IGMPENABLE=Y in the ED-VLAN command. Also, IGMPFASTLEAVE=Y can be set in the ED-VLAN command to decrease the delay for forwarding multicast.

To activate IGMP, use the ED-VLAN command.

Example 2-57 Activate IGMP

```
ED-VLAN:ROCKS:VLAN-1-2-84:1:::NAME="VLAN84",PROTN=N,MACLEARNING=N,IGMPENABLE=Y,IGMPFASTLEAVE=Y,IGMPSUPP=N
```

To indicate which port is connected to the router, set the parameter IGMPROUTER=STATIC in the ED-L2-ETH command.

To set and retrieve IGMP router, use the following commands:

- ED-L2-ETH
- RTRV-L2-ETH

[Example 2-58](#) sets and retrieves IGMP Router.

Example 2-58 Set and Retrieve IGMP Router

```
ED-L2-ETH:CISCO:ETH-1-1-1:123:::IGMPROUTER=STATIC;
RTRV-L2-ETH:TID:ETH-1-1-1:CTAG;
```

The IGMP Snooping feature can be activated on a limited number of VLANs per board:

- For GE_XP and 10GE_XP cards, the IGMP snooping feature is enabled on 256 (maximum) VLANs.
- For GE_XPE and 10GE_XPE cards, the IGMP snooping feature is enabled on 512 (maximum) VLANs.

2.12.17.6 Multicast VLAN Registration Rule

Multicast VLAN Registration (MVR) can be activated using ED-MCAST command.

To set and retrieve MVR, use the following commands:

- ED-MCAST
- RTRV-MCAST

[Example 2-59](#) sets and retrieves MVR.

Example 2-59 Set and Retrieve MVR

```
ED-MCAST:CISCO:SLOT-1-4:321:::MVRSTATE=Y,MVRSVLAN=46,MVRSTARTIP=230.64.72.57,MVRIPRANGE=20
:;
RTRV-MCAST:CISCO:SLOT-1-4:33;
```

2.12.17.7 1+1 Protection Rule

The 1+1 Protection in L2-over-NCS mode can be activated using the ENT-FFP-GIGE command with a new ONEPLUSONEL2 protection type. The cards must be set in the L2 mode and a double link must be established between the trunk ports.

To establish double link between the trunk ports, use the ENT-LNK command.

[Example 2-60](#) establishes double link between trunk ports.

Example 2-60 Establish Double Link between Trunk Ports

```
ENT-LNK:::CHAN-4-12-21-1,CHAN-4-14-21-1:1482;
ENT-LNK:::CHAN-4-14-21-1,CHAN-4-12-21-1:1486;
```

To create 1+1 L2 protection, use the **ENT-FFP-GIGE** command.

[Example 2-61](#) creates 1+1 L2 Protection.

Example 2-61 Create 1+1 L2 Protection

```
ENT-FFP-GIGE::FAC-4-12-1-1,FAC-4-14-1-1:1487:::PROTOTYPE=ONEPLUSONEL2;
```

To operate on switch protection, use the OPR-PROTNSW and RLS-PROTNSW-GIGE commands.

The laser status of the standby port in the protection unit can be decided using the PROTACTION parameter set on the ETH port. PROT-SQUELCH and PROT-NONE are the possible values.

To set and retrieve the PROTACTION value, use the following commands:

- **ED-L2-ETH**
- **RTRV-L2-ETH**

[Example 2-62](#) sets and retrieves the PROTACTION value.

Example 2-62 Set and Retrieve the PROTACTION value

```
ED-L2-ETH::ETH-5-3-2-1:506:::PROTACTION=PROT-SQUELCH;
RTRV-L2-ETH:TID:ETH-5-3-2-1:CTAG;
```

2.12.18 Resilient Ethernet Protocol Provisioning Rule

The Resilient Ethernet Protocol (REP) can be configured on the ethernet port of GE_XP or 10GE_XP card. The following rules apply when provisioning the REP:

- You can configure REP only if the card is in ETH-L2 card mode.
- When REP is enabled, the interface is a regular segment port unless it is configured as an edge port.
- If only one port on the card is configured in a segment, the port should be an edge port.
- If two ports on the card belong to the same segment, both ports must be an edge ports or both ports must be a regular segment ports.



Note

If one of the port is an Edge with No Neighbor, the other port can be a Regular segment port.

- Each card can have a maximum of 3 segments.
- Each segment can have a maximum of 2 ports (in the same card).

2.12.19 Connectivity Fault Management Provisioning Rules

The following rules apply when provisioning the Connectivity Fault Management (CFM):

- MAC security and CFM is mutually exclusive per card. You can enable CFM only if the MAC security is not enabled and vice versa.
- You cannot disable CFM when Maintenance End Point (MEP) or Maintenance Intermediate Point (MIP) is configured on the interface.
- Maintenance domain profile name length should not exceed more than 43 characters.

- The level of the maintenance domain should be in the range of 0 to 7.
- No two domains can have the same name.
- You cannot modify or delete the maintenance domain profile when the domain is associated with maintenance association (MA) profile.
- You cannot modify or delete the maintenance domain if the domain is associated with the MEP.
- A maximum of 1000 profiles can be created.
- There should not be a duplicate entry for VLAN and MA name on the profile table.
- You cannot delete the MA if it is associated with any domain.
- You can create MEP or MIP only on the CFM enabled interfaces.
- You cannot detach the VLAN from the interface if the MEP is configured on the port for the VLAN.
- You cannot modify MEP.
- You cannot configure MIP if MEP with higher or same level is already configured on the port with the same VLAN ID.
- You cannot detach the VLAN from the interface if it is associated with any of the MIPs on the interface.
- A maximum of 1000 MEPs can be created per card.
- A maximum of 1500 MIPs can be created per card.

2.12.20 Ethernet in the First Mile Rules

The following rules apply when provisioning the Ethernet in the First Mile (EFM):

- The EFMSTATE parameter should be “enabled” for the facility by ED-FSTE to edit the EFM parameters.
- You cannot enable or disable the remote loopback through the local interface on the remote OAM peer entity if any other type of loopback (facility/terminal) is already configured on the local interface.
- CFM, REP, link integrity, LACP, FAPS, IGMP on SVLAN and L2 1+1 protection are not supported with EFM.

2.12.21 Link Aggregation Control Protocol Rules

The following rules apply when provisioning the Link Aggregation Control Protocol (LACP):

- When the GE_XP card is provisioned in the switch mode (L2 Mode), you can configure the channel group interfaces as follows:
 - MXP: Up to 11 channel group with a maximum of 8 port for each channel group.
 - TXP: Up to 2 Channel group with a maximum of 3 ports for each channel group.

2.12.22 LEX Provisioning Rules

The following rules apply when provisioning the LEX:

- You can provision LEX only on ADM-10G card.

- You can provision LEX provisioning on any of the 8 GigE Ports.
- LEX framing supports 16-bit or 32-bit CRC configuration. The default CRC for LEX framing is CRC-32 bit.

2.12.23 Port State Model Provisioning Rules

The following rules apply when provisioning the port state model:

- The OutOfService, AutomaticInService state is not supported for the 1GigE and 2GigE payload types.
- The working and protect port can be put in InService and OutOfService independently.
- For the protect TXP card:
 - Setting the protect trunk port to OutOfService enables the suppression of alarms on that port and enables the card to be used like an unprotected card, but the card still cannot be used in a Y-cable protection group.
 - Setting the protect trunk port to OutOfService does not switch off the transmit laser unless both trunk ports are OutOfService.
 - The protect trunk port cannot be InService if a loopback or a regeneration group is provisioned.

To edit the port state, use the **ED-(OCn, nGIGE, nGFC, OCH)** command.

[Example 2-63](#) edits port state.

Example 2-63 Edit Port State

```
ED-STM16::FAC-6-1-1:114:::OutOfService, AutomaticInService;
ED-10GIGE::FAC-6-1:114:::OutOfService, AutomaticInService;
ED-OCH::CHAN-6-1:114:::IS;
```

2.12.24 SDH-Related Provisioning Rules

Use the following rule when editing SDH trunk port attributes:

When provisioning SDH-related parameters, the SDBER and SFBER can only be provisioned on the working trunk port (OCH) for the protect TXP card. Values set at the working port will be reflected on the trunk port.

To edit SDH trunk port attributes, use the **ED-OCH** command.

[Example 2-64](#) edits SDH Trunk port attributes.

Example 2-64 Edit SDH Trunk Port Attributes

```
ED-OCH::CHAN-6-2:114:::RDIRN=W-E, EXPWLEN=1530.32, VOAATTN=2.5, VOAPWR=7.5,
CALOPWR=0, CHPOWER=2.0, NAME="NYLINE", SFBER=1E-5, SDBER=1E-6,
ALSMODE=MAN, ALSRCINT=60, ALSRCPW=35.1, COMM=DCC, GCCRATE=192K,
OSDBER=1E-6, DWRAP=Y, FEC=Y, MACADDR=OO-OE-AA-BB-CC-DD, SYNCMSG=N,
SENDDUS=Y, RLASER=Y, SOAK=10, OSPF=Y:OutOfService, AutomaticInService;
```

2.12.25 Overhead (OH) Circuit Provisioning Rules

Use the following rules when provisioning overhead circuits:

- Local orderwire/express orderwire (LOW/EOW) is possible between the AIC-I, STM, and TXP/TXPP cards in any combination in line-terminated mode.
- Creating a F1/D4-D12 user data channel (UDC) is:
 - Not possible between TXP/TXPP and AIC-I cards in line-terminated mode.
 - Not possible between TXP/TXPP and STM cards in line-terminated mode.
 - Possible between STM ports.
- All overhead (OH) bytes are passed across client and NCS ports in transparent mode.
- RS-DCC and MS-DCC tunneling is not possible in line-terminated mode.
- No end-to-end OH circuit provisioning is allowed.
- For MXP_MR_2.5G and MXPP_MR_2.5G cards, these rules apply to the trunk port only.



ACT Commands

This chapter provides ACT (activate) commands for the Cisco NCS 2002 and Cisco NCS 2006.

3.1 ACT-USER

The Activate User (ACT) command opens a session with the network element (NE).

Usage Guidelines

- Passwords are masked for the following security commands: ACT-USER, COPY-RFILE, COPY-IOSCFG, ED-PID, ENT-USER-SECU, and ED-USER-SECU. Access to a Transaction Language 1 (TL1) session through any means will have the password masked. The Cisco Transport Controller (CTC) Request History and Message Log will also show the masked commands. When a password-masked command is reissued by double-clicking the command from CTC Request History, the password will still be masked in the CTC Request History and Message Log. The actual password that was previously issued will be sent to the NE. To use a former command as a template only, single-click the command in CTC Request History. The command will be placed in the Command Request text box, where you can edit the appropriate fields prior to reissuing it.
- For the ACT-USER command:
ACT-USER:[TID]:[STRING]:CTAG::[STRING]
 - The syntax of the user ID (first [STRING]) and the password (second [STRING]) are not checked.
 - Invalid syntax for both the user ID and password is permitted, but the user can only log in if the user ID/password match what is in the database.
 - The user ID and password cannot exceed 10 characters.
- For the ACT-USER command, no error code is transmitted except to convey that the login is granted or denied. According to Telcordia TR-835, Appendix A, Section A.2, "... the error codes corresponding to ACT...do not apply to the ACT-USER command because this command requires that no error code be provided to the session request except to indicate that it has been denied. Before a session is established, a specific error code might reveal clues to an intruder attempting unauthorized entry."
- In some configurations, a new user must change his or her password after establishing a session for the first time before continuing. All TL1 commands except for ED-PID and CANC-USER will be denied until the password is changed. When the password has been changed, a user can execute any

command that his security level allows. If the user logs out without changing his password, each following session will DENY all commands, except ED-PID and CANC-USER, until the password is changed. This feature can be turned on or off. The default is off.

Category Security

Security N/A

Input Format ACT-USER:[<TID>]:<UID>:<CTAG>::<PID>;

Input Example ACT-USER:PETALUMA:TERRI:100::MYPASSWD;

Table 3-1 ACT Commands - Input Parameter Support

Input Parameters	Description
<UID>	The user identifier (user ID) of the person logged in. UID can be any combination of up to 10 alphanumeric characters. UID is a string. It must not be null.
<PID>	The user password. PID is any combination of up to 10 alphanumeric characters. Passwords are encrypted for security reasons and will appear as asterisks (*). PID is a string. It must not be null.

Output Format SID DATE TIME
M CTAG COMPLD
“<UID>:<LASTLOGINTIME>,<LAST2LASTLOGINTIME>,<UNSUCCESSFULLOGINS>”
;

Output Example TID-000 1998-06-20 14:30:00
M 001 COMPLD
“CISCO15:2012-12-21 11-44-51,2012-12-21 11-43-45,0”
;

Table 3-2 ACT Commands - Output Parameter Support

Output Parameters	Description
<UID>	The user ID of the person logged in. The UID can be any combination of up to 10 alphanumeric characters. UID is a string. It must not be null.
<LASTLOGINTIME>	The date and time of the last successful connection to the NE (not including current login). LASTLOGINTIME is a string.

Table 3-2 **ACT Commands - Output Parameter Support**

Output Parameters	Description
<<LAST2LASTLOGINTIME>>	The date and time of the previous to last successful connection to the NE (not including current login). LASTLOGINTIME is a string.
<UNSUCCESSFUL LOGINS>	The number of unsuccessful login attempts since the last successful login. UNSUCCESSFULLOGINS is an integer.



ALW Commands

This chapter provides allow (ALW) commands for the Cisco NCS 2002 and Cisco NCS 2006.

4.1 ALW-CONSOLE-PORT

The Allow Console Port (ALW-CONSOLE-PORT) command is used to turn on the console port for the ML1000-2, ML100T-12 and ML-100T-8 cards.

Usage Guidelines	None		
Category	Security		
Security	Superuser		
Input Format	ALW-CONSOLE-PORT:[<TID>]:<AID>:<CTAG>;		
Input Example	ALW-CONSOLE-PORT:CISCONODE:SLOT-2:123;		
Input Parameters	<table><tr><td><AID></td><td>Access identifier. Values are in the 27.13 EQPT, page 27-21.</td></tr></table>	<AID>	Access identifier. Values are in the 27.13 EQPT, page 27-21 .
<AID>	Access identifier. Values are in the 27.13 EQPT, page 27-21 .		

4.2 ALW-MSG-ALL

The Allow Message All (ALW-MSG-ALL) command instructs the NE to enter a mode where all the REPT ALM and REPT EVT autonomous messages are transmitted. See the INH-MSG-ALL command to inhibit these autonomous messages. When a TL1 session starts, the REPT ALM and REPT EVT messages are allowed by default.

Usage Guidelines	If this command is issued twice in the same session, the Status, Already Allowed (SAAL) error message will be returned. The optional fields in the block are not supported.	
Category	System	
Security	Retrieve	
Input Format	ALW-MSG-ALL:[<TID>]:[<AID>]:<CTAG>[:.,,];	
Input Example	ALW-MSG-ALL:PETALUMA:ALL:549;	
Input Parameters	<AID>	Access identifier. Support is limited to the AID ALL. AID is a string.

4.3 ALW-MSG-DBCHG

The Allow Database Change Message (ALW-MSG-DBCHG) command enables REPT DBCHG. When a TL1 session starts, the REPT DBCHG messages are not allowed by default.



Note This command is not defined in the GR.

Usage Guidelines	None	
Category	Log	
Security	Retrieve	
Input Format	ALW-MSG-DBCHG:[<TID>]:<CTAG>[:.,,];	
Input Example	ALW-MSG-DBCHG:CISCO::123;	
Input Parameters	None	

4.4 ALW-MSG-SECU

The Allow Message Security (ALW-MSG-SECU) command enables the REPT EVT SECU and REPT ALM SECU autonomous messages.

Usage Guidelines	None
Category	Security
Security	Superuser
Input Format	ALW-MSG-SECU:[<TID>]::<CTAG>[:,,];
Input Example	ALW-MSG-SECU:PETALUMA::123;
Input Parameters	None

4.5 ALW-PMREPT-ALL

The Allow Performance Report All (ALW-PMREPT-ALL) command resumes processing for all of the performance monitoring (PM) reports that have been inhibited. The allowance of the PM reporting is session-based, which means that the command is only effective for the TL1 session that issues this command.

Usage Guidelines	None
Category	Performance
Security	Retrieve
Input Format	ALW-PMREPT-ALL:[<TID>]::<CTAG>;
Input Example	ALW-PMREPT-ALL:CISCONODE::123;

Input Parameters None

4.6 ALW-SWDX-EQPT

The Allow Switch Duplex Equipment (ALW-SWDX-EQPT) command allows automatic or manual switching on a duplex system containing duplexed or redundant equipment. To inhibit an NE switching to duplex, use the INH-SWDX-EQPT command.

Usage Guidelines ALW-SWDX-EQPT is not used for SONET line or electrical card protection switching. For SONET line or path protection switching commands, see the OPR-PROTNSW and RLS-PROTNSW commands. For the electrical card protection switching, see the SW-TOWKG-EQPT and SW-TOPROTN-EQPT commands.


Note

This command applies to the XC-VXL-10G, XC-VXL-2.5G, and XC-VXC-10G cards only in R9.0.

Category Equipment

Security Maintenance

Input Format ALW-SWDX-EQPT:[<TID>]:<AID>:<CTAG>[:];

Input Example ALW-SWDX-EQPT:CISCO:SLOT-8:1234;

Input Parameters <AID> Access identifier for XC-VXL-10G, XC-VXL-2.5G, or XC-VXC-10G from the “27.13 EQPT” section on page 27-21.

4.7 ALW-SWTOPROTN-EQPT

The Allow Switch to Protection Equipment (ALW-SWTOPROTN-EQPT) command allows automatic or manual switching of an equipment unit back to a protection status. Use the INH-SWTOPROTN-EQPT command to inhibit an NE from switching to protection.

Usage Guidelines ALW-SWTOPROTN-EQPT is used for electrical cards that can participate in and electrical protection group (for cards, E1, E3, E4, DS3i-N-12, E1-21-E3-DS3-3, and E1-63-E3-DS3-3). When this command is given to a working card, the working unit will be allowed to switch to the protection card. When this command is given to a protection card, any working card in the protection group is allowed to switch to the protection card.

The standing condition of INHSWPR on the card specified by the AID will be cleared.



Note

- This command supports only the BTH value of the <DIRN> parameter. A command with any other value is considered an incorrect use of the command. An Input, Data Not Valid (IDNV) error message is returned.
- This command is not used for the common control (TCC2, TCC2P, TCC3, XC-VXL-10G, XC-VXL-2.5G, or XC-VXC-10G) cards. A command on a common control card will return an Input, Invalid Access Identifier (IIAC) error message. To allow switching for common control card, use the SW-DX-EQPT and ALW-SWDX-EQPT commands.
- This command is not used for NCS (STM) cards. A command on a SONET card will return an IIAC error message. To allow switching on an NCS card, use the OPR-PROTNSW and RLS-PROTNSW commands.
- If this command is used on a card that is not in a protection group, the Status, Not in Valid State (SNVS) error message is returned.
- If this command is used on a card that is not in the inhibit state, the Status, Already Allowed (SAAL) error message is returned.
- As long as none of the previous error conditions apply, sending this command to missing cards is allowed and will not generate any error response.

Category

Equipment

Security

Maintenance

Input Format

ALW-SWTOPROTN-EQPT:[<TID>]:<AID>:<CTAG>[:<DIRN>];

Input Example

ALW-SWTOPROTN-EQPT:CISCO:SLOT-2:123::BTH;

Table 4-1 ALW-SWTOPROTN-EQPT Command - Parameter Support

Input Parameters	Description
<AID>	Access identifier. This parameter can either be the protection card for which carrying traffic is to be allowed (release of lockout) or the working card for which switching to protect is to be allowed (release of lock on). Values are in the 27.13 EQPT, page 27-21 .
<DIRN>	(Optional) The direction relative to the entity defined in the AID field. The direction of the switching. This command only supports one value of the DIRN parameter, BTH. Defaults to BTH. The parameter type is DIRECTION (transmit and receive directions).
• BTH	Both transmit and receive directions.

Table 4-1 *ALW-SWTOPROTN-EQPT Command - Parameter Support*

Input Parameters	Description
• RCV	Receive direction only
• TRMT	Transmit direction only

4.8 ALW-SWTOWKG-EQPT

The Allow Switch to Working Equipment (ALW-SWTOWKG-EQPT) command allows automatic or manual switching of an equipment card back to a working status. Use the INH-SWTOWKG-EQPT command to inhibit an NE from switching to working. ALW-SWTOWKG-EQPT is used for electrical cards that can participate in an electrical protection group (for example, E1, E3, E4, and DS3i-N-12).

Usage Guidelines

When this command is given to a working card, the working card will be allowed to carry traffic. In the case of revertive protection, the traffic will switch immediately from the protection card to the working card regardless of the reversion time setting.

When this command is given to a protection card, the protection card will be allowed to switch back to the working card currently protected as long as the working card has not raised an INH-SWTOWKG condition. In the case of revertive protection, the traffic will switch immediately from the protection card to the working card regardless of the reversion time setting. In the case of nonrevertive protection, the protection card will continue to carry the traffic.

The standing condition of INH-SWTOWKG on the card specified by the AID will be cleared.



Note

- This command only supports the BTH value of the <DIRN> parameter. A command with any other value is considered an incorrect use of the command. An Input, Data Not Valid (IDNV) error message is returned.
- This command is not used for the common control (TCC2, TCC2P, TCC3, XC-VXL-10G, XC-VXL-2.5G, or XC-VXC-10G) cards. A command on a common control card will receive an IIAC error message. To switch the common control cards, use the SW-DX-EQPT and ALW-SWDX-EQPT commands.
- This command is not used for NCS (STM) cards. A command on a NCS card will receive an IIAC error message. To switch an NCS card, use the OPR-PROTNSW and RLS-PROTNSW commands.
- If this command is used on a card that is not in a protection group, the SNVS error message is returned.
- If this command is used on a card that is not in the inhibit state, the SAAL error message is returned.
- As long as none of the previous error conditions apply, sending this command to missing cards is allowed and will not generate any error response.

Category

Equipment

Security

Maintenance

Input Format ALW-SWTOWKG-EQPT:[<TID>]:<AID>:<CTAG>[:<DIRN>];

Input Example ALW-SWTOWKG-EQPT:CISCO:SLOT-2:123::BTH;

Table 4-2 ALW-SWTOWKG-EQPT Command - Parameter Support

Input Parameters	Description
<AID>	Access identifier. This parameter can either be the protection card for which carrying traffic is to be allowed (release of lockout) or the working card for which switching to protect is to be allowed (release of lock-on). Values are in the 27.13 EQPT, page 27-21 .
<DIRN>	(Optional) The direction relative to the entity defined in the AID field. The direction of the switching. This command only supports the BTH value of the DIRN parameter. Defaults to BTH. The parameter type is DIRECTION (transmit and receive directions).
• BTH	Both transmit and receive directions.
• RCV	Receive direction only
• TRMT	Transmit direction only

4.9 ALW-USER-SECU

The Allow User Security (ALW-USER-SECU) command enables a user ID that has been disabled using the INH-USER-SECU command so the user can reestablish a session with the NE.

Usage Guidelines None

Category Security

Security Superuser

Input Format ALW-USER-SECU:[<TID>]::<CTAG>::<UID>;

Input Example ALW-USER-SECU:PETALUMA::123::UID;

Input Parameters	<UID>	The user ID of the person logged in. UID can be a list of user IDs separated by “&”. The keyword ALL cannot be used to specify all users on an NE. UID is a string.



APPLY Commands

This chapter provides apply (APPLY) commands for the Cisco NCS 2002 and Cisco NCS 2006.

5.1 APPLY

The Apply (APPLY) command activates or reverts a software load during a software upgrade or downgrade process.

Usage Guidelines	An error will be generated if you attempt to activate an older software load or attempt to revert to a newer software load.
Category	File Transfer
Security	Superuser
Input Format	APPLY:[<TID>]::<CTAG>[::<MEM_SW_TYPE>][:FORCEENABLE=<FORCEENABLE>];
Input Example	APPLY:::4::DL_TYPE=ACT:FORCEENABLE=YES;

Table 5-1 APPLY Commands - Parameter Support

Input Parameters	Description
<MEM_SW_TYPE>	(Optional) Memory switch action during the software upgrade. The parameter type is DL_TYPE, which indicates the software download type. The default value is ACT.
• ACPT	Activates to a newer software load on the active controller card and resets the active card.
• CANC	Cancels the software download.
• RVRT	Reverts to an older software load during software download.

Table 5-1 *APPLY Commands - Parameter Support*

Input Parameters	Description
• ACT	Activates to a new software load.
<FORCEENABLE>	(Optional) Indicates whether the command should proceed even if there are Database Out of Sync alarms.
• YES	Yes
• NO	No



CANC Commands and Messages

This chapter provides cancel (CANC) commands and autonomous messages for the Cisco NCS 2002 and Cisco NCS 2006.

6.1 CANC

The Cancel (CANC) message reports the occurrence of a session timeout event.

Usage Guidelines

CANC is an autonomous message transmitted by the network element (NE) to a user when a session established by that user is terminated because no messages were exchanged for a long period of time and the session times out. There is a default timeout period based on the user's privilege/security level. Timeouts can be provisioned through Cisco Transport Controller (CTC). Timeouts can be provisioned with the SET-ATTR-SECUDFLT command. The default timeouts based on privilege/security level are:

- The Superuser (SUPER) has a timeout period of 15 minutes.
- The Provisioning user (PROV) has a timeout period of 30 minutes.
- The Maintenance (MAINT) user has the timeout period of 60 minutes.
- The Retrieve user (RTRV) has no timeout.

When a timeout occurs, the corresponding port drops the session and the next session initiation at that port requires the regular login procedure.

The CANC message is only used to indicate that a session has been terminated because of a timeout. If a session is terminated for a different reason (for example, forced logout or loss of communication), the REPT EVT SESSION message is used.

Category

Security

Security

Retrieve

Output Format	SID DATE TIME A ATAG CANC “<UID>” ;
Output Example	TID-000 1998-06-20 14:30:00 A 100.100 CANC “CISCO15” ;
Output Parameters	<UID> The user identifier (user ID) of the person whose session is terminated due to timeout. UID is a string.

6.2 CANC-USER

The Cancel User (CANC-USER) command logs a user out of an active session with the NE.

Usage Guidelines	For the CANC-USER command, the syntax of USERID is not checked. Invalid syntax for the user ID is permitted and the user ID must not exceed 10 characters.
Category	Security
Security	Retrieve
Input Format	CANC-USER:[<TID>]:<USERID>:<CTAG>;
Input Example	CANC-USER:PETALUMA:TERRI:101;
Input Parameters	<USERID> Identifies the user to the system. USERID can be up to 10 alphanumeric characters. USERID is a string.

6.3 CANC-USER-SECU

The Cancel User Security (CANC-USER-SECU) command forces a user off of the NE.

Usage Guidelines

The UID specified can be a single user ID or a list of user IDs separated by “&”. The keyword ALL is not permitted. The UID specified cannot be the user ID of the administrator issuing the command.

**Note**

This command will log out ALL sessions on the NE (TL1 and CTC) of a user whose user ID matches the UID specified in the command.

Category

Security

Security

Superuser

Input Format

CANC-USER-SECU:[<TID>]:<UID>:<CTAG>;

Input Example

CANC-USER-SECU:PETALUMA:CISCO10:100;

Input Parameters

<UID>	The user ID of the person who is being forced off the NE. UID can be a list of user IDs separated by “&”. The keyword ALL cannot be used to specify all users on an NE. UID is a string.



CHG Commands

This chapter provides change (CHG) commands for the Cisco NCS 2002 and Cisco NCS 2006.

7.1 CHG-ACCMD-<MOD_TACC>

The Change Test Access Mode for DS3I, E1, E3, VC3, VC44C, VC38C, VC464C, VC48C, VC36C, VC4, VC416C, VC42C, VC43C, VC11, or VC12 (CHG-ACCMD-<MOD_TACC>) command changes the test access (TACC) mode for the circuit being tested. This can be a change from monitoring the data to inserting data into the VC. See [Table 29-1 on page 29-1](#) for supported modifiers by platform.

Usage Guidelines

This command can only be applied to an existing test access point (TAP) connection.



Caution

For this command to be applicable, first create the TAP using the ED-<MOD_PATH> command. Intrusive test access modes are traffic-affecting. If a facility/path is connected to a TAP in an intrusive test access mode, it is forced to go into the Out of Service, Maintenance (OOS-MT) state. The forced transition could be traffic-affecting. The present state of the facility/path is stored by the network element (NE) and is restored when the TAP connection is terminated. Test access connections are dropped automatically if the TL1 session is terminated or is timed out.



Note

- If there is no TAP connection, a DENY error message is returned.
- If a requested condition already exists, a SRCN error message is returned.
- If a requested access configuration is invalid, a SRAC error message is returned.
- If a requested TAP does not exist, a RTEN error message is returned.

Category

Troubleshooting and Test Access

Security

Maintenance

Input Format CHG-ACCMD-<MOD_TACC>:[<TID>]:<TAP>: <CTAG>::<MD>;

Input Example CHG-ACCMD-VC3:CISCO:8:123::MONE;

Table 7-1 CHG-ACCMD-<MOD_TACC> Command - Parameter Support

Input Parameters	Description
<TAP>	The Test Access Path number. The TAP number must be an integer with a range of 1 to 999. TAP is a string Note This command supports changing the mode for only a single TAP number at a time.
<MD>	The test access mode. (SPLTE, SPLTF, LOOPE and LOOPF require an external quasi-random signal [QRS] input signal.) Single facility access digroup (FAD) Test Access does not support MONEF, SPLTEF, and SPLTAB modes. The parameter type is TACC_MODE, which is the test access mode.
• LOOPE	Indicates to split both the A and B paths. Connect the line incoming from E direction to the line outgoing in the E direction, and connect this looped configuration to the FAD. The line outgoing in the F direction shall have a QRS connected, and the line incoming from the F direction shall be terminated by the nominal characteristic impedance of the line. Intrusive test access mode.
• LOOPF	Indicates to split both the A and B paths. Connect the line incoming from F direction to the line outgoing in the F direction, and connect this looped configuration to the FAD. The line outgoing in the E direction shall have a QRS connected, and the line incoming from the E direction shall be terminated by the nominal characteristic impedance of the line. Intrusive test access mode.
• MONE	Indicates that a monitor connection is to be provided from the FAD to the A transmission path of the accessed circuit.
• MONEF	Indicates that a monitor connection is to be provided from the FAD1 to a DFAD, or the odd pair of a FAP, to the A transmission path and from FAD2 of the same DFAD, or the even pair of a FAP, to the B transmission path of the accessed circuit.
• MONF	Indicates that a monitor connection is to be provided from the FAD to the B transmission path of the accessed circuit.
• SPLTA	Indicates that a connection is to be provided from both the E and F sides of the A transmission path of the circuit under test to the FAD and split the A transmission path. Intrusive test access mode.
• SPLTB	Indicates that a connection is to be provided from both the E and F sides of the B transmission path of the circuit under test to the FAD and split the B transmission path. Intrusive test access mode.
• SPLTE	Indicates to split both the A and B paths and connect the E side of the accessed circuit to the FAD. The line outgoing in the F direction shall have a QRS connected, and the line incoming from the F direction shall have a QRS connected, and the line incoming from the E direction shall be terminated by the nominal characteristic impedance of the line. Intrusive test access mode.
• SPLTEF	Indicates to split both the A and B paths, and connect the E side of the accessed circuit to FAD1 and the F side to FAD2. Intrusive test access mode.
• SPLTF	Indicates to split both the A and B paths, and connect the F side of the accessed circuit to the FAD. The line outgoing in the E direction shall have a QRS connected, and the line incoming in the E direction shall have a QRS connected, and the line incoming from the E direction shall be terminated by the nominal characteristic impedance of the line. Intrusive test access mode.

7.2 CHG-EQPT

The Change Equipment (CHG-EQPT) command performs an in-service card upgrade or downgrade.

Usage Guidelines

- Optical (STM) card upgrades and downgrades are supported within the limitations of the MRC-12 card.
- Two upgradable cards provisioned in a 1:1 protection group cannot be upgraded.

Category

Equipment

Security

Maintenance

Input Format

CHG-EQPT:[<TID>]:<AID>:<CTAG>::<EQPTTYPE>:[PPMTYPE=<PPMTYPE>],
[PPMNUM=<PPMNUM>],[PORTNUM=<PORTNUM>],[PORTRATE=<PORTRATE>];

Input Example

CHG-EQPT::SLOT-14:1::MRC-2.5G-12:PPMTYPE=PPM-1,PPMNUM=1,PORTNUM=1,
PORTRATE=STM16;

Table 7-2 CHG-EQPT Command - Parameter Support

Input Parameters	Description
<SRC>	The source access identifier from the 27.13 EQPT , page 27-21.
<EQPTTYPE>	The equipment type to be upgraded. The parameter type is EQUIPMENT_TYPE.
• 100G-LC-C	100G-LC-C card
• 100G-CK-C	100G-CK-C card
• 10X10G-LC	10X10G-LC card
• CFP-LC	CFP-LC card
• AR-MXP	Any rate muxponder
• AR-XP	Any rate xponder
• AR-XPE	Any rate enhanced xponder.
• 16-WXC-FS	16-WXC-FS card.
• 15216-MD-40-EVEN	Thermal Multiplex/Demultiplex Passive Unit, spaced at 50 GHz on even grid
• 15216-MD-40-ODD	Thermal Multiplex/Demultiplex Passive Unit, spaced at 50 GHz on odd grid
• 15216-MD-ID-50	Thermal Interleaver Passive Unit, spaced at 50 GHz grid
• 15216-FLD4-30-3	Edge 4-Ch Bi-Directional OADM Module 1530.33 to 1532.68.
• 15216-FLD4-33-4	Edge 4-Ch Bi-Directional OADM Module 1533.47 to 1535.82.
• 15216-FLD4-36-6	Edge 4-Ch Bi-Directional OADM Module 1536.61 to 1538.98.
• 15216-FLD4-39-7	Edge 4-Ch Bi-Directional OADM Module 1539.77 to 1542.14.

Table 7-2 CHG-EQPT Command - Parameter Support

Input Parameters	Description
• 15216-FLD4-42-9	Edge 4-Ch Bi-Directional OADM Module 1542.94 to 1545.32.
• 15216-FLD4-46-1	Edge 4-Ch Bi-Directional OADM Module 1546.12 to 1548.51.
• 15216-FLD4-49-3	Edge 4-Ch Bi-Directional OADM Module 1549.32 to 1551.72.
• 15216-FLD4-52-5	Edge 4-Ch Bi-Directional OADM Module 1552.52 to 1554.94.
• 15216-FLD4-55-7	Edge 4-Ch Bi-Directional OADM Module 1555.75 to 1558.17.
• 15216-FLD4-58-9	Edge 4-Ch Bi-Directional OADM Module 1558.98 to 1561.42.
• 32DMX-L	3- channel demultiplexer for L-band
• 32WSS-L	32-channel wavelength switch selector for L-band
• 40-MXP-C	40 Gbit/Sec Multirate Muxponder
• 40-SMR1-C	The single module 40-channel ROADM on C-band
• 40-SMR2-C	The single module 40-channel ROADM with EDFA on C-band
• 40-TXP-C	40 Gigabits per second Multirate Transponder
• 80-WXC-C	80-channel wavelength cross-connect spaced at 100 GHz grid
• AD-1B	OADM 1-Band Filter
• AD-1C	OADM 1-Channel Filter
• AD-2C	OADM 2-Channel Filter
• AD-4B	OADM 4-Band Filter
• AD-4C	OADM 4-Channel Filter
• AICI	AIC-I card
• AIP	Alarm Indication Panel
• ALM-PWR	Alarm Power
• ASAP-4	ASAP carrier card with four PIM slots
• BP	The backplane of the NE
• CE-100T-8	8-port 100T card
• CE-1000-4	4-port GIGE mapper card
• CRFT-TMG	Craft Timing
• DCC	Data Communications Channel
• DCU	Dispersion Compensation Unit
• DMX-32	Optical DMX 32 Channels
• DS3i-N-12	DS3i-N-12 card
• E1	E1 card
• E1-42	42-port E1 card
• E1000T-2	2-port interface card supporting 1000BaseT Ethernet facilities
• E100T-12	12-port interface card supporting 100BaseT Ethernet facilities
• E100T-4	Four-port interface card supporting 100BaseT Ethernet facilities
• E1N	E1N card

Table 7-2 CHG-EQPT Command - Parameter Support

Input Parameters	Description
• E3	E3 card
• EDRA-1-26	EDRA-1-26 amplifier
• EDRA-1-35	EDRA-1-35 amplifier
• EDRA-2-26	EDRA-2-26 amplifier
• EDRA-2-35	EDRA-2-35 amplifier
• FBGDCU-1157	
• FBGDCU-1322	
• FBGDCU-165	
• FBGDCU-1653	
• FBGDCU-1983	
• FBGDCU-331	
• FBGDCU-496	
• FBGDCU-661	
• FBGDCU-826	
• FBGDCU-992	
• FILLER_CARD	Filler card
• FMEC-155E-1TO1	The equipment type for FMEC STM1E12 card
• FMEC-155E-1TO3	The equipment type for FMEC STM1E12 card with 1:3 protection
• FMEC-155E-UNPROT	The equipment type for FMEC STM1E12 card without protection
• FMEC-SMZ-E1	FMEC card corresponding to E1 card
• FMEC-SMZ-E3	FMEC card corresponding to E3 card
• FTA	Fan Tray of the NE
• FTA1	Fan Tray 1 of the NE
• FTA2	Fan Tray 2 of the NE
• G1K-4	G1K-4 card
• MD-4	Optical Multiplexer/Demultiplexer with 4 Channels
• MD-48-CM	
• MD-48-EVEN	
• MD-48-ODD	
• MESH-PP-SMR	The passive unit Patch Panel device used to connect upto four 40-SMR2-C cards
• MF-16AD-CFS	16-channels - 1 direction, colorless, omnidirectional add/drop unit.
• MF-4x4-COFS	4-channels, 4-directions, colorless, omnidirectional add/drop unit.
• MF-AST-EDFA	MF-AST-EDFA unit
• MF-DEG-5	5-degrees mesh patch panel
• MF-MPO-8LC	MPO to 8-LC adapter
• MF-UPG-4	4-degrees upgrade module

Table 7-2 CHG-EQPT Command - Parameter Support

Input Parameters	Description
• ML100X-8	8-port 100X card with optical interface
• ML-100T-8	8-port 100T card with optical interface
• MMU	Multiring mesh upgrade unit
• MS-ISC-100T	Fast Ethernet switch card used for internal shelf connection
• MUX-32	Optical MUX 32 Channels
• MXP-2.5G-10G	10G (4 * 2.5G) Muxponder card
• MXP-MR-10DME	10 Gbps datamux with enhanced FEC
• OPT-AMP-L	Optical preamplifier for L-band
• OPT-BST	Optical booster amplifier
• OPT-BST-L	Optical booster for L-band
• OPT-EDFA-17	MAL-less EDFA Optical Amplifier - C-band - 17dB Gain
• OPT-EDFA-24	MAL-less EDFA Optical Amplifier - C-band - 24dB Gain
• OPT-PRE	Optical Preamplifier
• OPT-RAMP-C	Raman pump amplifier C-band
• OPT-RAMP-CE	An extended version of Raman pump amplifier
• OPT-RAMP-COP	Raman COP card.
• OPT-RAMP-CTP	Raman CTP card.
• OPT-RAMP-E	Raman pump amplifier E-band
• OSC-CSM	Optical Service Channel with Combiner/Separator Module
• OSCM	Optical Service Channel Module
• OTU2-XP	A 4x10G transponder that is capable to operate with multiple bit rates - 10G FC, 10GE, and OC192/STM64
• PIM-4	Pluggable interface module with 4 PPM slots
• PP-4-SMR	Patch-Panel, 4 degrees, for SMR cards
• PP-MESH-4	Patch-Panel, 4 degrees
• PP-MESH-8	Patch-Panel, 8 degrees
• PPM-1	Pluggable port module with 1-port SFP module
• PSM	Protection Service Module card
• PTF-4	Fabric card.
• PTM-4	Line card.
• PTSA	CPT 50 panel.
• PTSYS-Fan-Out-Group	PTSYS Fan-Out-Group.
• SHELF	Shelf entity
• STM4	An interface card that supports one or more STM4 (622 Mbps) optical facilities
• STM4-4	A four port STM4 card
• STM4-IR-1	An interface card that supports one intermediate range STM4 (622 Mbps) optical facilities

Table 7-2 CHG-EQPT Command - Parameter Support

Input Parameters	Description
• STM4-LR-1	An interface card that supports one long range STM4 (622 Mbps) optical facilities
• STM4-SR-1	An interface card that supports one short range STM4 (622 Mbps) optical facilities
• STM64-4	A four port STM64 card
• STM64-LR-1	An interface card that supports one or more STM64 optical facilities
• STM1	An interface card that supports multiple STM1 (155 Mbps) optical facilities
• STM1-IR-4	An interface card that supports four intermediate range STM1 (155 Mbps) optical facilities
• STM1-SR-4	An interface card that supports four short range STM1 (155 Mbps) optical facilities
• STM1ATM-IR-6	An interface card that supports six intermediate range STM1 (155 Mbps) ATM optical fibers
• STM1IR-STM1SH-1310-8	An STM1 card which has 8 ports over the lower speed slot with XC-VXL-10G/XC-VXL-2.5G
• STM1POS-SR-4	An interface card that supports four short range STM1 (155 Mbps) POS optical facilities
• STM16	An interface card that supports one or more STM16 (10 Gbps) optical facilities
• STM16-AS-1	An interface card that supports one short range OC-48 (10 Gbps) optical facilities that can be provisioned in any I/O slot
• STM16-ELR-1	An interface card that supports one short range STM16 (2.5 Gbps) optical facility
• STM16-IR-1	An interface card that supports one intermediate range STM16 (10 Gbps) optical facility
• STM16-LR-1	An interface card that supports one long range STM16 (10 Gbps) optical facility
• STM16-SR-1	An interface card that supports one short range STM16 (10 Gbps) optical facilities
• TCC	Timing, Communications, and Control card
• TDC-CC	Coarse tunable dispersion compensation unit
• TDC-FC	Fine tunable dispersion compensation unit
• TXP-MR-10G	10G Multirate Transponder card
• TXP-MR-2.5G	Multirate 2.5G Unprotected
• TXPP-MR-2.5G	Multirate 2.5G Protected
• UNKNOWN	Unknown equipment type
• UNPROVISIONED	Unprovisioned equipment type
• WSE	Wire Speed Encryption (WSE) card
• XC-VXC-10G	XC-VXC-10G cross-connect card
• XCVXL-10G	XC-VXL-10G cross-connect card
• XCVXL-2.5G	XC-VXL-2.5G cross-connect card
<PPMTYPE>	Identifies the pluggable port module type. This parameter can take only one value.
• PPM-1	Single-port PPM
<PPMNUM>	Identifies the pluggable port module number. This parameter is an Integer.
• 1	PPM No. 1
• 2	PPM No. 2
• 3	PPM No. 3
• 4	PPM No. 4

Table 7-2 CHG-EQPT Command - Parameter Support

Input Parameters	Description
• 5	PPM No. 5
• 6	PPM No. 6
• 7	PPM No. 7
• 8	PPM No. 8
• 9	PPM No. 9
• 10	PPM No. 10
• 11	PPM No. 11
• 12	PPM No. 12
<PORTNUM>	Identifies the port number, which is used on the entity port with PPM. This parameter is an integer.
• 1	Port No. 1
<PORTRATE>	Identifies the port rate, which is used to specify the port rate of the multi-rate card.
• STM1	STM-1 rate
• STM4	STM-4 rate
• STM16	STM-16 rate



CLR Commands

This chapter provides CLR (clear) commands for the Cisco NCS 2002 and Cisco NCS 2006.

8.1 CLR-CCDB-CFM

The Clear Continuity Check Message Data Base Connectivity Fault Management (CLR-CCDB-CFM) command clears the continuity check message data base on a given slot.

Usage Guidelines

- This command is applicable only to GE_XP and 10GE_XP cards.
- The card should be in Layer2 over DMDM mode.

Category

Equipment

Security

Provisioning

Input Format

CLR-CCDB-CFM:[<TID>]:<AID>:<CTAG>;

Input Example

CLR-CCDB-CFM::SLOT-4:a;

8.2 CLR-COND-SECU

The Clear Security Condition (CLR-COND-SECU) command clears the specified standing condition.

Usage Guidelines

In Software Release 6.0 and later, only the INTRUSION-PSWD parameter value is supported.

Category

Security

Security Superuser

Input Format CLR-COND-SECU:[<TID>]::<CTAG>[::<SECUALMTYPE>];

Input Example CLR-COND-SECU:CISCO::123::INTRUSION-PSWD;

Table 8-1 CLR-COND-SECU Command - Parameter Support

Input Parameters	Description
<SECUALMTYPE>	(Optional) Secure alarm type. Defaults to INTRUSION-PSWD. The parameter type is SECUALMTYPE, which is the security alarm type.
INTRUSION-PSWD	Condition raised after an invalid password is used during login. Condition is raised only if the password is used a specified number of times.

8.3 CLR-MACTABLE

The CLR-MACTABLE command clears the MAC table that has all the learned MAC addresses.

Usage Guidelines The card should be in Layer2 over DMDM mode to clear the MAC address.

Category System

Security Retrieve

Input Format CLR-MACTABLE:[<TID>]:<AID>:<CTAG>;

Input Example CLR-MACTABLE::SLOT-2:1;

8.4 CLR-MEPSTATS-CFM

The Clear Maintenance End Point Statistics Connectivity Fault Management (CLR-MEPSTATS-CFM) command clears the maintenance end point statistics.

- Usage Guidelines**
- This command is applicable only to GE_XP and 10GE_XP cards.
 - The card should be in Layer2 over DMDM mode.

Category	Equipment
Security	Provisioning
Input Format	CLR-MEPSTATS-CFM:[<TID>]:<AID>:<CTAG>;
Input Example	CLR-MEPSTATS-CFM::SLOT-15:1;



CONN Commands

This chapter provides connect (CONN) commands for the Cisco NCS 2002 and Cisco NCS 2006.

9.1 CONN-TACC-<MOD_TACC>

The Connect Test Access for DS3I, E1, E3, VC3, VC44C, VC38C, VC464C, VC48C, VC36C, VC4, VC416C, VC42C, VC43C, VC11, and VC12 (CONN-TACC-<MOD_TACC>) command connects the Virtual Container (VC) or Virtual Tributary (VT) defined by AID to the VC specified by the test access point (TAP) number. See [Table 29-1 on page 29-1](#) for supported modifiers by platform.

Usage Guidelines

For this command to be applicable, you must first create the TAP using the ED-<VC_PATH> or ED-VC12 command. Intrusive test access modes are traffic-affecting. If a facility/path is connected to a TAP in an intrusive test access mode, it is forced to go into the Locked-Maintenance state. The forced transition could be traffic-affecting. The present state of the facility/path is stored by the NE and is restored when the TAP connection is brought down. Test access connections are dropped automatically if the TL1 session is terminated or is timed out.

The following actions will return error messages:

- If all TAPs are busy, a RABY error message is returned.
- If a requested TAP is busy, a RTBY error message is returned.
- If a requested TAP does not exist, a RTEN error message is returned.
- If a circuit is already connected to another TAP, a SCAT error message is returned.
- If a requested condition already exists, a SRCN error message is returned.
- And invalid AID will return an Input, Invalid Access Identifier (IIAC) error message.
- If an access is not supported, an EANS error message is returned.
- If a requested access configuration is invalid, a SRAC error message is returned.
- You cannot connect a TACC to a cross-connect that is in pending roll.
- A connection can be made to a cross-connection, in which case all modes of access are supported. A connection to an Unmapped AID (an AID without a cross-connect on it) will allow only MONE, SPLTE, and LOOPE modes.
- A connection to the protect path of a 1+1, 1:1, or 1:N is not allowed; however, connecting to the PCA path of a two-fiber or four-fiber multiplex section-shared protection ring (MS-SPRing) is supported. This will be preempted when a MS-SPRing switch occurs.

- When you connect a TACC to a protect subnetwork connection protection (SNCP) trunk, you will always be connected to the working trunk instead.

Category Troubleshooting and Test Access

Security Maintenance

Input Format CONN-TACC-<MOD_TACC>[:<TID>]:<SRC>:<CTAG>::<TAP>:MD=<MD>;

Input Example CONN-TACC-VC4:CISCO:VC4-4-1-1-1:123::8:MD=MONE;

Table 9-1 CONN-TACC-<MOD_TACC> Command - Parameter Support

Input Parameters	Description
<SRC>	Source AID from the “27.1 ALL” section on page 27-1 . SRC must not be null.
<TAP>	The test access path (TAP) number. TAP must be an integer with a range of 1 to 999. When TACC is 0 (zero), the TAP is deleted.
<MD>	The test access mode. (SPLTE, SPLTF, LOOPE and LOOPF require an external quasi-random signal [QRS] input signal.) Single facility access digroup (FAD) Test Access does not support MONEF, SPLTEF, and SPLTAB modes. MD must not be null. The parameter type is TACC_MODE, which is the test access mode.
LOOPE	Indicates to split both the A and B paths. Connect the line incoming from E direction to the line outgoing in the E direction, and connect this looped configuration to the FAD. The line outgoing in the F direction shall have a QRS connected, and the line incoming from the F direction shall be terminated by the nominal characteristic impedance of the line. Intrusive test access mode.
LOOPF	Indicates to split both the A and B paths. Connect the line incoming from F direction to the line outgoing in the F direction, and connect this looped configuration to the FAD. The line outgoing in the E direction shall have a QRS connected, and the line incoming from the E direction shall be terminated by the nominal characteristic impedance of the line. Intrusive test access mode.
MONE	Indicates that a monitor connection is to be provided from the FAD to the A transmission path of the accessed circuit.
MONEF	Indicates that a monitor connection is to be provided from the FAD1 to a DFAD, or the odd pair of a FAP, to the A transmission path and from FAD2 of the same DFAD, or the even pair of a FAP, to the B transmission path of the accessed circuit.
MONF	Indicates that a monitor connection is to be provided from the FAD to the B transmission path of the accessed circuit.
SPLTA	Indicates that a connection is to be provided from both the E and F sides of the A transmission path of the circuit under test to the FAD and split the A transmission path. Intrusive test access mode.
SPLTB	Indicates that a connection is to be provided from both the E and F sides of the B transmission path of the circuit under test to the FAD and split the B transmission path. Intrusive test access mode.

Table 9-1 CONN-TACC-<MOD_TACC> Command - Parameter Support

Input Parameters	Description
SPLTE	Indicates to split both the A and B paths and connect the E side of the accessed circuit to the FAD. The line outgoing in the F direction shall have a QRS connected, and the line incoming from the F direction shall have a QRS connected, and the line incoming from the E direction shall be terminated by the nominal characteristic impedance of the line. Intrusive test access mode.
SPLTEF	Indicates to split both the A and B paths, and connect the E side of the accessed circuit to FAD1 and the F side to FAD2. Intrusive test access mode.
SPLTF	Indicates to split both the A and B paths, and connect the F side of the accessed circuit to the FAD. The line outgoing in the E direction shall have a QRS connected, and the line incoming in the E direction shall have a QRS connected, and the line incoming from the E direction shall be terminated by the nominal characteristic impedance of the line. Intrusive test access mode.

Output Format

SID DATE TIME
M CTAG COMPLD
"<TAP>"
;

Output Example

TID-000 1998-06-20 14:30:00
M 001 COMPLD
"8"
;

Output Parameters

<TAP>	The TAP number. TAP must be an integer with a range of 1 to 999. When TACC is 0 (zero), the TAP is deleted.



COPY Commands

This chapter provides copy (COPY) commands for the Cisco NCS 2002 and Cisco NCS 2006.

10.1 COPY-IOSCFG

The Copy Cisco IOS Configuration File (COPY-IOSCFG) command supports the following types of operations on the Cisco IOS configuration file of ML-Series Ethernet cards:

1. Uploading of startup Cisco IOS configuration file from the network to the node.

FTP is the only protocol allowed for uploading. When doing this operation, the SRC field must be an FTP URL string specifying the user name and password for FTP authentication, and specifying the host and the directory to locate the startup configuration file from the network. The DEST field must be a string of "STARTUP".

2. Downloading of startup Cisco IOS configuration file from the node to the network.

FTP is the only protocol allowed for downloading. When doing this operation, the SRC field must be a string of "STARTUP". The DEST field must be a FTP URL string specifying the user name and password for FTP authentication, and specifying the host and the directory to store the startup configuration file.

Usage Guidelines

- This FTP timeout is 30 seconds and is not configurable.
- The Cisco IOS configuration file is unique for each ML-Series card, and is specified by the SLOT number in the AID field of the command.
- In the gateway network element/end network element (GNE/ENE) environment, you are not allowed to download (backup the Cisco IOS configuration file through TL1 if a GNE firewall exists. Any such attempt will receive a "Data Connection Error" from the GNE. For the upload of Cisco IOS configuration file through TL1, the GNE will allow it to go through the firewall only if the file contains the header "! Cisco IOS config <text>". If the configuration file does not contain this header, GNE will block the uploading with "Data Connection Error."
- The format of the FTP URL string used in the SRC or DEST field of the command is as follows:
 - In a nonfirewall environment, the format of the URL should be:
"FTP://[FTPUSER[:FTPPASSWORD]]@FTPHOST/PACKAGE_PATH"
where:
FTPUSER is the user ID to connect to the computer with the package file.

<FTPPASSWORD> is the password used to connect to the computer with the package file.

<FTPHOST> is the IP address of the computer with the package file. Domain name system (DNS) lookup of hostnames is not supported.

<PACKAGE_PATH> is the long path name to the package file.

Note that USERID and PASSWORD are optional if the user does not need to log into the host computer. Also note that the password might be optional if the user does not need to log in. All the other portions of the URL are required, including the initial “FTP:\” string.

- In a firewall environment, the hostname should be replaced with a list of IP addresses each separated by the “@” character. The first IP address should be for the machine where the package file is stored. Subsequent IP addresses should be for firewall machines moving outwards towards the edge of the network, until the final IP address listed was the machine that outside users first access the network.

For example: if your topology is “FTPHOST <-> GNE3 <-> GNE2 <-> GNE1 <-> ENE”, your FTP URL will be:

FTP://FTPUSER:FTPPASSWORD@FTPHOST@GNE3@GNE2@GNE1/PACKAGE_PATH

Category File Transfer

Security Provisioning

Input Format COPY-IOSCFG:[<TID>]:<AID>:<CTAG>::SRC=<SRC>,DEST=<DEST>,[FTTD=<FTTD>];

Input Example COPY-IOSCFG::SLOT-1:CTAG::SRC=“LONG_FTP_PATH”,DEST=“STARTUP”,
FTTD=“FTTD_URL”;

Table 10-1 COPY-IOSCFG Command - Parameter Support

Input Parameters	Description
<AID>	Access identifier. Specifies the slot number of the card where the Cisco IOS configuration file belongs. AID is from the 27.13 EQPT, page 27-21 .
<SRC>	Source AID. Specifies where the Cisco IOS configuration file is copied from. SRC is a string.
<DEST>	Specifies where the Cisco IOS configuration file is copied to. DEST is a string.
<FTTD>	FTTD is a string.

10.2 COPY-RFILE

The Copy File (COPY-RFILE) command downloads a new software package from the location specified by the FTP URL. It is also used to backup and restore the system database.

Prerequisite To run the **COPY-RFILE** command, do the following:

- Run the FTP server on the remote machine.
- Register the FTP server on the GNE using the **ENT-FTPSEVER** command.

Here is an example that explains the execution of **COPY-RFILE** command:

```
> ENT-FTPSEVER:::A:::IPADDR=72.163.210.211,ENABLE=Y,IPMASK=255.255.255.
> 0,TIMER=0;
Infy600-162 2009-01-23 07:18:27
M A COMPLD
;
>
> RTRV-FTPSEVER:::A;
Infy600-162 2009-01-23 07:18:43
M A COMPLD
"IPADDR=10.77.29.252,IPMASK=255.255.255.0,ENABLE=Y,TIMER=0"
"IPADDR=72.163.210.211,IPMASK=255.255.255.0,ENABLE=Y,TIMER=0"
"IPADDR=64.103.135.83,IPMASK=255.255.255.0,ENABLE=Y,TIMER=0"
"IPADDR=10.65.72.136,IPMASK=255.255.255.0,ENABLE=N,TIMER=0"
;
>
```

Usage Guidelines

To upload package files or restore databases from a host, the host must be running an FTP server application. If the host is not running an FTP server application, the command fails, indicating that the NE was not able to connect to the remote IP address (host). A host can either be a PC or a workstation running an FTP server application.



Note

In Release 5.0 and later, **PACKAGE_PATH** is relative to your home directory instead of being an absolute path from the root directory of the NE. If you want to specify an absolute path, start the path with the string '%2F'.



Note

FTP timeout is 30 seconds and is not configurable.



Note

- The SWDL type is used for software package uploads. The RFBU type is used for system database backups, and the RFR type is used for system database restores. The SRC input is required when the type is SWDL or RFR. The DEST input is needed when the type is RFBU. The SRC and DEST inputs cannot both be used in the same command.
- FTP is the only allowed file transfer method.
- The extended FTP URL syntax is required by the COPY-RFILE syntax.
- FTP_PORT defaults to 21 and is optional. Leaving this field blank defaults to 21.
- The default values for all optional parameters are NE default values. These values might not be the current value for a parameter. In order to obtain the current value, issue the RTRV-XX command.

Category

File Transfer

Security

Superuser

Input Format

COPY-RFILE:[<TID>]:[<SRC>]:<CTAG>::TYPE=<XFERTYPE>,[SRC=<SRC1>],
[DEST=<DEST>],[OVWRT=<OVWRT>],[FTTD=<FTTD>][FORCEENABLE=<FORCEENABLE>];

Input Example

COPY-RFILE:HERNDON:RFILE-PKG:703::TYPE=SWDL,SRC="LONG_FTP_PATH",
DEST="LONG_FTP_PATH",OVWRT=YES,FTTD="FTTD_URI,FORCEENABLE=YES";

Table 10-2 *COPY-RFILE Command - Parameter Support*

Input Parameters	Description
<SRC>	(Optional) Source AID. The type of file being transferred. From the AID “27.25 RFILE” section on page 27-33.
<XFERTYPE>	The file transfer protocol. The parameter type is TX_TYPE, which specifies the type and direction of the file transferred.
• RFBU	Remote File Backup. Applicable for Maintenance User (and above).
• RFR	Remote File Restore. Applicable for Superuser.
• SWDL	Software Download. Applicable for Maintenance User (and above).
<SRC1>	(Optional) Specifies the source of the file to be transferred. Only the FTP URL is supported. In a nonfirewall environment, the format of the URL should be: “FTP://FTP_USER[:FTP_PASSWORD]]@FTP_HOST_IP[:FTP_PORT], /PACKAGE_PATH[:TYPE=I]” where: • <FTP_USER> is the user ID to connect to the computer with the package file. • <FTP_PASSWORD> is the password used to connect to the computer with the package file. • <FTP_HOST_IP> is the IP address of the computer with the package file, DNS lookup of hostnames is not supported. • <FTP_PORT> defaults to 21. • <PACKAGE_PATH> is the long path name to the package file starting from the home directory of the logged-in user. Userid and password are optional if the user does not need to log into the host computer. All the other portions of the URL are required, including the initial “FTP://” string. In a firewall environment, the hostname should be replaced with a list of IP addresses separated by a “@” character. The first IP address should be for the machine where the package file is stored. Subsequent IP addresses should be for firewall machines moving outwards towards the edge of the network, until the final IP address listed is the machine that outside users first access the network. For example, if the topology is “FTP_HOST_IP <-> GNE3 <-> GNE2 <-> GNE1 <-> ENE”, the FTP URL is: FTP://FTP_USER:FTP_PASSWORD@FTP_HOST_IP@GNE3@GNE2@GNE1/PACKAGE_PATH The FTP_HOST_IP must be one of the IP addresses that is configured on the node as a secure FTP Host. SRC1 is a string.

<SRC1>	(Optional) Specifies the source of the file to be transferred. Only the FTP URL is supported. In a nonfirewall environment, the format of the URL should be: “FTP://FTP_USER[:FTP_PASSWORD]]@FTP_HOST_IP[:FTP_PORT], /PACKAGE_PATH[:TYPE=I]” where: • <FTP_USER> is the user ID to connect to the computer with the package file.
	• <FTP_PASSWORD> is the password used to connect to the computer with the package file.
	• <FTP_HOST_IP> is the IP address of the computer with the package file, DNS lookup of hostnames is not supported.
	• <FTP_PORT> defaults to 21.
	• <PACKAGE_PATH> is the long path name to the package file starting from the home directory of the logged-in user.
	Userid and password are optional if the user does not need to log into the host computer. All the other portions of the URL are required, including the initial “FTP://” string.
	In a firewall environment, the hostname should be replaced with a list of IP addresses separated by a “@” character. The first IP address should be for the machine where the package file is stored. Subsequent IP addresses should be for firewall machines moving outwards towards the edge of the network, until the final IP address listed is the machine that outside users first access the network. For example, if the topology is “FTP_HOST_IP <-> GNE3 <-> GNE2 <-> GNE1 <-> ENE”, the FTP URL is: FTP://FTP_USER:FTP_PASSWORD@FTP_HOST_IP@GNE3@GNE2@GNE1/PACKAGE_PATH The FTP_HOST_IP must be one of the IP addresses that is configured on the node as a secure FTP Host. SRC1 is a string.

Table 10-2 *COPY-RFILE Command - Parameter Support*

Input Parameters	Description
• YES	Yes
• NO	No



DISC Commands

This chapter provides disconnect (DISC) commands for the Cisco NCS 2002 and Cisco NCS 2006.

11.1 DISC-TACC

The Disconnect Test Access (DISC-TACC) command disconnects the TAP and puts the connection back to its original state (no splits).

Usage Guidelines

For this command to be applicable, you must first create the TAP using the ED-<VC_PATH> or ED-VC12 command.

The following actions will return error messages:

- If you send this command to an already disconnected connection, a SADC error message is returned.
- If the system cannot release TAP, an SRTN error message is returned.



Note

If the test access connection is intrusive, the original state of the facility/path is restored after this command is executed. Test access connections are dropped automatically if the TL1 session is terminated or is timed out.

Category

Troubleshooting and Test Access

Security

Maintenance

Input Format

DISC-TACC:[<TID>]:<TAP>:<CTAG>;

Input Example

DISC-TACC:CISCO:8:123;

Input Parameters

<TAP> The test access path number. The TAP number must be an integer with a range of 1 to 999. TAP is a string.

Note This command only supports disconnecting one TAP at a time.



DLT Commands

This chapter provides delete (DLT) commands for the Cisco NCS 2002 and Cisco NCS 2006.

12.1 DLT-<MOD1PAYLOAD>

The Delete 10GFC, 10GIGE, 40GIGE, 100GIGE, 1GFC, 1GFICON, 1GISC3, 2GFC, 2GFICON, 2GISC3, 4GFC, 4GFICON, 5GIB, 8GFC, CHGRP, D1VIDEO, DV6000, DVBASI, ESCON, ETRCLO, FSTE,GIGE, HDTV, ISC1, ISC3PEER1G, ISC3PEER2G, ISC3PEER2R, ISCCOMPAT, OTU3, OTU4, STM4, STM64, STM1, STM16, STM-256, 3GVIDEO, SDSDI , HDSDI, AUTO, OTU1, OTU2, ISC3STP1G, or ISC3STP2G (DLT-<MOD1PAYLOAD>) command deletes the specified port.

Usage Guidelines	The command supports the 3GVIDEO, SDSDI , HDSDI, AUTO, OTU1, ISC3STP1G, and ISC3STP2G modifiers. See Table 29-1 on page 29-1 for other supported modifiers by platform. The ports must be in out of service (OOS) state and must not have any circuits on them while deleting.
Category	Ports
Security	Provisioning
Input Format	DLT-<MOD1PAYLOAD>[:<TID>]:<AID>:<CTAG>[:];
Input Example	DLT-100GIGE:100G-LC-C:AGGR-3-1-1:1;
Input Parameters	<AID> Access identifier from the “27.15 FACILITY” section on page 27-23 and “27.7 CHANNEL” section on page 27-12. The AR-MXP, AR-XP, and AR-XPE cards use the VFAC AID.

12.2 DLT-<MOD_RING>

The Delete MS-SPRing (DLT-<MOD_RING>) command deletes the multiplex section-shared protection ring (MS-SPRing) of the network element (NE).

Usage Guidelines

The following actions will return error messages:

- If the system fails on getting the information object repository (IOR), a SROG (Status, Get IOR Failed) an error message is returned.
- If the AID is invalid, an IIAC (Invalid AID) error message is returned.
- If the MS-SPRing does not exist, a SRQN (MSSPR Does Not Exist) error message is returned.
- The SROF (Facility Not Provisioned) or (Cannot Access MSSPR) error message is returned for an invalid query.
- If the MS-SPRing is in use, a SROF (MSSPR In Use) error message is returned.
- The SRQN (MSSPR Deletion Failed) error message is returned for an invalid deletion query.



Note

The ALL AID is invalid for this command.



Note

The list AID format has been supported since Release 4.6.

Category

MS-SPRing

Security

Provisioning

Input Format

DLT-<MOD_RING>:[<TID>]:<AID>:<CTAG>[:];

Input Example

DLT-MSSPR:PETALUMA:MSSPR-2:123;

Input Parameters

<AID>	Access identifier from the “27.3 AidUnionId1” section on page 27-10. Identifies the MS-SPRing of the NE. The ALL and MSSPR-ALL AIDs cannot be used when deleting MS-SPRings.

12.3 DLT-ALMTYPE

The Delete Alarm Type (DLT-ALMTYPE) command deletes only user-defined alarm types.

Usage Guidelines	ALMTYPE must not contain blank spaces or special characters other than hyphen (-). The maximum ALMTYPE length allowed is 20 characters. Only one alarm type can be deleted at a time using this command. There is no option available to delete ALL user-defined alarm types.	
Category	System	
Security	Provisioning	
Input Format	DLT-ALMTYPE:[<TID>]::<CTAG>:: <ALMTYPE>;	
Input Example	DLT-ALMTYPE:::1::USERDEFINEDALARM;	
Input Parameters	<ALMTYPE>	Specifies user-defined alarm types associated with virtual wires in environmental alarm inputs.

12.4 DLT-ALM-CPS

The Delete Alarm Control Plane Service (DLT-ALM-CPS) command deletes a alarm reported on the Control Plane Service.

Usage Guidelines	- Specify the alarm index displayed against the alarm in the RTRV-ALM-CPS response. - This command is applicable only to WSON alarms.	
Category	NCS	
Security	Provisioning	
Input Format	DLT-ALM-CPS:[<TID>]:<SRC>:<CTAG>::[:INDEX=<INDEX>][:];	
Input Example	DLT-ALM-CPS::LINE-5-1-RX:1:::INDEX=3;	

12.5 DLT-AUTO

Input Parameters	<SRC>	Source AID from the “27.11 CrossConnectId1” section on page 27-16 .
	INDEX	Index of the alarm to be deleted or acknowledged. To be taken from the RTRV-ALM-CPS response.

12.5 DLT-AUTO

The Delete Auto (DLT-AUTO) command deletes AUTO ports.

Usage Guidelines The ports must be in OOS state and must not have any circuits on them while deleting.

Category Ports

Security Provisioning

Input Format DLT-AUTO:[<TID>]:<AID>:<CTAG>;

Input Example DLT-AUTO::VFAC-1-3-2-1:1;

Input Parameters <AID> The AR-MXP, AR-XP, and AR-XPE cards use the VFAC AID.

12.6 DLT-AWCFG

The Delete Alien Wavelength Configuration (DLT-AWCFG) deletes the alien wavelength configured.

Usage Guidelines None

Category NCS

Security Provisioning

Input Format DLT-AWCFG:[<TID>]:<SRC>:<CTAG>::[:];

Input Example DLT-AWCFG::CHAN-3-4-RX:1;

Table 12-1 Parameter Support

Parameter	Description
<SRC>	Source access identifier from the “27.1 ALL” section on page 27-1.
<ALIENID>	Indicates the operating mode for alien wavelength. ALIENID is a STRING.
<FECMODE>	Specifies the FEC mode for alien wavelength.
• ENH	Enhanced FEC is enabled.
• ENH-I4	Enhanced FEC 1.4 is enabled.
• ENH-I7	Enhanced FEC 1.7 is enabled.
• HG-7	7% High Gain FEC is enabled.
• HG-20	20% High Gain FEC is enabled.
• OFF	FEC is disabled.
• STD	Standard FEC is enabled.

12.7 DLT-BULKROLL-<STM_TYPE>

The Delete Bulkroll for STM4, STM64, STM1, or STM16 (DLT-BULKROLL-STM_TYPE) command deletes an attempted bulk rolling operation of a facility or completes an attempted rolling operation. This command is used for bulk line level rolling. Use DLT-ROLL-<MOD_PATH> for single path level rolling. See [Table 29-1 on page 29-1](#) for supported modifiers by platform.

Usage Guidelines None

Category Bridge and Roll

Security Provisioning

Input Format DLT-BULKROLL-<STM_TYPE>:[<TID>]:<FROM>:<CTAG>::
[RFROMSTART=<RFROMSTART>],[RFROMEND=<RFROMEND>],WHY=<WHY>;

Input Example DLT-BULKROLL-STM4:CISCO:FAC-1-1:6::RFROMSTART=VC4-1-1-1,
RFROMEND=VC4-1-1-11,WHY=STOP;

Table 12-2 DLT-BULKROLL-STM_TYPE Command - Parameter Support

Input Parameters	Description
<FROM>	One of the endpoints. Access identifier from the “ 27.15 FACILITY ” section on page 27-23 for line level rolling and bulk rolling.
<RFROMSTART>	(Optional) The starting time slot in the source roll port. For bulk rolling only. The AID is from the “ 27.11 CrossConnectId1 ” section on page 27-16 (VC or VC11).
<RFROMEND>	(Optional) The ending time slot in the source roll port. For bulk rolling only. The AID is from the “ 27.11 CrossConnectId1 ” section on page 27-16 (VC or VC11).
<WHY>	The reason for deletion. The parameter type is WHY, which is the reason for deletion.
END	Drop the leg to be rolled; this leg is identified by the RFROM parameter in the ENT-ROLL or ENT-BULKROLL command.
STOP	The rolling operation will be aborted and reverted to the previous configuration.

12.8 DLT-BULKROLL-<OCN_TYPE>

The Delete Bulkroll for OC12, OC192, OC3, OC48, OC768 (DLT-BULKROLL-<OCN_TYPE>) command deletes an attempted bulk rolling operation of a facility or completes an attempted rolling operation. This command is used for bulk line level rolling. Use DLT-ROLL-<MOD_PATH> for single path level rolling.

Usage Guidelines

See [Table 29-1 on page 29-1](#) for supported modifiers by platform.

Category

Bridge and Roll

Security

Provisioning

Input Format

DLT-BULKROLL-<OCN_TYPE>:[<TID>]:<FROM>:<CTAG>:::
[RFROMSTART=<RFROMSTART>],[RFROMEND=<RFROMEND>],WHY=<WHY>;

Input Example

DLT-BULKROLL-OC12:CISCO:FAC-1-1:6:::RFROMSTART=STS-1-1-1,
RFROMEND=STS-1-1-11,WHY=STOP;

Input Parameters

<FROM>	One of the end points. Access identifier from the “27.15 FACILITY” section on page 27-23 for line level rolling and bulk rolling.
<RFROMSTART>	The starting time slot in the source roll port. For bulk rolling only. The AID is from the “27.11 CrossConnectId1” section on page 27-16 (except VCM and FACILITY). Defaults to STS-<FROMSLOT>-<FROMPORT>-1, where <FROMSLOT> and <FROMPORT> are the slot and port of the <FROM> AID.
<RFROMEND>	The ending time slot in the source roll port. For bulk rolling only. The AID is from the “27.11 CrossConnectId1” section on page 27-16 (except VCM and FACILITY). Defaults to STS-<FROMSLOT>-<FROMPORT>-N, where <FROMSLOT> and <FROMPORT> are the slot and port of the <FROM> AID and N is the value of OC-N (for example, in the case of OC48, N=48).
<WHY>	The reason for deletion. The parameter type is WHY, which is the reason for deletion.
• END	Drop the leg to be rolled; this leg is identified by the RFROM parameter in ENT-ROLL or ENT-BULKROLL command.
• STOP	The rolling operation will be aborted and reverted to the previous configuration.

12.9 DLT-BWP-ETH

The Delete Bandwidth Profile Ethernet (DLT-BWP-ETH) command deletes a bandwidth profile from the bandwidth profile database (BWP DB). The BWP DB is a collection of BWP used in a Network Element.

Usage Guidelines

Error conditions for deleting bandwidth profile can be:

- Invalid AID. If the AID is invalid an IIAC (Invalid AID) error message is returned.
- The “ALL” AID is invalid for this command.

Category

Ethernet

Security

Provisioning

Input Format

DLT-BWP-ETH:[<TID>]:<AID>:<CTAG>[:];

Input Example

DLT-BWP-ETH:ROCKS:BWP-10000:1;

Input Parameters

Table 12-3 DLT-BWP-ETH Command - Parameter Support

Input Parameters	Description
<AID>	This AID is used to access BWP.
• BWP-ALL	All AID for BWP.
• BWP-{1-10000}	Single AID for BWP. The valid identifier ranges from 1 to 10000.

12.10 DLT-CPS

The Delete Control Plane Service (DLT-CPS) command deletes a Control Plane Service parameter.

Usage Guidelines

- Specify only the source port to identify the CPS
- Specify both the source AIDs, if the CPS is of type ADD 2WAY

Category

NCS

Security

Provisioning

Input Format

DLT-CPS:[<TID>]:<SRC>:<CTAG>::[:CKTID=<CKTID>][:];

Input Example

DLT-CPS:100G:AGGR-3-1-1:1;

Input Parameters

<SRC>	Source AID from the “27.11 CrossConnectId1” section on page 27-16.
<CKTID>	Circuit identification parameter can be used to filter this command

12.11 DLT-CRS-<PATH>

The Delete Cross-Connection for VC3, VC44C, VC38C, VC464C, VC48C, VC36C, VC4, VC416C, VC42C, VC43C, or VC12 (DLT-CRS-<PATH>) command deletes a cross-connection between VC paths. VC paths are specified using their VC AID. See Table 29-1 on page 29-1 for supported modifiers by platform.

Usage Guidelines

- The fields after CTAG (including trailing colons) are optional.

- For the one-way cross-connections, the AIDs must be in the same order as originally entered; for the two-way cross-connections, either order will work.
- This command does not support deleting multiple VC cross-connections.
- Using “&” in the AID field of this command can delete a subnetwork connection protection (SNCP) virtual container (VC) cross-connection.
 - The following command is used to delete a one-way selector or two-way selector and bridge with:

from points: F1, F2

to point: T1

DLT-CRS-{VC_PATH}:{<TID>}:F1&F2,T1:<CTAG>;
 - The following command is used to delete a one-way bridge or two-way selector and bridge with:

from point: F1

to points: T1, T2

DLT-CRS-{VC_PATH}:{<TID>}:F1,T1&T2:<CTAG>;
 - The following command is used to delete a one-way or two-way subtending SNCP connection with:

from points: F1, F2

to points: T1, T2

DLT-CRS-{VC_PATH}:{<TID>}:F1&F2,T1&T2:<CTAG>;
 - The AID format in the deletion command is the same as the AID format in the retrieved response message. For example, if the output of any retrieved AID is “F1&F2,T1:CCT,VC4”, the deletion command with the AID format F1&F2,T1 is required to delete this cross-connection.
 - The following command is used to delete a SNCP IDRI (integrated dual-ring interconnect) cross-connection:

DLT-CRS-{VC_PATH}:{<TID>}:A&B,C&D:<CTAG>;

A–Path on Ring X to which traffic from Ring Y is bridged

B–Path on Ring X to which traffic from the same ring is bridged

C–Path on Ring Y to which traffic from Ring X is bridged

D–Path on Ring Y to which traffic from the same ring is bridged

A, B, C, and D have a positional meaning. Connection type 2WAYDC is used for SNCP IDRI cross-connections.
 - The following command is used to delete an SNCP dual-ring interconnect (DRI) cross-connection:

DLT-CRS-{VC_PATH}:{<TID>}:A&B,C:<CTAG>;

A–Path on Ring X to which traffic from Ring Y is bridged

B–Path on Ring X to which traffic from the same ring is bridged

C–Traffic to and from Ring Y

A, B, and C have a positional meaning. Connection type 2WAYDC is used for SNCP DRI cross-connections.
- All A&B AIDs in the TL1 cross-connection command are in the format of WorkingAID&ProtectAID.

- You can experience some implementation behavior problems if additional drops have been added to the connection object.
- The facility AID is only valid for slots holding the G1K-4 card.
- The virtual facility AID (VFAC) is only valid on slots holding an ML-Series card.
- CKTID is a string of ASCII characters. The maximum length of CKTID can be 48 characters. If the CKTID is EMPTY or NULL, the field will not appear.
- The default values for all optional parameters are NE default values. These values might not be the current value for a parameter. Use a retrieve command to retrieve current values.

Category

Cross Connections

Security

Provisioning

Input Format

DLT-CRS-<PATH>[:<TID>]:<SRC>,<DST>:<CTAG>[::CKTID=<CKTID>],[
[CMDMDE=<CMDMDE>];

Input Example

DLT-CRS-VC44C:VINBURG:VC4-1-1-1,VC4-12-1-1:102:::CKTID=XYZ,CMDMDE=NORM;

Table 12-4 DLT-CRS-<PATH> Command - Parameter Support

Input Parameters	Description
<SRC>	Source AID from the “27.11 CrossConnectId1” section on page 27-16.
<DST>	Destination AID from the “27.11 CrossConnectId1” section on page 27-16.
<CKTID>	(Optional) Cross-connect ID. The default is Blank or None. String of ASCII characters. Maximum length is 48. If CKTID is empty or null, the CKTID field will not be displayed.
<CMDMDE>	(Optional) Command mode. Normal (NORM) mode is the default behavior for all commands but you can specify forced (FRCD) mode to force the system to override a state where the command would normally be denied. The FRCD mode of operation is applicable to delete a virtual concatenated (VCAT) member cross-connect in Unlocked-Enabled or Locked-Disabled, AutomaticInService service states.
• FRCD	Force the system to override a state where the command would normally be denied.
• NORM	Execute the command normally. Do not override any conditions that might make the command fail.

12.12 DLT-CRS-ETH

The Delete Cross-Connect Ethernet (DLT-CRS-ETH) command deletes a cross connection between the ethernet paths. Ethernet paths are specified by using their ethernet facilities AID and SVLAN.

Usage Guidelines

This command deletes an ethernet connection between two or more ethernet connection end points inside an ethernet port. Specify all the ethernet connection end points associated in order to identify a unique cross-connection inside the node.

Category

NCS

Security

Provisioning

Input Format

DLT-CRS-ETH:[<TID>]:<src>,<dst>:<CTAG>:::[CKTID=<cktid>],[CMDMDE=<cmdmde>];

Input Example

DLT-CRS-ETH:VA454-22:ETHID-1-3-2-1-15,ETH-1-3-21-1-15:116:::CKTID=CIRCUIT,CMDMDE=FRCD;

Input Parameters

Table 12-5 Parameter Support

Parameter	Description
<ALL>	The ALL aid is applicable for RTRV-only commands, basically the RTRV-rr type of commands.
ETHID[-{1-12}]-{1-5,12-16}-{1-22}-1-{1-20}	Ethernet connection end point aid for GE-XP card.
ETHID[-{1-12}]-{1-6,12-17}-{1-4}-1-{1-20}	Facility aid for 10GE-XP card.
<CKTID>	Circuit identification parameter contains the Common Language Circuit ID or other alias of the circuit being provisioned. Default value is - "NULL"
<CMDMDE>	Command Mode is used to force the system to execute a given irrespective of any standing conditions. Default value is -NORM
FRCD	Force the system to override a state in which the command would normally be denied.
NORM	Execute the command normally. Do not override any conditions that may make the command fail.

12.13 DLT-EQPT

The Delete Equipment (DLT-EQPT) command deletes a card from the NE. This command removes the card type and attributes that were entered for a particular slot. If any facilities are assigned, they are also deleted.

The DLT-EQPT command also deletes a shelf that is no longer used. A shelf can only be deleted if there is no equipment present or if the equipment and its attributes are not in use and can be deleted as well. Only one REPT DBCHG on SHELF-{1-8} will be reported in the latter case. The node controller shelf (the shelf whose shelf ID is 1) cannot be deleted.

Usage Guidelines

The command will be denied if the card is part of a protection group or has a cross-connect endpoint. To delete a card that is part of a protection group, it has to be removed from the protection group first using the ED-EQPT command.

The error message SPLD (Equipment In Use) will be returned in the following conditions:

- The card is in a protection group.
- The card has a cross-connection, a data communications channel (DCC), a generic communications channel (GCC), an optical service channel (OSC), or a provisionable patchcord termination.
- Any of its facilities are being used as a synchronization source.



Note

If a card is not provisioned, an error message is returned.

Category

Equipment

Security

Provisioning

Input Parameters

DLT-EQPT:[<TID>]:<AID>:<CTAG>[:];

Input Example

DLT-EQPT:10x10G-LC:SLOT-2:1;

Input Parameters

<AID>	Access identifier from the “27.13 EQPT” section on page 27-21. Identifies an equipment unit (slot) to act on.

12.14 DLT-FFP-<MOD2NCSPAYLOAD>

The Delete Facility Protection Group for 10GFC, 10GIGE, 40GIGE, 100GIGE, 1GFC, 1GFICON, 1GISC3, 2GFC, 2GFICON, 2GISC3, 4GFC, 4GFICON, 8GFC, D1VIDEO, DV6000, DVBASI, ETRCLO, FSTE, GIGE, HDTV, ISC1, ISC3, PASSTHRU, OCH, OTU1, OTU2, OTU3, OTU4, ISC3STP1G, or ISC3STP2G (DLT-FFP-<MOD2NCSPAYLOAD>) command deletes Y-cable protection on client facilities.

Usage Guidelines

- The command does not support 3GVIDEO, SDSDI, HDSDI, and AUTO payloads on AR-MXP, AR-XP, and AR-XPE cards.

- The command deletes the facility protection group on that port.

Category

Protection

Security

Provisioning

Input Format

DLT-FFP-<MOD2NCSPAYLOAD>[:<TID>]:<SRC>,<DST>:<CTAG>[:];

Input Example

DLT-FFP-HDTV:CISCO:FAC-1-1-1,FAC-2-1-1:100;

DLT-FFP-OTU1:ROCCIANERA:VFAC-2-1-1,VFAC-1-1-1:1;

Input Parameters**Table 12-6 DLT-FFP-<MOD2NCSPAYLOAD> Command - Parameter Support**

Input Parameters	Description
<SRC>	Source AID from the “ 27.15 FACILITY ” section on page 27-23. The AR-MXP, AR-XP, and AR-XPE cards use working facility VFAC AID.
CHANNEL	The CHAN aid is used to access Optical Channels (OCH) layer of Optical Network/Client units. Value: CHAN[-{1-50}]-{1-6,12-17}-{1-4}-{1}, which is a Single Channel of an OTU2-XP card.
<DST>	Destination AID from the “ 27.15 FACILITY ” section on page 27-23. The AR-MXP, AR-XP, and AR-XPE cards use protecting facility VFAC AID.
CHANNEL	The CHAN aid is used to access Optical Channels (OCH) layer of Optical Network/Client units. Value: CHAN[-{1-50}]-{1-6,12-17}-{1-4}-{1}, which is a Single Channel of an OTU2-XP card.

12.15 DLT-FFP-<STM_TYPE>

The Delete Facility Protection Group for STM4, STM64, STM1, or STM16 (DLT-FFP-<STM_TYPE>) command deletes an synchronous transfer mode (STM) facility protection group in a 1+1 architecture. See [Table 29-1 on page 29-1](#) for supported modifiers by platform.

Usage Guidelines

If the protection group does not exist, an error message will be returned.

Category

Protection

12.16 DLT-FFP-<OCN_TYPE>

Security

Provisioning

Input Format

DLT-FFP-<STM_TYPE>:[<TID>]:<WORK>,<PROTECT>:<CTAG>[:];

Input Example

DLT-FFP-STM1:PETALUMA:FAC-2-1,FAC-1-1:1;

Input Parameters

<WORK>	The working facility AID from the “27.15 FACILITY” section on page 27-23.
<PROTECT>	The protect facility AID from the “27.15 FACILITY” section on page 27-23.

12.16 DLT-FFP-<OCN_TYPE>

The Delete Facility Protection Group for OC3, OC12, OC48, OC192, OC768 (DLT-FFP-<OCN_TYPE>) command deletes an OC-N facility protection group in a 1+1 protection scheme.

Usage Guidelines

See [Table 29-1 on page 29-1](#) for supported modifiers by platform.

If the protection group does not exist, an error message will be returned.

Category

Protection

Security

Provisioning

Input Format

DLT-FFP-<OCN_TYPE>:[<TID>]:<WORK>,<PROTECT>:<CTAG>[:];

Input Example

DLT-FFP-OC3:PETALUMA:FAC-2-1,FAC-1-1:1;

Input Parameters

<WORK>	The working facility AID from the “27.15 FACILITY” section on page 27-23.
<PROTECT>	The protect facility AID from the “27.15 FACILITY” section on page 27-23.

12.17 DLT-FOG

The Delete Fan-Out-Group (DLT-FOG) command deletes the provisioned Fan-out-Group.

Usage Guidelines

- Deletes the provisioned FOG.
- If AID is invalid, an IIAC (Invalid AID) error message is returned.
- An error message will be returned if the unprovisioned FOG AID is entered.

Category

Equipment

Security

Provisioning

Input Format

DLT-FOG:[<TID>]:<AID>:<CTAG>[:];

Input Examples

DLT-FOG::FOG-1-37:1;

Input Parameters

<AID>	Access identifier of the Fan-out-group. The ALL AIDs are not allowed for deleting the FOGs. Access identifier from the “27.13 EQPT” section on page 27-21.

12.18 DLT-FTPSERVER

The Delete FTP Server (DLT-FTPSERVER) command deletes FTP server entries.

Usage Guidelines

None

Category

ENE

Security

Superuser

Input Format

DLT-FTPSERVER:[<TID>]:<CTAG>::IPADDR=<IPADDR>;

Input Examples

1. DLT-FTPSERVER:[<TID>]:<CTAG>::IPADDR=10.20.30.40;
2. DLT-FTPSERVER:TID::CTAG::IPADDR="[3ffe:0501:0008:0000:0260:97ff:fe40:efab]";

Input Parameters

<IPADDR>	Specifies the IP address of the FTP Server entry to be deleted. IPADDR=ALL specifies that ALL entries are deleted from the list.

12.19 DLT-LMP-CTRL

The Delete Link Management Protocol Control Channel (DLT-LMP-CTRL) command deletes an LMP control channel.

Usage Guidelines

This command is only applicable on a node that supports the LMP protocol, and that has the LMP protocol enabled.

Category

LMP

Security

Provisioning

Input Format

DLT-LMP-CTRL:[<TID>]:<SRC>:<CTAG>;

Input Example

DLT-LMP-CTRL:PETALUMA:CTRL-3:704;

Input Parameters

<SRC>	The LMP control channel.
• CTRL-ALL	Specifies all the control channels.
• CTRL-{1-4}	Specifies an individual control channel.

12.20 DLT-LMP-TLINK

The Delete Link Management Protocol Traffic Engineering (TE) Link (DLT-LMP-TLINK) command deletes an LMP TE link.

Usage Guidelines

This command is only applicable on a node that supports the LMP protocol, and that has the LMP protocol enabled.

Category

LMP

Security

Provisioning

Input Format

DLT-LMP-TLINK:[<TID>]:<SRC>:<CTAG>;

Input Example DLT-LMP-TLINK:PETALUMA:TLINK-3:704;

Table 12-7 DLT-LMP-TLINK Command - Parameter Support

Input Parameters	Description
<SRC>	LMP TE link.
TLINK-ALL	Specifies all the TE links.
TLINK-{ 1-256 }	Specifies an individual TE link.

12.21 DLT-LMP-DLINK

The Delete Link Management Protocol Data Link (DLT-LMP-DLINK) command deletes an LMP data link.

Usage Guidelines This command is only applicable on a node that supports the LMP protocol, and that has the LMP protocol enabled.

Category LMP

Security Provisioning

Input Format DLT-LMP-DLINK:[<TID>]:<SRC>:<CTAG>;

Input Example DLT-LMP-DLINK:PETALUMA:FAC-14-1-1:704;

Input Parameters	<SRC>	Access identifier from the “27.15 FACILITY” section on page 27-23.

12.22 DLT-LNK

The Delete Optical Link for OCH, OMS, or OTS (DLT-LNK) command deletes an optical link between two optical connection points. The optical link is specified by using the AIDs of the involved optical connection points.

Usage Guidelines None

Category NCS

Security Provisioning

Input Format DLT-LNK:[<TID>]:<FROM>,<TO>:<CTAG>;

Input Example DLT-LNK:PENNGROVE:BAND-6-1-TX,BAND-13-1-RX:114;

Input Parameters	<FROM>	The identifier at one end of the optical link from the AID “27.4 BAND” section on page 27-10.
	<TO>	The identifier at the other end of the optical link from the AID “27.4 BAND” section on page 27-10.

12.23 DLT-LNKTERM

The Delete a Provisionable Patchcord Termination (DLT-LNKTERM) command deletes a provisionable patchcord termination present on a node. All termination points of a link/provisionable patchcord have to be deleted for the link to be deleted fully.

- Usage Guidelines**
- This command accepts multiple AIDs, but does not accept the ALL AID.
 - A suitable error message will be returned if the link termination does not exist.

Category Provisionable Patchcords

Security Provisioning

Input Format DLT-LNKTERM:[<TID>]:<AID>:<CTAG>;

Input Example DLT-LNKTERM::LNKTERM-1:CTAG;

Input Parameters	<AID>	Access identifier from the “27.20 LNKTERM” section on page 27-31. Indicates a link (provisionable patchcord) termination on the local node.

12.24 DLT-MA-CFM

The Delete Maintenance Association Connectivity Fault Management (DLT-MA-CFM) command deletes the maintenance association present on the card.

Usage Guidelines

- The “ALL” AID is invalid for this command.
- This command is applicable only to GE_XP and 10GE_XP cards.
- The card should be in Layer2 over DMDM mode.

Category

Equipment

Security

Provisioning

Input Format

DLT-MA-CFM:[<TID>]:<AID>:<CTAG>::MANAME=<MANAME>,SVLANID=<SVLANID>;

Input Example

DLT-MA-CFM:454-156:SLOT-1:1::MANAME=MANAME,SVLANID=4;

Input Parameters

<AID>	Access identifier from the “27.13 EQPT” section on page 27-21.
<MANAME>	Maintenance Association Name. It is a string. The MA name length should not exceed more than 43 characters.
<SVLANID>	VLAN identifier. A VLAN ID is a number between 1 and 4096. The value 0 is reserved for untagged VLANs. This identifier is used for customer VLAN IDs and service provider VLAN IDs.

12.25 DLT-MD-CFM

The Delete Maintenance Domain Connectivity Fault Management (DLT-MD-CFM) command deletes the maintenance domain present on the card.

Usage Guidelines

- The “ALL” AID is invalid for this command.
- This command is applicable only to GE_XP and 10GE_XP cards.
- The card should be in Layer2 over DMDM mode.

Category

Equipment

Security

Provisioning

Input Format

DLT-MD-CFM:[<TID>]:<AID>:<CTAG>::MDNAME=<MANAME>,LEVEL=<LEVEL>;

Input Example

DLT-MD-CFM:454-156:SLOT-1:1::MDNAME=MDNAME,LEVEL=5;

Input Parameters

<AID>	Access identifier from the “27.13 EQPT” section on page 27-21 .
<MDNAME>	Maintenance Domain Name. It is a string. The MD name length should not exceed more than 43 characters.
<LEVEL>	This indicates the level of the maintenance domain. The value ranges from 0 to 7.

12.26 DLT-MDMAMAP-CFM

The Delete Maintenance Domain and Maintenance Association mapping Connectivity Fault Management (DLT-MDMAMAP-CFM) command deletes the maintenance domain and maintenance association mapping.

Usage Guidelines

- This command is applicable only to GE_XP and 10GE_XP cards.
- The card should be in Layer2 over DMDM mode.

Category

Equipment

Security

Configuration

Input Format

DLT-MDMAMAP-CFM:[<TID>]:<AID>:<CTAG>::MDNAME=<MANAME>,MAPACTION=<MAP ACTION>,[MANAME=<MANAME>],[SVLANID=<SVLANID>];

Input Example

DLT-MDMAMAP-CFM::SLOT-17:1::MDNAME=CISCO,MAPACTION=DETACH,MANAME=MA1,SVLANID=10;

Input Parameters

<AID>	Access identifier from the “27.13 EQPT” section on page 27-21 .
<MDNAME>	Maintenance Association Name. It is a string. The MA name length should not exceed more than 43 characters.
<MAPACTION>	Describes the mapping action while deleting the attached MAs with MDs.
• DETACH	Deletes the specified MA.

• DETACH-ALL	Deletes all the MAs attached to the MD.
<MANAME>	Maintenance Association Name. It is a string. The MA name length should not exceed more than 43 characters.
<SVLANID>	VLAN identifier. A VLAN ID is a number between 1 and 4096. The value 0 is reserved for untagged VLANs. This identifier is used for customer VLAN IDs and service provider VLAN IDs.

12.27 DLT-MEP-CFM

The Delete Maintenance End Point Connectivity Fault Management (DLT-MEP-CFM) command deletes the maintenance end points on the port.

Usage Guidelines

- This command is applicable only to GE_XP and 10GE_XP cards.
- The card should be in Layer2 over DMDM mode.

Category

Ports

Security

Provisioning

Input Format

DLT-MEP-CFM:[<TID>]:<AID>:<CTAG>::SVLANID=<SVLANID>,MDNAME=<MDNAME>,MPID=<MPID>;

Input Example

DLT-MEP-CFM::ETH-12-3-1:1::SVLANID=100,MDNAME=MD2,MPID=20;

Input Parameters

<AID>	Access identifier from the “27.14 ETH” section on page 27-23 .
<SVLANID>	VLAN identifier. A VLAN ID is a number between 1 and 4096. The value 0 is reserved for untagged VLANs. This identifier is used for customer VLAN IDs and service provider VLAN IDs.
<MDNAME>	Maintenance Domain Name. It is a string. The MD name length should not exceed more than 43 characters.
<MPID>	Maintenance Point Identifier. It is an integer.

12.28 DLT-MIP-CFM

The Delete Maintenance Intermediate Point Connectivity Fault Management (DLT-MIP-CFM) command deletes the maintenance intermediate points on the port.

Usage Guidelines

- This command is applicable only to GE_XP and 10GE_XP cards.
- The card should be in Layer2 over DMDM mode.

Category

Ports

Security

Provisioning

Input Format

DLT-MIP-CFM:[<TID>]:<AID>:<CTAG>::VLANID=<VLANID>;

Input Example

DLT-MIP-CFM::ETH-1-1-1:1::VLANID=2;

Input Parameters

<AID>	Access identifier from the “27.14 ETH” section on page 27-23 .
<VLANID>	VLAN identifier. A VLAN ID is a number between 1 and 4096. The value 0 is reserved for untagged VLANs. This identifier is used for customer VLAN IDs and service provider VLAN IDs.

12.29 DLT-NNI-ETH

The Delete Ethernet Network-to-Network Interface (DLT-NNI-ETH) command deletes the NNI S-VLAN ID for the NNI of an L2 Ethernet port.

Usage Guidelines

- The default values for all optional parameters are NE default values, but these values might not be the current value for a parameter. Use the RTRV-ETH command to obtain the current value.
- If the AID is invalid, an IIAC (Invalid AID) error message is returned.
- The ALL AID is invalid for this command.

Category

Ethernet

Security

Provisioning

Input Format

DLT-NNI-ETH:[<TID>]:<AID>:<CTAG>::<SVLANID>[::];

Input Example

DLT-NNI-ETH:PETALUMA:ETH-1-1-1:1:1010;

Input Parameters

<AID>	Ethernet AIDs are used to access L2 Ethernet ports. Access identifier from the “27.14 ETH” section on page 27-23 .
<SVLANID>	VLAN identifier. A VLAN ID is a number between 1 and 4096. The value 0 is reserved for untagged VLANs. This identifier is used for customer VLAN IDs and service provider VLAN IDs.

12.30 DLT-NNI-CHGRP

The Delete Channel Group Network-to-Network Interface (DLT-NNI-CHGRP) command deletes the NNI S-VLAN ID for the NNI of a channel group.

Usage Guidelines

- The default values for all optional parameters are NE default values, but these values might not be the current value for a parameter. Use the RTRV-ETH command to obtain the current value.
- If the AID is invalid, an IIAC (Invalid AID) error message is returned.
- The ALL AID is invalid for this command.

Category

Channel group

Security

Provisioning

Input Format

DLT-NNI-CHGRP:[<TID>]:<AID>:<CTAG>::<SVLANID>[::];

Input Example

DLT-NNI-CHGRP:CISCO:CHGRP-1-1:1::1010;

Input Parameters

<AID>	Access identifier from the “27.8 CHGRP” section on page 27-14 .
<SVLANID>	VLAN identifier. A VLAN ID is a number between 1 and 4096. The value 0 is reserved for untagged VLANs. This identifier is used for customer VLAN IDs and service provider VLAN IDs.

12.31 DLT-OPMODE

The Delete Operating Mode (DLT-OPMODE) command deletes the operating mode created on the trunk. Operating mode cannot be deleted when ports are provisioned.

Usage Guidelines

- Enter the trunkport on which you want to delete the operating mode
- Need not enter clientport, ctmap, or rate for deleting any operating mode.
- In protect operating modes, enter the working trunk port number to delete that operating mode.
- Client port should not be provisioned to delete any opmode.
- OPMODE is the mandatory parameter to delete any operating mode on the 100G-LC-C, 10x10G-LC, and CFP-LC Cards.
- TRUNKPORT parameter is mandatory for all the operating modes on the AR-MXP, AR-XP, and AR-XPE cards.
- TRUNKPORT parameter is optional for 100G cards and is used along with the OPMODE parameter for few operating such as Low-latency, TXP-10G, and RGN-10G.

Category

NCS

Security

Provisioning

Input Format

DLT-OPMODE[:<TID>]:<AID>:<CTAG>[:::OPMODE=<OPMODE>],[TRUNKPORT=<TRUNKPORT>];

Input Example

DLT-OPMODE:FUM:SLOT-5:1:::OPMODE=CFP-TXP;
DLT-OPMODE:CARPEGNA:SLOT-2:1:::OPMODE=RGN-10G,TRUNKPORT=2;

Input Parameters

<AID>	SLOT Access Identifier.
<OPMODE>	Specifies the opmode created on the card provisioned. Parameter type is OPMODE.
• MXP-10x10G	Muxponder mode between 10X10G-LC and 100G-LC-C card.
• RGN-100G	Regenerator mode between two 100G-LC-C cards.
• TXP-100G	Transponder mode on standalone 100G-LC-C card.
• RGN-10G	Ginsu regenerator mode among SFP+ ports on 10X10G-LC card.
• CFP-MXP	Muxponder mode between one CFP-LC and one 100G-LC-C cards.
• CFP-TXP	Transponder mode between one CFP-LC and one or two 100G-LC-C cards.
• TXP-10G	Transponder mode among SFP+ ports on 10X10G-LC card.
• LOW-LATENCY	Low latency opmode is supported only on 10x10G-LC card.
• MXPP-MR-S	Operating mode on AR-MXP, AR-XP, or AR-XPE card.
• MXP-MR-S	Operating mode on AR-MXP, AR-XP, or AR-XPE card.

• CFP-TXP	Transponder mode between one CFP-LC and one or two 100G-LC-C cards.
• TXP-10G	Transponder mode among SFP+ ports on 10X10G-LC card.
• LOW-LATENCY	Low latency opmode is supported only on 10x10G-LC card.
• MXPP-MR-S	Operating mode on AR-MXP, AR-XP, or AR-XPE card.
• MXP-MR-S	Operating mode on AR-MXP, AR-XP, or AR-XPE card.

12.32 DLT-QNQ-ETH

The Delete Ethernet QinQ (DLT-QNQ-ETH) command deletes the IEEE 802.1Q tunneling (QinQ) relationship between the CE-VLAN and the S-VLAN for Gigabit Ethernet uniport provisioning associated to an L2 Ethernet port.

Usage Guidelines

The default values for all optional parameters are NE default values, but these values might not be the current value for a parameter. Use the RTRV-ETH command to obtain the current value.

Category

Ethernet

Security

Provisioning

Input Format

DLT-QNQ-ETH:[<TID>]:<AID>:<CTAG>::<FIRSTCEVLANID>,<LASTCEVLANID>,<SVLANID>[..],

Input Example

DLT-QNQ-ETH:PETALUMA:ETH-1-1-1:1::10,11,100;

Input Parameters

<AID>	Ethernet AIDs are used to access L2 Ethernet ports. Access identifier from the “27.14 ETH” section on page 27-23.
<FIRSTCEVLANID>	VLAN identifier. A VLAN ID is a number between 1 and 4096. The value 0 is reserved for untagged VLANs. This identifier is used for customer VLAN IDs and service provider VLAN IDs.

<LASTCEVLANID>	VLAN identifier. A VLAN ID is a number between 1 and 4096. The value 0 is reserved for untagged VLANs. This identifier is used for customer VLAN IDs and service provider VLAN IDs.
<SVLANID>	VLAN identifier. A VLAN ID is a number between 1 and 4096. The value 0 is reserved for untagged VLANs. This identifier is used for customer VLAN IDs and service provider VLAN IDs.

12.33 DLT-OCHCC

The Delete Optical Channel Client Connection (DLT-OCHCC) command deletes the OCH client connection.

Usage Guidelines

None

Category

NCS

Security

Provisioning

Input Format

DLT-OCHCC:[<TID>]:<AID>:<CTAG>[:<CKTID>],[CMTDMDE=<CMTDMDE>];

Input Example

DLT-OCHCC:VA454-22:FAC-2-1-1:116::CKTID=\\OCHCC-1\\,CMTDMDE=FRCD;

Table 12-8 DLT-OCHCC Command - Parameter Support

Input Parameters	Description
<AID>	Access identifier from the “27.15 FACILITY” section on page 27-23.
<CKTID>	(Optional) The default is Blank or None. String of ASCII characters. Maximum length is 48. Circuit identification parameter contains the Common Language Circuit ID or other alias of the circuit being provisioned. Cannot contain blank spaces. CKTID is a string of ASCII characters. The maximum length of CKTID can be 48.
<CMTDMDE>	(Optional) Command mode. Normal (NORM) mode is the default behavior for all commands but you can specify forced (FRCD) mode to force the system to override a state where the command would normally be denied. The FRCD mode of operation is applicable to delete a virtual concatenated (VCAT) member cross-connect in Unlocked-Enabled or Locked-Disabled, AutomaticInService service states.

Table 12-8 DLT-OCHCC Command - Parameter Support

Input Parameters	Description
• FRCD	Force the system to override a state in which the command would normally be denied.
• NORM	Execute the command normally. Do not override any conditions that might make the command fail.

12.34 DLT-OCHNC

The Delete Optical Channel Network Connection (DLT-OCHNC) command deletes the optical channel (OCH) network connection.

Usage Guidelines

Two OCHNC endpoints must be specified in order to identify the wavelength channel inside the node.

Category

NCS

Security

Provisioning

Input Format

DLT-OCHNC:[<TID>]:<SRC>,<DST>:<CTAG>:::[CKTID=<CKTID>],[CMDMDE=<CMDMDE>];

Input Example

DLT-OCHNC:VA454-22:CHANWL-1-3-TX-1530.33,
CHANWL-4-1-RX-1530.33:116:::CKTID=CIRCUIT,CMDMDE=FRCD;

Table 12-9 DLT-OCHNC Command - Parameter Support

Input Parameters	Description
<SRC>	Source access identifier from the “ 27.7 CHANNEL ” section on page 27-12. In two-way wavelength connection sources, both directions need to be indicated.
<DST>	Destination access identifier from the “ 27.18 LINE ” section on page 27-26. In a two-way wavelength connection destination, both directions need to be indicated.
<CKTID>	(Optional) Cross-connect ID. The default is Blank or None. String of ASCII characters. Maximum length is 48.
<CMDMDE>	(Optional) Command mode. Normal (NORM) mode is the default behavior for all commands but you can specify forced (FRCD) mode to force the system to override a state where the command would normally be denied. The FRCD mode of operation is applicable to delete a virtual concatenated (VCAT) member cross-connect in Unlocked-Enabled or Locked-Disabled, AutomaticInService service states.

Table 12-9 DLT-OCHNC Command - Parameter Support

Input Parameters	Description
FRCD	Force the system to override a state in which the command would normally be denied.
NORM	Execute the command normally. Do not override any conditions that might make the command fail.

12.35 DLT-QNQ-CHGRP

The Delete Channel Group QinQ (DLT-QNQ-CHGRP) command deletes the IEEE 802.1Q tunneling (QinQ) relationship between the CE-VLAN and the S-VLAN for Gigabit Ethernet uniport provisioning associated to a channel group.

Usage Guidelines

The default values for all optional parameters are NE default values, but these values might not be the current value for a parameter. Use the RTRV-ETH command to obtain the current value.

Category

Channel Group

Security

Provisioning

Input Format

DLT-QNQ-CHGRP:[<TID>]:<AID>:<CTAG>::<FIRSTCEVLANID>,<LASTCEVLANID>,<SVLANID>[:];

Input Example

DLT-QNQ-CHGRP:CISCO:CHGRP-1-1:1::10,11,100;

Input Parameters

<AID>	Access identifier from the “27.8 CHGRP” section on page 27-14 .
<FIRSTCEVLANID>	VLAN identifier. A VLAN ID is a number between 1 and 4096. The value 0 is reserved for untagged VLANs. This identifier is used for customer VLAN IDs and service provider VLAN IDs.
<LASTCEVLANID>	VLAN identifier. A VLAN ID is a number between 1 and 4096. The value 0 is reserved for untagged VLANs. This identifier is used for customer VLAN IDs and service provider VLAN IDs.
<SVLANID>	VLAN identifier. A VLAN ID is a number between 1 and 4096. The value 0 is reserved for untagged VLANs. This identifier is used for customer VLAN IDs and service provider VLAN IDs.

12.36 DLT-REP

The Delete Resilient Ethernet Protocol (DLT-REP) command deletes the ethernet port from the Resilient Ethernet Protocol (REP) segment.

Usage Guidelines

- This command deletes all REP configuration configured on ETH ports on the card.
- This command is only applicable if the card is in ETH-L2 card mode.
- This command is applicable only to GE_XP and 10GE_XP cards.
- If the port is not part of any segment, the NE generates an error message.

Category

Ethernet

Security

Provisioning

Input Format

DLT-REP:[TID]:<AID>:<CTAG>[:];

Input Example

DLT-REP:CISCO:ETH-1-1-1-1:123;

Input Parameters

<AID>	Ethernet AIDs are used to access L2 Ethernet ports. Access identifier from the “27.14 ETH” section on page 27-23 .

12.37 DLT-RMONTH-<MOD2_RMON>

The Delete Remote Monitoring Threshold for 10GFC, 10GIGE, 40GIGE, 100GIGE, 1GFC, 1GFICON, 2GFC, 2GFICON, 4GFC, 4GFICON, 8GFC, CHGRP, ETH, FSTE, G1000, GFPOS, GIGE, HDLC, OCH, POS, SDSDI, HDSDI, OTU1, OTU2, OTU3, OTU4, ISC3STP1G, or ISC3STP2G (DLT-RMONT-<MOD2_RMON>) command deletes a threshold entry in the remote monitoring (RMON) alarm table. Because multiple thresholds can be created for a particular montype, you must specify all the necessary parameters for the specific threshold that you want to delete. See [Table 29-1 on page 29-1](#) for supported modifiers by platform.

Usage Guidelines

The command supports the modifier SDSDI, HDSDI, OTU1, OTU2, ISC3STP1G, and ISC3STP2G. The default values for all optional parameters are NE default values. These values might not be the current value for a parameter. Use a retrieve command to obtain the current value.

Category

Protection

Security

Provisioning

Input Format

DLT-RMONTH-<MOD2_RMON>:[<TID>]:<SRC>:<CTAG>::<MONTYPE>,,,<INTVL>:
RISE=<RISE>,FALL=<FALL>,[SAMPLE=<SAMPLE>],[STARTUP=<STARTUP>][:];

Input Example

DLT-RMONTH-GIGE:CISCO:FAC-2-1:1234::etherStatsOctets,,,100:RISE=1000,FALL=100
SAMPLE=DELTA,STARTUP=RISING;

DLT-RMONTH-ISC3STP1G:CISCO:VFAC-4-2-1:1234::mediaIndStatsRxLcvErrors,,,10:rise=10,fall
=1,sample=absolute;

Table 12-10 DLT-RMONT-<MOD2_RMON> Command - Parameter Support

Input Parameters	Description
<SRC>	Source access identifier from the “27.15 FACILITY” section on page 27-23 . AID for the facility that manages the data statistics. AR-MXP, AR-XP, and AR-XPE cards use the VFAC AID.
<MONTYPE>	Monitored type. Type of RMON monitored data statistics. The parameter type is ALL_MONTYPE, which is the monitoring type list.
• AISSP	Alarm Indication Signal Seconds—Path
• ALL	All possible values
• BBEP	NCS Background Block Errors Path
• BBE-PM	OTN—Background Block Errors—Path Monitor Point
• BBER	NCS Background Block Error Ratio
• BBER-PM	OTN—Background Block Error Ratio—Path Monitor Point expressed as one tenth of a percentage
• BBER-SM	OTN—Background Block Error Ratio—Section Monitor Point expressed as one tenth of a percentage
• BBE-SM	OTN—Background Block Errors—Section Monitor Point
• BIEC	FEC—Bit Errors Corrected
• CGV	8B10B—Code Group Violations
• CVCPP	Coding Violations—CP-Bit Path
• ESL	Errored Seconds—Line
• ESP	Errored Seconds—Path
• ES-PM	OTN—Errored Seconds—Path Monitor Point
• ESR	Errored Second—Ratio
• ESR-PM	Errored Seconds Ratio—Path Monitor Point expressed as one tenth of a percentage
• ESR-SM	Errored Seconds Ratio—Section Monitor Point expressed as one tenth of a percentage
• ESS	Errored Seconds—Section
• ES-SM	OTN—Errored Seconds—Section Monitor Point

Table 12-10 DLT-RMONT-<MOD2_RMON> Command - Parameter Support

Input Parameters	Description
• ESV	Errored Seconds—VC Path
• etherStatsBroadcastPkts	The total number of good packets received that were directed to a multicast address
• etherStatsCollisions	Number of transmit packets that are collisions
• etherStatsCRCAlignErrors	The total number of packets received that have a length (excluding framing bits, but including FCS octets) of between 64 and 1518 octets
• etherStatsDropEvents	Number of received frames dropped at the port level
• etherStatsFragments	The total number of packets received that were less than 64 octets
• etherStatsJabbers	The total number of packets received that are longer than 1518 octets
• etherStatsOctets	The total number of octets of data
• etherStatsOversizePkts	The total number of packets received that are longer than 1518 octets
• etherStatsPkts	The total number of packets (including bad packets, broadcast packets, and multicast packets) received
• etherStatsUndersizePkts	The total number of packets received that are less than 64 octets
• FCP	Failure Count—Line
• FC-PM	OTN—Failure Count—Path Monitor Point
• FC-SM	OTN—Failure Count—Section Monitor Point
• HP-AR	Availability Ratio
• HP-BBE	High-Order Path Background Block Error
• HP-BBER	High-Order Path Background Block Error Ratio
• HP-EB	High-Order Path Errored Block
• HP-ES	High-Order Path Errored Second
• HP-ESA	High-Order Path Errored Seconds—A
• HP-ESB	High-Order Path Errored Seconds—B
• HP-ESR	High-Order Path Errored Second Ratio
• HP-FC	High-Order Path Failure Count
• HP-NPJC-PDET	High-Order Path Negative Pointer Justification Count, Path Detected
• HP-NPJC-PGEN	High-Order Path Negative Pointer Justification Count, Path Generated
• HP-OI	High-Order path Outage Intensity
• HP-PJCDIFF	High-Order Path Pointer Justification Count Difference
• HP-PJCS-PDET	High-Order Path Pointer Justification Count, Path Detected
• HP-PPJC-PDET	High-Order Path Positive Pointer Justification Count, Path Generated
• HP-PPJC-PGEN	High-Order Path Positive Pointer Justification Count, Path Generated
• HP-SEPI	The number of SEP events in available time
• HP-SES	High-Order Path Severely Errored Seconds
• HP-SESR	High-Order Path Severely Errored Second Ratio
• HP-UAS	High-Order Path Unavailable Seconds
• ifInBroadcastPkts	Number of broadcast packets received since the last counter reset

Table 12-10 DLT-RMONT-<MOD2_RMON> Command - Parameter Support

Input Parameters	Description
• ifInDiscards	The number of inbound packets
• ifInErrorBytePktss	Receive Error Byte
• ifInErrors	The number of inbound packets (or transmission units) that contained errors
• ifInFramingErrorPkts	Receive Framing Error
• ifInJunkInterPkts	Receive Interpacket Junk
• ifInMulticastPkts	Number of multicast packets received since the last counter reset
• ifInOctets	Number of bytes transmitted since the last counter reset
• ifInUcastPkts	Number of unicast packets received since the last counter reset
• ifOutBroadcastPkts	Number of broadcast packets transmitted
• ifOutDiscards	The number of outbound packets
• ifOutErrors	The number of outbound packets (or transmission units) that could not be transmitted because of errors
• ifOutMulticastPkts	Number of multicast packets transmitted
• ifOutPayloadCrcErrors	Received payload cyclic redundancy check (CRC) errors
• ifOutUcastPkts	Number of unicast packets transmitted
• IOS	8B10B—Idle Ordered Sets
• IPC	Invalid Packet Count
• LBCL-AVG	Average Laser Bias current in micro A
• LBCL-MAX	Maximum Laser Bias current in micro A
• LBCL-MIN	Minimum Laser Bias current in micro A
• LBCN	Normalized Laser Bias Current for STM1-8
• LBCN-HWT	Laser bias current
• LBCN-LWT	Laser bias current
• LOSSL	Loss of Signal Seconds—Line
• LP-BBE	Low-Order Path Background Block Error
• LP-BBER	Low-Order Path Background Block Error Ratio
• LP-EB	Low-Order Path Errored Block
• LP-ES	Low-Order Path Errored Second
• LP-ESA	Low-Order Path Errored Seconds—A
• LP-ESB	Low-Order Path Errored Seconds—B
• LP-ESR	Low-Order Path Errored Second Ratio
• LP-FC	Low-Order Path Failure Count
• LP-NPJC-DET	Low-Order Path Negative Pointer Justification Count, Detected
• LP-NPJC-GEN	Low-Order Path Negative Pointer Justification Count, Generated
• LP-PPJC-DET	Low-Order Path Positive Pointer Justification Count, Detected
• LP-PPJC-GEN	Low Order path Positive Pointer Justification Count, Generated

Table 12-10 DLT-RMONT-<MOD2_RMON> Command - Parameter Support

Input Parameters	Description
• LP-SEP	A sequence of between 3 to 9 consecutive severely errored seconds (SES)
• LP-SEPI	Low-Order Path Severely Errored Period Intensity
• LP-SES	Low-Order Path Severely Errored Seconds
• LP-UAS	Low-Order Path Unavailable Seconds
• MS-PSC	Protection switch count
• MS-PSD	Protection switch duration
• NIOS	8B10B—Non Idle Ordered Sets
• NPJC-PDET	Negative Pointer Justification Count, Path Detected
• NPJC-PGEN	Negative Pointer Justification Count, Path Generated
• OPR-AVG	Average Receive Power in tenths of a microwatt
• OPR-MAX	Maximum Receive Power in tenths of a microwatt
• OPR-MIN	Minimum Receive Power in tenths of a microwatt
• OPRN	Normalized Optical Receive Power for STM1-8
• OPRN-MAX	Maximum value for OPRN
• OPRN-MIN	Minimum value for OPRN
• OPT-AVG	Average Transmit Power in tenths of a microwatt
• OPT-MAX	Maximum Transmit Power in tenths of a microwatt
• OPT-MIN	Minimum Transmit Power in tenths of a microwatt
• OPTN	Normalized value for Optical Power Transmitted for STM1-8 card
• OPTN-MAX	Maximum value for OPTN
• OPTN-MIN	Minimum value for OPTN
• OPWR-AVG	Optical Power—Average Interval Value in one tenth of dBm
• OPWR-MAX	Optical Power—Maximum Interval Value in one tenth of dBm
• OPWR-MIN	Optical Power—Minimum Interval Value in one tenth of dBm
• PPJC-PDET	Positive Pointer Justification, Path Detected
• PPJC-PGEN	Positive Pointer Justification, Path Detected
• PRE-FECBER	Enum to hold PRE-FECBER value
• PSC	Protection Switching Count
• PSC-R	Protection Switching Count—Ring
• PSC-S	Protection Switching Count—Span
• PSC-W	Protection Switching Count—Working
• PSD	Protection Switching Duration
• PSD-R	Protection Switching Duration—Ring
• PSD-S	Protection Switching Duration—Span
• PSD-W	Protection Switching Duration—Working
• SASCPP	Severely Errored Framing/AIS Second—CP-Bit Path

Table 12-10 DLT-RMONT-<MOD2_RMON> Command - Parameter Support

Input Parameters	Description
• SASP	Severely Errored Framing/AIS Seconds Path
• SEFS	Severely Errored Framing Seconds
• SESCPC	Severely Errored Second—CP-Bit Path
• SESL	Severely Errored Second—Line
• SESP	Severely Errored Second—Path
• SES-PM	OTN—Severely Errored Second—Path
• SESR	Severely Errored Second—Ratio
• SESR-PM	OTN—Severely Errored Second Ratio—Path Monitor Point expressed as one tenth of a percentage
• SESR-SM	OTN—Severely Errored Second Ratio—Section Monitor Point expressed as one tenth of a percentage
• SESS	Severely Errored Second—Section
• SES-SM	OTN—Severely Errored Second—Section Monitor Point
• SESV	Severely Errored Second—VC Path
• UASCPC	Unavailable Second—CP-Bit Path
• UASL	Unavailable Second—Line
• UASP	Unavailable Second—Path
• UAS-PM	OTN—Unavailable Second—Path Monitor Point
• UAS-SM	OTN—Unavailable Second—Section Monitor Point
• UASV	Unavailable Second—VC Path
• UNC-WORDS	FEC—Uncorrectable Words
• VPC	Valid Packet Count
<INTVL>	The interval in seconds over which the data is sampled and compared with the rising and falling threshold. A valid value is any integer larger than or equal to 10 (seconds).
<RISE>	The rising threshold for the sampled statistics. A valid value is any integer.
<FALL>	The falling threshold. A valid value is any integer smaller than the rising threshold.
<SAMPLE>	(Optional) The method of calculating the value to be compared to the thresholds. The parameter type is SAMPLE_TYPE, which describes how the data will be calculated during the sampling period.
• ABSOLUTE	Comparing directly.
• DELTA	Comparing with the current value of the selected variable subtracted by the last sample.
<STARTUP>	(Optional) Dictates whether an event will generate if the first valid sample is greater than or equal to the rising threshold, less than or equal to the falling threshold, or both. The parameter type is STARTUP_TYPE, which indicates whether an event will be generated when the first valid sample is crossing the rising or falling threshold.
• FALLING	Generates the event when the sample is smaller than or equal to the falling threshold.
• RISING	Generates the event when the sample is greater than or equal to the rising threshold.
• RISING-OR-FALLING	Generates the event when the sample is crossing the rising threshold, or the falling threshold.

12.38 DLT-ROLL-<MOD_PATH>

The Delete Roll for VC44C, VC464C, VC48C, VC4, VC416C, VC42C, or VC43C (DLT-ROLL-<MOD_PATH>) command deletes or completes an attempted rolling operation. See [Table 29-1 on page 29-1](#) for supported modifiers by platform.

Usage Guidelines None

Category Bridge and Roll

Security Provisioning

Input Format DLT-ROLL-<MOD_PATH>:[<TID>]:<FROM>,<TO>:<CTAG>::WHY=<WHY>;

Input Example DLT-ROLL-VC4:CISCO:VC4-1-1-1,VC4-2-1-1:6::WHY=STOP;

Table 12-11 DLT-ROLL-<MOD_PATH> Command - Parameter Support

Input Parameters	Description
<FROM>	Source access identifier from the “ 27.32 VC ” section on page 27-35 . It is one of the termination points (legs) of the existing cross-connection. If the existing cross-connection is one-way, the termination point (leg) should be the FROM-AID termination point. Otherwise, FROM is not significant. FROM and TO should be entered as they are entered in the ENT-CRS command. You can issue RTRV-CRS command, and use the response for FROM and TO parameters.
<TO>	Destination AID from the “ 27.32 VC ” section on page 27-35 . It is one of the termination points (legs) of the existing cross-connection. If the existing cross-connection is one-way, the termination point (leg) should be the TO-AID termination point. Otherwise, the TO is not significant. FROM and TO should be entered as they are entered in the ENT-CRS command. You can issue RTRV-CRS command, and use the response for FROM and TO parameters.
<WHY>	The reason for the deletion. The parameter type is WHY, which is the reason for the deletion.
• END	Drop the leg to be rolled; the leg that is identified by the RFROM in the ENT-ROLL command.
• STOP	The rolling operation will be deleted and reverted to the previous configuration.

12.39 DLT-ROUTE

The Delete Route (DLT-ROUTE) command deletes static routes.

Usage Guidelines None

12.40 DLT-ROUTE-GRE

Category System

Security Provisioning

Input Format DLT-ROUTE:[<TID>]::<CTAG>::<DESPID>;

Input Example DLT-ROUTE:CISCO::123::10.64.72.57;

Input Parameters	<DESPID>	Destination IP. DESPID is a string.

12.40 DLT-ROUTE-GRE

The Delete Route Generic Routing Encapsulation (DLT-ROUTE-GRE) command deletes a GRE tunnel.

Usage Guidelines None

Category System

Security Provisioning

Input Format DLT-ROUTE-GRE:[<TID>]::<CTAG>::IPADDR=<IPADDR>, IPMASK=<IPMASK>,NSAP=<NSAP>;

Input Example DLT-ROUTE-GRE:CISCO::123::IPADDR=10.64.72.57,IPMASK=255.255.255.0, NSAP=39840F80FFFFFF0000DDDDAA000010CFB4910200;

Table 12-12 DLT-ROUTE-GRE Command - Parameter Support

Input Parameters	Description
<IPADDR>	IP address of the tunnel endpoint. IPADDR is a string.
<IPMASK>	Subnet mask for the tunnel endpoint. IPMASK is a string
<NSAP>	Network service access point (NSAP) address for the tunnel endpoint. NSAP is a string.

12.41 DLT-TADRMAP

The Delete TID Address Mapping (DLT-TADRMAP) command instructs a gateway NE to delete an entry in the TADRMAP table.

Usage Guidelines None

Category System

Security Provisioning

Input Format DLT-TADRMAP:[<TID>]::<CTAG>:::[TIDNAME=<TIDNAME>],[ADDRTYPE=<ADDRTYPE>];

Input Example DLT-TADRMAP:DXT::CTAG:::TIDNAME=ENENODENAME,ADDRTYPE=IP;

Table 12-13 DLT-TADRMAP Command - Parameter Support

Input Parameters	Description
<TIDNAME>	(Optional) TID of the entity to be removed from the TADRMAP. TIDNAME is a string.
<ADDRTYPE>	(Optional) Specifies to remove an IP, NSAP, or IP-AND-NSAP entry in the TADRMAP. The parameter type is ADDRTYPE, which specifies whether the address is an IP address or an NSAP address.
• IP	IP address
• IP-AND-NSAP	IP and NSAP address
• NSAP	NSAP address

12.42 DLT-TRAPTABLE

The Delete Trap Table (DLT-TRAPTABLE) command deletes an SNMP (Simple Network Management Protocol) trap destination entry.

Usage Guidelines Entering ALL will delete the whole table.

Category System

Security Provisioning

Input Format DLT-TRAPTABLE:[<TID>]:<AID>:<CTAG>;

- Input Examples**
- 1. DLT-TRAPTABLE::1.2.3.4:1;
 - 2. DLT-TRAPTABLE::"[3ffe:0501:0008:0000:0260:97ff:fe40:efab]":1;

Input Parameters	<table><tr><td><AID></td><td>Access identifier from the “27.17 IPADDR” section on page 27-26. IP address identifies the trap destination. Only numeric IP addresses are allowed.</td></tr></table>	<AID>	Access identifier from the “27.17 IPADDR” section on page 27-26. IP address identifies the trap destination. Only numeric IP addresses are allowed.
<AID>	Access identifier from the “27.17 IPADDR” section on page 27-26. IP address identifies the trap destination. Only numeric IP addresses are allowed.		

12.43 DLT-TUNNEL-FIREWALL

The Delete Tunnel Firewall (DLT-TUNNEL-FIREWALL) command deletes a firewall tunnel.

Usage Guidelines None

Category System

Security Provisioning

Input Format DLT-TUNNEL-FIREWALL:[<TID>]:<CTAG>:::[SRCADDR=<SRCADDR>],[SRCMASK=<SRCMASK>],[DESTADDR=<DESTADDR>],[DESTMASK=<DESTMASK>];

Input Example DLT-TUNNEL-FIREWALL:TID::CTAG:::SRCADDR=192.168.100.52, SRCMASK=255.255.255.0,DESTADDR=192.168.101.14,DESTMASK=255.255.255.0;

Table 12-14 DLT-TUNNEL-FIREWALL Command - Parameter Support

Input Parameters	Description
<SRCADDR>	(Optional) Source IP address. SRCADDR is a string.
<SRCMASK>	(Optional) Source mask. SRCMASK is a string.
<DESTADDR>	(Optional) Destination IP address. DESTADDR is a string.
<DESTMASK>	(Optional) Destination mask. DESTMASK is a string.

12.44 DLT-TUNNEL-PROXY

The Delete Tunnel Proxy (DLT-TUNNEL-PROXY) command deletes a proxy tunnel.

Usage Guidelines None

Category System

Security Provisioning

Input Format DLT-TUNNEL-PROXY:[<TID>]::<CTAG>:::[SRCADDR=<SRCADDR>],
[SRCMASK=<SRCMASK>],[DESTADDR=<DESTADDR>],[DESTMASK=<DESTMASK>];

Input Example DLT-TUNNEL-PROXY:TID::CTAG:::SRCADDR=192.168.100.52,
SRCMASK=255.255.255.0,DESTADDR=192.168.101.14,DESTMASK=255.255.255.0;

Table 12-15 DLT-TUNNEL-PROXY Command - Parameter Support

Input Parameters	Description
<SRCADDR>	(Optional) Source IP address. SRCADDR is a string.
<SRCMASK>	(Optional) Source mask. SRCMASK is a string.
<DESTADDR>	(Optional) Destination IP address. DESTADDR is a string.
<DESTMASK>	(Optional) Destination mask. DESTMASK is a string.

12.45 DLT-UNICFG

The Delete User Network Interface Configuration (DLT-UNICFG) deletes the UNI Configuration created.

Usage Guidelines

- Specify only source access identifier to delete UNI Configuration.

Category NCS

Security Provisioning

Input Format DLT-UNICFG:[<TID>]:<src>:<CTAG>::[:];

Input Example DLT-UNICFG::LINE-2-3:1;

Table 12-16 **Parameter Support**

Parameter	Description
<SRC>	Source AID from the “ 27.1 ALL ” section on page 27-1.

12.46 DLT-USER-SECU

The Delete User Security (DLT-USER-SECU) command deletes a user and can only be performed by a Superuser. Privilege levels are described in the ENT-USER-SECU command.

Usage Guidelines

This command cannot be used to delete a user that is currently logged on.

Syntax of the UID parameter is not checked. The user is deleted if the UID exists in the database.

Category

Security

Security

Superuser

Input Format

DLT-USER-SECU:[<TID>]:<UID>:<CTAG>;

Input Example

DLT-USER-SECU:PETALUMA:CISCO15:123;

Input Parameters

<UID>	User Identifier. Any combination of up to 20 alphanumeric characters. The minimum UID size is 2. UID is a string.

12.47 DLT-VCG

The Delete Virtual Concatenated Group (DLT-VCG) command deletes a VCG object.

Usage Guidelines

None

Category

VCAT

Security

Provisioning

Input Format DLT-VCG:[<TID>]:<SRC>:<CTAG>:::[CMDMDE=<CMDMDE>][:];

Input Example DLT-VCG:NODE1:FAC-1-1:1234:::CMDMDE=FRCD;

Table 12-17 DLT-VCG Command - Parameter Support

Input Parameters	Description
<SRC>	Source AID from the “27.15 FACILITY” section on page 27-23. ML-Series cards use the VFAC AID and FC_MR-4 cards use the FAC AID.
<CMDMDE>	(Optional) Command mode. Normal (NORM) mode is the default behavior for all commands but you can specify forced (FRCD) mode to force the system to override a state where the command would normally be denied. The FRCD mode of operation is applicable to delete a virtual concatenated (VCAT) member cross-connect in Unlocked-Enabled or Locked-Disabled, AutomaticInService service states.
FRCD	Force the system to override a state where the command would normally be denied.
NORM	Execute the command normally. Do not override any conditions that might make the command fail.

12.48 DLT-VLAN

The Delete Virtual LAN (DLT-VLAN) command deletes a VLAN from the VLAN database. The VLAN database is a collection of VLANs used in a NE.

- Usage Guidelines**
- If the AID is invalid, an IIAC (Invalid AID) error message is returned.
 - The ALL AID is invalid for this command.

Category Ethernet

Security Provisioning

Input Format DLT-VLAN:[<TID>]:<AID>:<CTAG>[:::];

Input Example DLT-VLAN:PETALUMA:VLAN-4096:1;

Input Parameters	<AID>	The AID is used to access the VLAN.
	• VLAN-{0-4096}	The AID used for a single VLAN. VLAN ID 0 is reserved for untagged VLANs.

12.49 DLT-WDMANS

The Delete Wavelength Division Multiplexing Automatic Node Setup (DLT-WDMANS) command deletes the automatic optical node setup application attributes.

Usage Guidelines

- If the AID is invalid, an IIAC (Invalid AID) error message is returned.
- The ALL AID is invalid for this command.

Category

NCS

Security

Maintenance

Input Format

DLT-WDMANS:[<TID>]:<AID>:<CTAG>::<PARAM>,[<WLEN>][::];

Input Example

DLT-WDMANS:PENNGROVE:WDMNODE:114::VOAATT,1530.33;

Input Parameters

<AID>	The AID is used to access the WDM node or a single port of the NCS node.
• WDMNODE	Indicates the WDM node of an MSTP and accesses the NTWTYPE and DITHERWDMANS node parameters.
• LINE	The optical transport section port.
• BAND	The optical multiplex section port.
• CHAN	The optical channel port.
<WLEN>	(Optional) The parameter type is OPTICAL_WLEN, which indicates the optical wavelength.
• 1310	Wavelength 1310
• 1470	Wavelength 1470
• 1490	Wavelength 1490
• 1510	Wavelength 1510
• 1528.77	Wavelength 1528.77
• 1529.16	Wavelength 1529.16
• 1529.55	Wavelength 1529.55
• 1529.94	Wavelength 1529.94
• 1530	Wavelength 1530
• 1530.33	Wavelength 1530.33
• 1530.73	Wavelength 1530.73

• 1531.12	Wavelength 1531.12
• 1531.51	Wavelength 1531.51
• 1531.90	Wavelength 1531.90
• 1532.29	Wavelength 1532.29
• 1532.68	Wavelength 1532.68
• 1533.07	Wavelength 1533.07
• 1533.47	Wavelength 1533.47
• 1533.86	Wavelength 1533.86
• 1534.25	Wavelength 1534.25
• 1534.64	Wavelength 1534.64
• 1535.04	Wavelength 1535.04
• 1535.43	Wavelength 1535.43
• 1535.82	Wavelength 1535.82
• 1536.22	Wavelength 1536.22
• 1536.61	Wavelength 1536.61
• 1537	Wavelength 1537
• 1537.40	Wavelength 1537.40
• 1537.79	Wavelength 1537.79
• 1538.19	Wavelength 1538.19
• 1538.58	Wavelength 1538.58
• 1538.98	Wavelength 1538.98
• 1539.37	Wavelength 1539.37
• 1539.77	Wavelength 1539.77
• 1540.16	Wavelength 1540.16
• 1540.56	Wavelength 1540.56
• 1540.95	Wavelength 1540.95
• 1541.35	Wavelength 1541.35
• 1541.75	Wavelength 1541.75
• 1542.14	Wavelength 1542.14
• 1542.35	Wavelength 1542.35
• 1542.54	Wavelength 1542.54
• 1542.94	Wavelength 1542.94
• 1543.33	Wavelength 1543.33
• 1543.73	Wavelength 1543.73
• 1544.13	Wavelength 1544.13
• 1544.53	Wavelength 1544.53
• 1544.92	Wavelength 1544.92
• 1545.32	Wavelength 1545.32
• 1545.72	Wavelength 1545.72
• 1546.12	Wavelength 1546.12
• 1546.52	Wavelength 1546.52

• 1546.92	Wavelength 1546.92
• 1547.32	Wavelength 1547.32
• 1547.72	Wavelength 1547.72
• 1548.12	Wavelength 1548.12
• 1548.51	Wavelength 1548.51
• 1548.92	Wavelength 1548.92
• 1549.32	Wavelength 1549.32
• 1549.71	Wavelength 1549.71
• 1550	Wavelength 1500
• 1550.12	Wavelength 1550.12
• 1550.52	Wavelength 1550.52
• 1550.92	Wavelength 1550.92
• 1551.32	Wavelength 1551.32
• 1551.72	Wavelength 1551.72
• 1552.12	Wavelength 1552.12
• 1552.52	Wavelength 1552.52
• 1552.93	Wavelength 1552.93
• 1553.33	Wavelength 1553.33
• 1553.73	Wavelength 1553.73
• 1554.13	Wavelength 1554.13
• 1554.13	Wavelength 1554.13
• 1554.94	Wavelength 1554.94
• 1555.34	Wavelength 1555.34
• 1555.75	Wavelength 1555.75
• 1556.15	Wavelength 1556.15
• 1556.55	Wavelength 1556.55
• 1556.96	Wavelength 1556.96
• 1557.36	Wavelength 1557.36
• 1557.77	Wavelength 1557.77
• 1558.17	Wavelength 1558.17
• 1558.58	Wavelength 1558.58
• 1558.98	Wavelength 1558.98
• 1559.39	Wavelength 1559.39
• 1559.79	Wavelength 1559.79
• 1560.20	Wavelength 1560.20
• 1560.61	Wavelength 1560.61
• 1561.01	Wavelength 1561.01
• 1561.42	Wavelength 1561.42
• 1561.83	Wavelength 1561.83
• 1562.23	Wavelength 1562.23
• 1562.64	Wavelength 1562.64

• 1563.05	Wavelength 1563.05
• 1563.45	Wavelength 1563.45
• 1563.86	Wavelength 1563.86
• 1564.27	Wavelength 1564.27
• 1564.68	Wavelength 1564.68
• 1565.09	Wavelength 1565.09
• 1565.50	Wavelength 1565.50
• 1565.90	Wavelength 1565.90
• 1566.31	Wavelength 1566.31
• 1566.72	Wavelength 1566.72
• 1570	Wavelength 1570
• 1570.83	Wavelength 1570.83
• 1571.24	Wavelength 1571.24
• 1571.65	Wavelength 1571.65
• 1572.06	Wavelength 1572.06
• 1572.48	Wavelength 1572.48
• 1572.89	Wavelength 1572.89
• 1573.30	Wavelength 1573.30
• 1573.71	Wavelength 1573.71
• 1574.13	Wavelength 1574.13
• 1574.54	Wavelength 1574.54
• 1574.95	Wavelength 1574.95
• 1575.37	Wavelength 1575.37
• 1575.78	Wavelength 1575.78
• 1576.20	Wavelength 1576.20
• 1576.61	Wavelength 1576.61
• 1577.03	Wavelength 1577.03
• 1577.44	Wavelength 1577.44
• 1577.86	Wavelength 1577.86
• 1578.27	Wavelength 1578.27
• 1578.69	Wavelength 1578.69
• 1579.10	Wavelength 1579.10
• 1579.52	Wavelength 1579.52
• 1579.93	Wavelength 1579.93
• 1580.35	Wavelength 1580.35
• 1580.77	Wavelength 1580.77
• 1581.18	Wavelength 1581.18
• 1581.60	Wavelength 1581.60
• 1582.02	Wavelength 1582.02
• 1582.44	Wavelength 1582.44
• 1582.85	Wavelength 1582.85

• 1583.27	Wavelength 1583.27
• 1583.69	Wavelength 1583.69
• 1584.11	Wavelength 1584.11
• 1584.53	Wavelength 1584.53
• 1584.95	Wavelength 1584.95
• 1585.36	Wavelength 1585.36
• 1585.78	Wavelength 1585.78
• 1586.20	Wavelength 1586.20
• 1586.62	Wavelength 1586.62
• 1587.04	Wavelength 1587.04
• 1587.46	Wavelength 1587.46
• 1587.88	Wavelength 1587.88
• 1588.30	Wavelength 1588.30
• 1588.73	Wavelength 1588.73
• 1589.15	Wavelength 1589.15
• 1589.57	Wavelength 1589.57
• 1589.99	Wavelength 1589.99
• 1590	Wavelength 1590
• 1590.41	Wavelength 1590.41
• 1590.83	Wavelength 1590.83
• 1591.26	Wavelength 1591.26
• 1591.68	Wavelength 1591.68
• 1592.10	Wavelength 1592.10
• 1592.52	Wavelength 1592.52
• 1592.95	Wavelength 1592.95
• 1593.37	Wavelength 1593.37
• 1593.79	Wavelength 1593.79
• 1594.22	Wavelength 1594.22
• 1594.64	Wavelength 1594.64
• 1595.06	Wavelength 1595.06
• 1595.49	Wavelength 1595.49
• 1596.34	Wavelength 1596.34
• 1596.76	Wavelength 1596.76
• 1597.19	Wavelength 1597.19
• 1597.62	Wavelength 1597.62
• 1598.04	Wavelength 1598.04
• 1598.47	Wavelength 1598.47
• 1598.89	Wavelength 1598.89
• 1599.32	Wavelength 1599.32
• 1599.75	Wavelength 1599.75
• 1600.06	Wavelength 1600.06

• 1601.03	Wavelength 1601.03
• 1601.46	Wavelength 1601.46
• 1601.88	Wavelength 1601.88
• 1602.31	Wavelength 1602.31
• 1602.74	Wavelength 1602.74
• 1603.17	Wavelength 1603.17
• 1603.60	Wavelength 1603.60
• 1604.03	Wavelength 1604.03
• 1610	Wavelength 1610
<VOAATTN>	The value of calibrated attenuation for the VOA expressed in dBm. The range is 0.0 to +30.0. VOAATTN is a float.
<POWEROSC>	WDM-ANS OSC power parameter.
<NTWTYPE>	WDM-ANS network type parameter.
<CHLOSS>	WDM-ANS channel loss parameter.
<GAIN>	WDM-ANS amplifier gain parameter.
<TILT>	WDM-ANS amplifier tilt parameter.
<CHPWR>	WDM-ANS channel power parameter.
<CHPWROFFSET>	Optical power setting, channel power setting.
<ENABLELOGO>	Enable logo.
<AMPLMODE>	WDM-ANS amplifier mode parameter.
<RATIO>	WDM-ANS Raman amplifier pump ratio parameter.
<OSCLOSS>	WDM-ANS OSC channel loss parameter.
<DITHER>	WDM-ANS WXC dithering parameter.
<TOTALPWR>	WDM-ANS Raman amplifier total power in mW.
<HIGHSLVEXP>	Span loss verification—high value.
<LOWSLVEXP>	Span loss verification—low value.

12.50 DLT-WDMSIDE

The Delete Wavelength Division Multiplexing Side (DLT-WDMSIDE) command deletes a WDM side.

Usage Guidelines

- If the AID is invalid, an IIAC (Invalid AID) error message is returned.
- The ALL AID is invalid for this command.

Category

NCS

Security

Maintenance

Input Format DLT-WDMSIDE:[<TID>]:<AID>:<CTAG>[:::];

Input Example DLT-WDMSIDE:PENNGROVE:WDMSIDE-A:114;

Input Parameters	<AID>	The AID used to access the WDM side of a Multiservice Transport Platform (MSTP) node.
	WDMSIDE-{UNKNOWN,A,B,C,D,E,F,G,H}	MSTP side identifier.



ED Commands

This chapter provides edit (ED) commands for the Cisco NCS 2002 and Cisco NCS 2006.

13.1 ED-CPS

This command can be used to modify Control Plane Service parameter. The user needs to specify only the source port to identify the CPS. If the CPS is of type ADD 2WAY, both src AIDs have to be specified

Usage Guidelines

- If the AID is invalid, an IIAC (invalid AID) error message is returned. The following AIDs are supported:
 - CLIENT cps type support FAC and VFAC AID type.
 - TRUNK cps type support CHAN AID type.
 - ADD cps type support CHAN, PCHAN and LINEWL AID type.
- The ALL AID is invalid for this command
- In case of 1WAY, unidirectional connection, SRC and DST are single AIDs. In case of 2WAY, bidirectional connection, SRC and DST are double AIDs. However, in case of CLIENT or TRUNK cpstype, src and dst are single AID and the connection is of type 2WAY because of bidirectional ports hence this rule is not applicable.
- If the RESTTYPE is REVERT, it is required to set the REVERTMODE and SOAK parameters.
- If the RESTTYPE is REVERT, it is mandatory to set the REVERTMODE parameter as MANUAL or AUTO.
- SOAK time is mandatory if the REVERTMODE parameter is set to MANUAL or AUTO.

Category

NCS

Security

Provisioning

Input Format

```
ED-CPS[:<TID>]:<SRC>:<CTAG>[::<CKTID=<CKTID>>],[VALMODE=<VALMODE>],[VALZONE
=<VALZONE>],[VALMODESEC=<VALMODESEC>],[VALZONESEC=<VALZONESEC>],[CMDMD
DE=<CMDMDDE>],[RESTYPE=<RESTYPE>],[REVERTMODE=<REVERTMODE>],[SOAK=<H
H-MM-SS>],>],[CKTLABEL=<CKTLABEL>],[CKTPRIORITY=<CKTPRIORITY>],[DSPWROFS=
<DSPWROFS>],[USPWROFS=<USPWROFS>][:<PST>[,<SST>]];
```

Input Example

```
ED-CPS::PCHAN-1-1-RX&PCHAN-1-1-TX:8::CKTID=twoway_add-passive,VALMODE=FULL,VA
LZONE=GREEN;;
```

```
ED-CPS::CHAN-1-2-2:1::RESTYPE=REVERT,REVERTMODE=MANUAL,SOAK=00-00-10;
```

```
ED-CPS::LINE-1-6-3-RX:1::CKTLABEL="CISCO234", CKTPRIORITY=6, USPWROFS=45.6,
DSPWROFS=89.2;
```

Input Parameters

<SRC>	Source access identifier from the “27.1 ALL” section on page 27-1. Listable.
• 1WAY	A unidirectional connection from a source port to a destination port. In 1WAY wavelength connection only one AID is requested
• 2WAY	A bidirectional connection between the two ports. CLIENT or TRUNK 2WAY is requested together with one AID.
<CKTID>	(Optional) Circuit identification parameter contains the Common Language Circuit ID or other alias of the circuit being provisioned. Does not contain blank spaces. CKTID is a string of ASCII characters. The maximum length of CKTID can be 48.
<VALMODE>	Identifies the validation mode.
• NONE	No Optical validation is performed.
• FULL	The optical validation is performed as indicated in VALZONE parameter.
<VALZONE>	Identifies the validation operate zone.
• UNKNOWN	Not evaluated
• GREEN	Margin > 3 sigma
• YELLOW	1 < margin < 3 sigma
• ORANGE	0 < margin < 1 sigma
• RED	-3 < margin < 0 sigma
• OUT	Margin < -3 sigma
<VALMODESEC>	Identifies the validation mode for secondary circuit.
<VALZONESEC>	Identifies the validation operate zone for secondary circuit.
<RESTYPE>	Specifies the restoration type on CPS circuit or UNI configuration. Parameter type is RESTYPE.
• NONE	Restore type is not specified.
• RESTORE	Only restoration is allowed. The circuit is not revertible.
• REVERT	The circuit is revertible, manually or automatically.
<REVERTMODE>	Specifies the revertive mode type. Parameter type is REVERTMODE.
• AUTO	Circuit is automatically revertible after the soak time expires.

• MANUAL	Manually revert the circuit.
• NONE	Not revertible.
<SOAK>	This is the soak time specified in HH-MM-SS format. After the soak time expires, if the revertive mode is AUTO, the circuit reverts automatically. If revertive mode is MANUAL, the soak time is ignored.
<CKTLABEL>	Circuit label.
<CKTPRIORITY>	Circuit Priority.
<DSPWROFS>	Down stream power offset.
<USPWROFS>	Up stream power offset.

13.2 ED-<GIGE_TYPE>

The Edit 10GIGE, 100GIGE, 40GIGE, or GIGE (ED-<GIGE_TYPE>) command edits Ethernet facility attributes. See [Table 29-1 on page 29-1](#) for supported modifiers by platform.

Usage Guidelines

- The SYNCMSG, SENDDUS, ADMSSM, and ESMC parameters are applicable only for AR-MXP and AR-XP cards.
- The following parameters apply only to ED-GIGE; ADMINSTATE, LINKSTATE, MTU, FLOWCTRL, AUTONEG, HIWMRK, LOWMRK, DUPLEX, SPEED, and SOAK.
- The MACADDR parameter is applicable for ED-10GIGE only.
- The ENCAP parameter applies to 10GIGE SFP+ ports on 10x10G-LC only.
- In the CFP-TXP mode, the ED-<GIGE_TYPE> is applicable for SOAK, SYNCMSG, and SENDDUS paramters on the CFP-LC card on the VFAC AID.
- In the CFP-TXP mode, the ED-<GIGE_TYPE> is applicable for MTU and MACADDR paramters on the 100G-LC-C virtual ports on VCFAC AID.
- Autonegotiation parameters such as AUTONEG, DUPLEX, SPEED, ACTDUPLEX, and ACTSPEED are not applicable for 10GIGE on AR-XPE, AR-XP, AR-MXP cards and GIGE on AR-XPE card only.

Category

Ports

Security

Provisioning

Input Format

ED-GIGE:[<TID>]:<AID>:<CTAG>:::[ADMINSTATE=<ADMINSTATE>],[LINKSTATE=<LINKSTATE>],[MTU=<MTU>],[MFS=<MFS>],[FLOW=<FLOW>],[FLOWCTRL=<FLOWCTRL>],[AUTONEG=<AUTONEG>],[HIWMRK=<INT>],[LOWMRK=<INT>],[OPTICS=<OPTICS>],[DUPLEX=<DUPLEX>],[SPEED=<SPEED>],[NAME=<NAME>],[CMDMDE=<CMDMDE>],[MACADDR=<MACADDR>],[FREQ=<FREQ>],[LOSSB=<LOSSB>],[SUPPRESS=<SUPPRESS>],[SOAK=<SOAK>],[SQUELCH=<SQUELCH>],[CIR=<CIR>],[CBS=<CBS>],[EBS=<EBS>],[LIENABLE=<LIENABLE>],[LITIMER=<LITIMER>],[ENCAP=<ENCAP>],[PAUSEFRAME=<PAUSEFRAME>],[CLNTDS

```
T=<CLNTDST>],[SYNCSMSG=<SYNCSMSG>],[SENDDUS=<SENDDUS>],[ADMSSM=<ADMSSM>],[ESMC=<ESMC>],[PAUSEFRAME>],[EXPDUPLICATION=<EXPDUPLICATION>],[EXPSPEED=<EXPSPEED>],[SELECTIVEAUTO=<SELECTIVEAUTO>],[SQUELCHMODE=<SQUELCHMODE>]:[<PST>],[<SST>]];
```

Input Example

```
ED-GIGE:PETALUMA:FAC-1-1:123:::ADMINSTATE=DOWN,LINKSTATE=DOWN,MTU=1548,
FLOWCTRL=NONE,AUTONEG=Y,HIWMRK=485,LOWMRK=25,OPTICS=1000_BASE_LX,
DUPLEX=AUTO,SPEED=AUTO,NAME="GIGE PORT",CMDMDE=FRCD,
MACADDR=00-0E-AA-BB-CC-FF,FREQ=1550,LOSSB=XX,SOAK=32,LIENABLE=Y,
LITIMER=200:IS,AINS;
```

Table 13-1 ED-<GIGE_TYPE> Command - Parameter Support

Input Parameters	Description
<AID>	Access identifier from the 27.15 FACILITY , page 27-23. The AR-MXP, AR-XP, and AR-XPE cards use the VFAC Access Identifier.
<ADMINSTATE>	(Optional) The parameter type is UP_DOWN, which indicates an up or down value.
• DOWN	Down
• UP	Up
<LINKSTATE>	(Optional) The parameter type is UP_DOWN, which indicates an up or down value.
• DOWN	Down
• UP	Up
<MTU>	(Optional) Maximum transport unit. The parameter type is MTU_TYPE, which indicates the maximum transport unit used by an Ethernet card. Defaults to 9600.
• 10004	10004. Indicates jumbo size.
• 1500	1500
• 1548	1548
• 9600	9600. Indicates jumbo size.
• 64	64
• 9700	9700. Indicates jumbo size.
<MFS>	(Optional) Maximum frame size. The parameter type is MFS_TYPE, which is the maximum frame size used by an Ethernet card.
• 1548	Normal frame size
• JUMBO	Jumbo frame size
<FLOWCTRL>	(Optional) Flow control. The parameter type is FLOW, which indicates the type of flow control that has been negotiated for an Ethernet port. Defaults to NONE.
• ASYMMETRIC	Asymmetric flow control

Table 13-1 ED-<GIGE_TYPE> Command - Parameter Support

Input Parameters	Description
• ASYMMETRIC_LOCAL	Asymmetric local flow control
• NONE	No flow control
• PASSTHRU	Passthrough flow control
• SYMMETRIC	Symmetric flow control
<AUTONEG>	(Optional) Autonegotiation. The parameter is ON_OFF, which disables or enables an attribute. Defaults to Y.
• N	Disable an attribute.
• Y	Enable an attribute.
<HIWMRK>	(Optional) High water mark. HIWMRK is an integer. Defaults to 485.
<LOWMRK>	(Optional) Low water mark. LOWMRK is an integer. Defaults to 25.
<OPTICS>	(Optional) The parameter is OPTICS, which indicates the type of Gigabyte Ethernet optics being used.
• 1000_BASE_CX	1000BaseCX
• 1000_BASE_LX	1000BaseLX
• 1000_BASE_SX	1000BaseSX
• 1000_BASE_T	1000BaseT
• 1000_BASE_ZX	1000BaseZX
• 100_BASE_BX_D	100BaseBX_D
• 100_BASE_BX_U	100BaseBX_U
• 100_BASE_FX	100BaseFX
• 100_BASE_LX	100BaseLX
• CWDM_1470	Coarse wavelength division multiplexing (CWDM) 1470
• CWDM_1490	CWDM 1490
• CWDM_1510	CWDM 1510
• CWDM_1530	CWDM 1530
• CWDM_1550	CWDM 1550
• CWDM_1570	CWDM 1570
• CWDM_1590	CWDM 1590
• CWDM_1610	CWDM 1610
• ITU_100G_1530_33	ITU-100G 1530.33
• ITU_100G_1531_12	ITU-100G 1531.12
• ITU_100G_1531_90	ITU-100G 1531.90
• ITU_100G_1532_68	ITU-100G 1532.68
• ITU_100G_1534_25	ITU-100G 1534.25
• ITU_100G_1535_04	ITU-100G 1535.04

Table 13-1 *ED-<GIGE_TYPE> Command - Parameter Support*

Input Parameters	Description
• ITU_100G_1535_82	ITU-100G 1535.82
• ITU_100G_1536_61	ITU-100G 1536.61
• ITU_100G_1538_19	ITU-100G 1538.19
• ITU_100G_1538_98	ITU-100G 1538.98
• ITU_100G_1539_77	ITU-100G 1539.77
• ITU_100G_1540_56	ITU-100G 1540.56
• ITU_100G_1542_14	ITU-100G 1542.14
• ITU_100G_1542_94	ITU-100G 1542.94
• ITU_100G_1543_73	ITU-100G 1543.73
• ITU_100G_1544_53	ITU-100G 1544.53
• ITU_100G_1546_12	ITU-100G 1546.12
• ITU_100G_1546_92	ITU-100G 1546.92
• ITU_100G_1547_72	ITU-100G 1547.72
• ITU_100G_1548_51	ITU-100G 1548.51
• ITU_100G_1550_12	ITU-100G 1550.12
• ITU_100G_1550_92	ITU-100G 1550.92
• ITU_100G_1551_72	ITU-100G 1551.72
• ITU_100G_1552_52	ITU-100G 1552.52
• ITU_100G_1554_13	ITU-100G 1554.13
• ITU_100G_1554_94	ITU-100G 1554.94
• ITU_100G_1555_75	ITU-100G 1555.75
• ITU_100G_1556_55	ITU-100G 156.55
• ITU_100G_1558_17	ITU-100G 1558.17
• ITU_100G_1558_98	ITU-100G 1558.98
• ITU_100G_1559_79	ITU-100G 1559.79
• ITU_100G_1560_61	ITU-100G 1560.61
• UNKNOWN	Unknown
• UNPLUGGED	Unplugged
<DUPLEX>	(Optional) The parameter is ETHER_DUPLEX, which indicates duplex mode. Defaults to AUTO.
• AUTO	Auto mode
• FULL	Full mode
• HALF	Half mode
<SPEED>	(Optional) The parameter type is ETHER_SPEED, which indicates Ethernet speed. Defaults to AUTO.
• 100_MBPS	100 Megabits per second
• 10_GBPS	10 Gigabits per second

Table 13-1 ED-<GIGE_TYPE> Command - Parameter Support

Input Parameters	Description
• 10_MBPS	10 Megabits per second
• 1_GBPS	1 Gigabit per second
• 40_GBPS	40 Gigabit per second
• AUTO	Automatic
• AUTO_FDX	Enable auto negotiation with full duplex.
<NAME>	(Optional) Port name. NAME is a string. Defaults to NULL. Maximum length is 32 characters.
<CMDMDE>	(Optional) Command mode. Normal (NORM) mode is the default behavior for all commands but you can specify forced (FRCD) mode to force the system to override a state where the command would normally be denied. The FRCD mode of operation is applicable to delete a virtual concatenated (VCAT) member cross-connect in Unlocked-Enabled or Locked-Disabled, AutomaticInService service states.
• FRCD	Force the system to override a state where the command would normally be denied.
• NORM	Execute the command normally. Do not override any conditions that might make the command fail.
<MACADDR>	(Optional) MACADDR is a string. Defaults to NULL. Maximum length is 18 characters.
<FREQ>	(Optional) The parameter type is OPTICAL_WLEN, which indicates the optical wavelength.
• 1310	Wavelength 1310
• 1470	Wavelength 1470
• 1490	Wavelength 1490
• 1510	Wavelength 1510
• 1528.77	Wavelength 1528.77
• 1529.16	Wavelength 1529.16
• 1529.55	Wavelength 1529.55
• 1529.94	Wavelength 1529.94
• 1530	Wavelength 1530
• 1530.33	Wavelength 1530.33
• 1530.73	Wavelength 1530.73
• 1531.12	Wavelength 1531.12
• 1531.51	Wavelength 1531.51
• 1531.90	Wavelength 1531.90
• 1532.29	Wavelength 1532.29
• 1532.68	Wavelength 1532.68
• 1533.07	Wavelength 1533.07

Table 13-1 *ED-<GIGE_TYPE> Command - Parameter Support*

Input Parameters	Description
• 1533.47	Wavelength 1533.47
• 1533.86	Wavelength 1533.86
• 1534.25	Wavelength 1534.25
• 1534.64	Wavelength 1534.64
• 1535.04	Wavelength 1535.04
• 1535.43	Wavelength 1535.43
• 1535.82	Wavelength 1535.82
• 1536.22	Wavelength 1536.22
• 1536.61	Wavelength 1536.61
• 1537	Wavelength 1537
• 1537.40	Wavelength 1537.40
• 1537.79	Wavelength 1537.79
• 1538.19	Wavelength 1538.19
• 1538.58	Wavelength 1538.58
• 1538.98	Wavelength 1538.98
• 1539.37	Wavelength 1539.37
• 1539.77	Wavelength 1539.77
• 1540.16	Wavelength 1540.16
• 1540.56	Wavelength 1540.56
• 1540.95	Wavelength 1540.95
• 1541.35	Wavelength 1541.35
• 1541.75	Wavelength 1541.75
• 1542.14	Wavelength 1542.14
• 1542.35	Wavelength 1542.35
• 1542.54	Wavelength 1542.54
• 1542.94	Wavelength 1542.94
• 1543.33	Wavelength 1543.33
• 1543.73	Wavelength 1543.73
• 1544.13	Wavelength 1544.13
• 1544.53	Wavelength 1544.53
• 1544.92	Wavelength 1544.92
• 1545.30	Wavelength 1545.30
• 1545.32	Wavelength 1545.32
• 1545.72	Wavelength 1545.72
• 1546.12	Wavelength 1546.12
• 1546.52	Wavelength 1546.52

Table 13-1 ED-<GIGE_TYPE> Command - Parameter Support

Input Parameters	Description
• 1546.92	Wavelength 1546.92
• 1547.32	Wavelength 1547.32
• 1547.72	Wavelength 1547.72
• 1548.12	Wavelength 1548.12
• 1548.51	Wavelength 1548.51
• 1548.92	Wavelength 1548.92
• 1549.32	Wavelength 1549.32
• 1549.71	Wavelength 1549.71
• 1550	Wavelength 1500
• 1550.12	Wavelength 1550.12
• 1550.52	Wavelength 1550.52
• 1550.92	Wavelength 1550.92
• 1551.32	Wavelength 1551.32
• 1551.72	Wavelength 1551.72
• 1552.12	Wavelength 1552.12
• 1552.52	Wavelength 1552.52
• 1552.93	Wavelength 1552.93
• 1553.30	Wavelength 1553.30
• 1553.33	Wavelength 1553.33
• 1553.73	Wavelength 1553.73
• 1554.13	Wavelength 1554.13
• 1554.13	Wavelength 1554.13
• 1554.94	Wavelength 1554.94
• 1555.34	Wavelength 1555.34
• 1555.75	Wavelength 1555.75
• 1556.15	Wavelength 1556.15
• 1556.55	Wavelength 1556.55
• 1556.96	Wavelength 1556.96
• 1557.36	Wavelength 1557.36
• 1557.77	Wavelength 1557.77
• 1558.17	Wavelength 1558.17
• 1558.58	Wavelength 1558.58
• 1558.98	Wavelength 1558.98
• 1559.39	Wavelength 1559.39
• 1559.79	Wavelength 1559.79
• 1560.20	Wavelength 1560.20

Table 13-1 *ED-<GIGE_TYPE> Command - Parameter Support*

Input Parameters	Description
• 1560.61	Wavelength 1560.61
• 1561.01	Wavelength 1561.01
• 1561.42	Wavelength 1561.42
• 1561.83	Wavelength 1561.83
• 1562.23	Wavelength 1562.23
• 1562.64	Wavelength 1562.64
• 1563.05	Wavelength 1563.05
• 1563.45	Wavelength 1563.45
• 1563.86	Wavelength 1563.86
• 1564.27	Wavelength 1564.27
• 1564.68	Wavelength 1564.68
• 1565.09	Wavelength 1565.09
• 1565.50	Wavelength 1565.50
• 1565.90	Wavelength 1565.90
• 1566.31	Wavelength 1566.31
• 1566.72	Wavelength 1566.72
• 1570	Wavelength 1570
• 1570.83	Wavelength 1570.83
• 1571.24	Wavelength 1571.24
• 1571.65	Wavelength 1571.65
• 1572.06	Wavelength 1572.06
• 1572.48	Wavelength 1572.48
• 1572.89	Wavelength 1572.89
• 1573.30	Wavelength 1573.30
• 1573.71	Wavelength 1573.71
• 1574.13	Wavelength 1574.13
• 1574.54	Wavelength 1574.54
• 1574.95	Wavelength 1574.95
• 1575.37	Wavelength 1575.37
• 1575.78	Wavelength 1575.78
• 1576.20	Wavelength 1576.20
• 1576.61	Wavelength 1576.61
• 1577.03	Wavelength 1577.03
• 1577.44	Wavelength 1577.44
• 1577.86	Wavelength 1577.86
• 1578.27	Wavelength 1578.27

Table 13-1 ED-<GIGE_TYPE> Command - Parameter Support

Input Parameters	Description
• 1578.69	Wavelength 1578.69
• 1579.10	Wavelength 1579.10
• 1579.52	Wavelength 1579.52
• 1579.93	Wavelength 1579.93
• 1580.35	Wavelength 1580.35
• 1580.77	Wavelength 1580.77
• 1581.18	Wavelength 1581.18
• 1581.60	Wavelength 1581.60
• 1582.02	Wavelength 1582.02
• 1582.44	Wavelength 1582.44
• 1582.85	Wavelength 1582.85
• 1583.27	Wavelength 1583.27
• 1583.69	Wavelength 1583.69
• 1584.11	Wavelength 1584.11
• 1584.53	Wavelength 1584.53
• 1584.95	Wavelength 1584.95
• 1585.36	Wavelength 1585.36
• 1585.78	Wavelength 1585.78
• 1586.20	Wavelength 1586.20
• 1586.62	Wavelength 1586.62
• 1587.04	Wavelength 1587.04
• 1587.46	Wavelength 1587.46
• 1587.88	Wavelength 1587.88
• 1588.30	Wavelength 1588.30
• 1588.73	Wavelength 1588.73
• 1589.15	Wavelength 1589.15
• 1589.57	Wavelength 1589.57
• 1589.99	Wavelength 1589.99
• 1590	Wavelength 1590
• 1590.41	Wavelength 1590.41
• 1590.83	Wavelength 1590.83
• 1591.26	Wavelength 1591.26
• 1591.68	Wavelength 1591.68
• 1592.10	Wavelength 1592.10
• 1592.52	Wavelength 1592.52
• 1592.95	Wavelength 1592.95

Table 13-1 ED-<GIGE_TYPE> Command - Parameter Support

Input Parameters	Description
• 1593.37	Wavelength 1593.37
• 1593.79	Wavelength 1593.79
• 1594.22	Wavelength 1594.22
• 1594.64	Wavelength 1594.64
• 1595.06	Wavelength 1595.06
• 1595.49	Wavelength 1595.49
• 1596.34	Wavelength 1596.34
• 1596.76	Wavelength 1596.76
• 1597.19	Wavelength 1597.19
• 1597.62	Wavelength 1597.62
• 1598.04	Wavelength 1598.04
• 1598.47	Wavelength 1598.47
• 1598.89	Wavelength 1598.89
• 1599.32	Wavelength 1599.32
• 1599.75	Wavelength 1599.75
• 1600.06	Wavelength 1600.06
• 1601.03	Wavelength 1601.03
• 1601.46	Wavelength 1601.46
• 1601.88	Wavelength 1601.88
• 1602.31	Wavelength 1602.31
• 1602.74	Wavelength 1602.74
• 1603.17	Wavelength 1603.17
• 1603.60	Wavelength 1603.60
• 1604.03	Wavelength 1604.03
• 1610	Wavelength 1610
• USE-TWL1	Use Tunable Wavelength 1
<LOSSB>	(Optional) The parameter type is REACH, which indicates the reach values.
• 100GBASE-LR4	100GBASE-LR4
• 100GBASE-SR10	100GBASE-SR10
• 40GBASE-FR	40GBASE-FR
• 40GBASE-LR4	40GBASE-LR4
• 40GBASE-SR4	Reach supported on 40GIGE payload on CFP-LC card.
• 4I1-9D1F	4I1-9D1F
• C4S1-2D1	C4S1-2D1
• FE-BX	FE-BX

Table 13-1 ED-<GIGE_TYPE> Command - Parameter Support

Input Parameters	Description
• FX	FX
• GE-BX	GE-BX
• GE-EX	GE-EX
• LX-10	LX-10
• TEN-GE-LRM	TEN-GE-LRM
• TEN-GE-ZR	TEN-GE-ZR
• VSR2000-3R2	VSR2000-3R2
• AUTOPROV	Autoprovisioning
• CWDM	Coarse wavelength division multiplexing (CWDM)
• CWDM-40KM	CWDM 40 kilometers.
• CX	Reach CX
• CX1	Reach CX1
• DX	Reach DX
• HX	Reach HX
• I1	Reach I1
• IR-1	Reach IR-1
• IR-2	Reach IR-2
• L1	Reach L1
• L2	Reach L2
• L3	Reach L3
• LR-1	Reach LR-1
• LR-2	Reach LR-2
• LR-3	Reach LR-3
• LX	Reach LX
• P1I1-2D1	Long haul 10G Ethernet with 1310 nm wavelength
• P1L1-1D2	Longhaul 2.5G Ethernet with 1550 nm wavelength
• P1L1-2D2	Long haul 10G Ethernet with 1550 nm wavelength
• P1S1-1D1	Shorthaul 2.5G Ethernet with 1310 nm wavelength
• P1S1-2D1	Short haul 10G Ethernet in 1310 nm wavelength
• SC	Reach SC
• S1	Reach S1
• S2	Reach S2
• SR	Reach SR
• SR-1	Reach SR-1
• SX	Reach SX
• T	Reach T

Table 13-1 ED-<GIGE_TYPE> Command - Parameter Support

Input Parameters	Description
• TEN-GE-ER	10 GE extended range
• TEN-GE-LR	10 GE long range
• TEN-GE-SR	10 GE short range
• ULH	Reach ULH
• VSR	Reach VSR
• VX	Reach VX
• ZX	Reach ZX
<SOAK>	(Optional) Locked-AutomaticInService to Unlocked transition soak time as measured in 15-minute intervals. A value of 4 equals a soak time of 1 hour. The allowable range is 0 to 192 intervals (maximum of 48 hours). SOAK is an integer. Defaults to 32.
<LIENABLE>	(Optional) Enable or Disable link integrity timer. Takes either Y or N. Value Y enables the LITIMER and value N disables LITIMER. By default LITIMER is enabled.
<LITIMER>	(Optional) Link integrity timer duration in the range between 200 ms and 10000 ms in multiples on 100 ms.
• <OSC>	To enable or disable the OSC on the port.
<ENCAP>	(Optional) Frame encapsulation type. The parameter type is ENCAP, which is the frame encapsulation type.
• GFP	GFP frame mode
• HDLC	HDLC frame mode
• WIS	WIS mode
• CBR	CBR mapping mode.
• TRP	Transparent mapping mode.
• GMP	GMP mapping mode. Supported only on 8GFC on 10x10G-LC card.
<PAUSEFRAME>	To Enable or Disable the Pause Frame.
• Y	Enable
• N	Disable
<CLNTDST>	Client distance in kilometers.
• 10KM	10 kilometers.
• 30KM	30 kilometers.
<EXPDUPLX>	(Optional) Ethernet duplex mode. The parameter type is ETHER_DUPLEX, which is the duplex mode.
• AUTO	Auto mode
• FULL	Full mode
• HALF	Half mode

Table 13-1 ED-<GIGE_TYPE> Command - Parameter Support

Input Parameters	Description
<SELECTIVEAUTO>	(Optional) Selective auto-negotiation. The parameter is Y or N (enable or disable auto-negotiation) This indicates selective auto-negotiation of EXPSPEED and EXPDUPLEX only.
• Y	Enable selective auto-negotiation.
• N	Disable selective auto-negotiation.
<EXPSPEED>	(Optional) Ethernet speed. The parameter type is ETHER_SPEED, which is the Ethernet speed.
• 100_MBPS	100 Megabits per second
• 10_GBPS	10 Gigabits per second
• 10_MBPS	10 Megabits per second
• 1_GBPS	1 Gigabit per second
• 40_GBPS	40 Gigabit per second
• AUTO	Auto
• AUTO_FDX	Enable auto negotiation with full duplex.
<SYNCSMSG>	Indicates if the BITS facility supports synchronization status message. Default is ON (Y). The parameter type is EXT_RING, which indicates whether the ring supports the extended K1/K2/K3 protocol.
• N	The ring does not support the extended K1/K2/K3 protocol.
• Y	The ring does support the extended K1/K2/K3 protocol.
<SENDDUS>	The facility will send the DUS (Do not use for Synchronization) value as the SSM for that facility. The parameter type is ON_OFF, which disables or enables an attribute.
• N	Disable an attribute.
• Y	Enable an attribute.
<ADMSSM>	SSM selectable value. It will only appear when SSM is disabled. Defaults to STU. The parameter type is SYNC_CLOCK_REF_QUALITY_LEVEL, which is the clock source quality level for SONET.
• DUS	Do Not Use For Synchronization
• PRE	Primary Reference Source, Stratum 1 Traceable
• RES	Reserved For Network Synchronization Use
• SMC	SONET Minimum Clock Traceable
• ST2	Stratum 2 Traceable
• ST3	Stratum 3 Traceable
• ST3E	Stratum 3E Traceable
• ST4	Stratum 4 Traceable
• STU	Synchronized, Traceability Unknown
• TNC	Transit Node Clock (2nd Generation Only)

Table 13-1 ED-<GIGE_TYPE> Command - Parameter Support

Input Parameters	Description
<ESMC>	By enabling ESMC, Gige port can be enabled as timing reference
• N	Disable
• Y	Enable
<PAUSEFRAME>	To Enable or Disable the Pause Frame.
• N	Disable
• Y	Enable
<PST>	(Optional) Primary state. The parameter type is PST, which indicates the current overall service condition of an entity.
• Unlocked	In service
• Locked	Out of service
<SST>	(Optional) Secondary state. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AutomaticInService	Automatic in service
• Disabled	Disabled
• Loopback	Loopback
• MismatchofEquipmentAlarm	Mismatch of equipment and attributes
• MT	Maintenance mode
• OutOfGroup	Out of group
• SoftwareDownload	Software downloading
• Unassigned	Unassigned
• NotInstalled	Unequipped

13.3 ED-<MOD1FCPAYLOAD>

The Edit 1GISC3, 2GISC3, D1VIDEO, DV6000, ESCON, ETRCLO, HDTV or PASSTHRU (ED-<MOD1FCPAYLOAD>) command edits the attributes related with the Fibre Channel facility. The state Locked, AutomaticInService is not supported on the FC port. See [Table 29-1 on page 29-1](#) for supported modifiers by platform.

Usage Guidelines

The user can change the service state of a facility to locked-enabled or disabled, only if all the following conditions are met

- The facility is not sourcing a synchronization clock
- The facility's DCC is disabled.
- The facility is not part of a protection group
- The facility is not supporting cross-connects

**Note**

The conditions stipulated can be overridden by using the CMDMDE=FRCD option. The FRCD option will immediately remove the facility from service with no consideration for orderly interruption. Do not use in scripts or automated batch operations.

**Note**

To completely disable the CMDMDE=FRCD option, provision the <to be defined parameter> in the NE defaults to FALSE. This will prevent the FRCD option from being honored by the NE. The NE default parameter can be provisioned using the CTC only.

**Note**

- The port parameters VIZ, LINKRCVRY, DISTEXTN, AUTODETECTION, LINKCREDITS, and MFS can be edited only if the port state is OOS, Maintenance or OOS,DSBLD.
- The port parameters AUTODETECTION, LINKCREDITS, and MFS can be edited only if distance extension is enabled (set to B2B).
- When 1GFICON and 2GFICON payloads are provisioned, distance extension=B2B is the default and only valid setting. Setting distance extension (using the ED-nGFICON command) to any other setting will be denied with an error message, for example, Provisioning Rules Failed.

Category

Ports

Security

Provisioning

Input Format

```
ED-<MOD1FCPAYLOAD>:[<TID>]:<AID>:<CTAG>:::[LINKRCVRY=<LINKRCVRY>],[DISTEXTN= <DISTANCE_EXTENSION>],[AUTODETECTION=<AUTO_DETECTION>],
[LINKCREDITS=<CREDITS>],[FASTSWITCH=<FASTSWITCH>],[MFS=<MAXFRMSIZE>]
,[NAME=<NAME>],[CMDMDE=<CMDMDE>],[SOAK=<SOAK>],[FREQ=<FREQ>],
[LOSSB=<LOSSB>],[SQUELCH=<SQUELCH>],[ENCAP=<ENCAP>][:<PST>[,<SST>]];
```

Input Example

```
ED-1GFC:CISCO:FAC-6-1-1:::LINKRCVRY=Y,DISTEXTN=NONE,AUTODETECTION=Y,
LINKCREDITS=10,FASTSWITCH=,MFS=2148,NAME="FC PORT",CMDMDE=NORM,SOAK=32,
FREQ=1550,LOSSB=LR-1:LOCKED,MAINTENANCE;
```

Table 13-2 *ED-<MOD1FCPAYLOAD> Command - Parameter Support*

Input Parameters	Description
<AID>	Access identifier from the “27.15 FACILITY” section on page 27-23.
<LINKRCVRY>	(Optional) Link recovery. The parameter type is ON_OFF, which disables or enables an attribute.
• N	Disable an attribute.
• Y	Enable an attribute.

Table 13-2 ED-<MOD1FCPAYLOAD> Command - Parameter Support

Input Parameters	Description
<DISTEXTN>	(Optional) Distance extension. It can be set to Buffer-to-Buffer (B2B) Credit Management state or None. The parameter type is DISTANCE_EXTENSION (distance extension). Note B2B and link recovery are mutually exclusive. You cannot turn on both B2B and link recovery at the same time.
• B2B	Buffer to buffer flow control
• NONE	No distance extension
<AUTODETECTION>	(Optional) Autodetection. Turns autodetection on or off. The parameter type is ON_OFF, which disables or enables an attribute.
• N	Disable an attribute.
• Y	Enable an attribute.
<LINKCREDITS>	(Optional) Number of link credits. If autodetection is set to off, the value of the link credits will be used to configure the hardware. LINKCREDITS is an integer.
<MFS>	(Optional) Maximum frame size. MFS is an integer.
<NAME>	(Optional) NAME is a string. User-assigned port name.
<CMDMDE>	(Optional) Command mode. Normal (NORM) mode is the default behavior for all commands but you can specify forced (FRCD) mode to force the system to override a state where the command would normally be denied. The FRCD mode of operation is applicable to delete a virtual concatenated (VCAT) member cross-connect in Unlocked-Enabled or Locked-Disabled, AutomaticInService service states.
• FRCD	Force the system to override a state in which the command would normally be denied.
• NORM	Execute the command normally. Do not override any conditions that could make the command fail.
<SOAK>	(Optional) Locked-AutomaticInService to Unlocked transition soak time as measured in 15 minute intervals, so a value of 4 translates to a soak time of 1 hour. The allowable range is 0 to 192 intervals (maximum of 48 hours). SOAK is an integer.
<FREQ>	(Optional) Parameter type is OPTICAL_WLEN (optical wavelength).
• 1310	Wavelength 1310
• 1470	Wavelength 1470
• 1490	Wavelength 1490
• 1510	Wavelength 1510
• 1528.77	Wavelength 1528.77
• 1529.55	Wavelength 1529.55
• 1529.94	Wavelength 1529.94
• 1530	Wavelength 1530
• 1530.33	Wavelength 1530.33

Table 13-2 ED-<MOD1FCPAYLOAD> Command - Parameter Support

Input Parameters	Description
• 1530.73	Wavelength 1530.73
• 1531.12	Wavelength 1531.12
• 1531.51	Wavelength 1531.51
• 1531.90	Wavelength 1531.90
• 1532.29	Wavelength 1532.29
• 1532.68	Wavelength 1532.68
• 1533.07	Wavelength 1533.07
• 1533.47	Wavelength 1533.47
• 1533.86	Wavelength 1533.86
• 1534.25	Wavelength 1534.25
• 1534.64	Wavelength 1534.64
• 1535.04	Wavelength 1535.04
• 1535.43	Wavelength 1535.43
• 1535.82	Wavelength 1535.82
• 1536.22	Wavelength 1536.22
• 1536.61	Wavelength 1536.61
• 1537	Wavelength 1537
• 1537.40	Wavelength 1537.40
• 1537.79	Wavelength 1537.79
• 1538.19	Wavelength 1538.19
• 1538.58	Wavelength 1538.58
• 1538.98	Wavelength 1538.98
• 1539.37	Wavelength 1539.37
• 1539.77	Wavelength 1539.77
• 1540.16	Wavelength 1540.16
• 1540.56	Wavelength 1540.56
• 1540.95	Wavelength 1540.95
• 1541.35	Wavelength 1541.35
• 1541.75	Wavelength 1541.75
• 1542.14	Wavelength 1542.14
• 1542.35	Wavelength 1542.35
• 1542.54	Wavelength 1542.54
• 1542.94	Wavelength 1542.94
• 1543.33	Wavelength 1543.33
• 1543.73	Wavelength 1543.73
• 1544.13	Wavelength 1544.13

Table 13-2 *ED-<MOD1FCPAYLOAD> Command - Parameter Support*

Input Parameters	Description
• 1544.53	Wavelength 1544.53
• 1544.92	Wavelength 1544.92
• 1545.32	Wavelength 1545.32
• 1545.72	Wavelength 1545.72
• 1546.12	Wavelength 1546.12
• 1546.52	Wavelength 1546.52
• 1546.92	Wavelength 1546.92
• 1547.32	Wavelength 1547.32
• 1547.72	Wavelength 1547.72
• 1548.12	Wavelength 1548.12
• 1548.51	Wavelength 1548.51
• 1548.92	Wavelength 1548.92
• 1549.32	Wavelength 1549.32
• 1549.71	Wavelength 1549.71
• 1550	Wavelength 1500
• 1550.12	Wavelength 1550.12
• 1550.52	Wavelength 1550.52
• 1550.92	Wavelength 1550.92
• 1551.32	Wavelength 1551.32
• 1551.72	Wavelength 1551.72
• 1552.12	Wavelength 1552.12
• 1552.52	Wavelength 1552.52
• 1552.93	Wavelength 1552.93
• 1553.33	Wavelength 1553.33
• 1553.73	Wavelength 1553.73
• 1554.13	Wavelength 1554.13
• 1554.13	Wavelength 1554.13
• 1554.94	Wavelength 1554.94
• 1555.34	Wavelength 1555.34
• 1555.75	Wavelength 1555.75
• 1556.15	Wavelength 1556.15
• 1556.55	Wavelength 1556.55
• 1556.96	Wavelength 1556.96
• 1557.36	Wavelength 1557.36
• 1557.77	Wavelength 1557.77
• 1558.17	Wavelength 1558.17

Table 13-2 ED-<MOD1FCPAYLOAD> Command - Parameter Support

Input Parameters	Description
• 1558.58	Wavelength 1558.58
• 1558.98	Wavelength 1558.98
• 1559.39	Wavelength 1559.39
• 1559.79	Wavelength 1559.79
• 1560.20	Wavelength 1560.20
• 1560.61	Wavelength 1560.61
• 1561.01	Wavelength 1561.01
• 1561.42	Wavelength 1561.42
• 1561.83	Wavelength 1561.83
• 1570	Wavelength 1570
• 1570.83	Wavelength 1570.83
• 1571.24	Wavelength 1571.24
• 1571.65	Wavelength 1571.65
• 1572.06	Wavelength 1572.06
• 1572.48	Wavelength 1572.48
• 1572.89	Wavelength 1572.89
• 1573.30	Wavelength 1573.30
• 1573.71	Wavelength 1573.71
• 1574.13	Wavelength 1574.13
• 1574.54	Wavelength 1574.54
• 1574.95	Wavelength 1574.95
• 1575.37	Wavelength 1575.37
• 1575.78	Wavelength 1575.78
• 1576.20	Wavelength 1576.20
• 1576.61	Wavelength 1576.61
• 1577.03	Wavelength 1577.03
• 1577.44	Wavelength 1577.44
• 1577.86	Wavelength 1577.86
• 1578.27	Wavelength 1578.27
• 1578.69	Wavelength 1578.69
• 1579.10	Wavelength 1579.10
• 1579.52	Wavelength 1579.52
• 1579.93	Wavelength 1579.93
• 1580.35	Wavelength 1580.35
• 1580.77	Wavelength 1580.77
• 1581.18	Wavelength 1581.18

Table 13-2 *ED-<MOD1FCPAYLOAD> Command - Parameter Support*

Input Parameters	Description
• 1581.60	Wavelength 1581.60
• 1582.02	Wavelength 1582.02
• 1582.44	Wavelength 1582.44
• 1582.85	Wavelength 1582.85
• 1583.27	Wavelength 1583.27
• 1583.69	Wavelength 1583.69
• 1584.11	Wavelength 1584.11
• 1584.53	Wavelength 1584.53
• 1584.95	Wavelength 1584.95
• 1585.36	Wavelength 1585.36
• 1585.78	Wavelength 1585.78
• 1586.20	Wavelength 1586.20
• 1586.62	Wavelength 1586.62
• 1587.04	Wavelength 1587.04
• 1587.46	Wavelength 1587.46
• 1587.88	Wavelength 1587.88
• 1588.30	Wavelength 1588.30
• 1588.73	Wavelength 1588.73
• 1589.15	Wavelength 1589.15
• 1589.57	Wavelength 1589.57
• 1589.99	Wavelength 1589.99
• 1590	Wavelength 1590
• 1590.41	Wavelength 1590.41
• 1590.83	Wavelength 1590.83
• 1591.26	Wavelength 1591.26
• 1591.68	Wavelength 1591.68
• 1592.10	Wavelength 1592.10
• 1592.52	Wavelength 1592.52
• 1592.95	Wavelength 1592.95
• 1593.37	Wavelength 1593.37
• 1593.79	Wavelength 1593.79
• 1594.22	Wavelength 1594.22
• 1594.64	Wavelength 1594.64
• 1595.06	Wavelength 1595.06
• 1595.49	Wavelength 1595.49
• 1596.34	Wavelength 1596.34

Table 13-2 ED-<MOD1FCPAYLOAD> Command - Parameter Support

Input Parameters	Description
• 1596.76	Wavelength 1596.76
• 1597.19	Wavelength 1597.19
• 1597.62	Wavelength 1597.62
• 1598.04	Wavelength 1598.04
• 1598.47	Wavelength 1598.47
• 1598.89	Wavelength 1598.89
• 1599.32	Wavelength 1599.32
• 1599.75	Wavelength 1599.75
• 1600.06	Wavelength 1600.06
• 1601.03	Wavelength 1601.03
• 1601.46	Wavelength 1601.46
• 1601.88	Wavelength 1601.88
• 1602.31	Wavelength 1602.31
• 1602.74	Wavelength 1602.74
• 1603.17	Wavelength 1603.17
• 1603.60	Wavelength 1603.60
• 1604.03	Wavelength 1604.03
• 1610	Wavelength 1610
• USE-TWL1	Use Tunable Wavelength 1
<LOSSB>	(Optional) Parameter type is REACH (reach values).
• 100GBASE-LR4	100GBASE-LR4
• 100GBASE-SR10	100GBASE-SR10
• 40GBASE-FR	40GBASE-FR
• 40GBASE-LR4	40GBASE-LR4
• 40GBASE-SR4	Reach supported on 40GIGE payload on CFP-LC card.
• 4I1-9D1F	4I1-9D1F
• C4S1-2D1	C4S1-2D1
• FE-BX	FE-BX
• FX	FX
• GE-BX	GE-BX
• GE-EX	GE-EX
• LX-10	LX-10
• TEN-GE-LRM	TEN-GE-LRM
• TEN-GE-ZR	TEN-GE-ZR
• VSR2000-3R2	VSR2000-3R2
• AUTOPROV	Autoprovisioning

Table 13-2 *ED-<MOD1FCPAYLOAD> Command - Parameter Support*

Input Parameters	Description
• CX	Reach CX
• CX1	Reach CX1
• DX	Reach DX
• HX	Reach HX
• I1	Reach I1
• IR-1	Reach IR-1
• IR-2	Reach IR-2
• L1	Reach L1
• L2	Reach L2
• L3	Reach L3
• LR-1	Reach LR-1
• LR-2	Reach LR-2
• LR-3	Reach LR-3
• LX	Reach LX
• S1	Reach S1
• S2	Reach S2
• SR	Reach SR
• SR-1	Reach SR-1
• SX	Reach SX
• T	Reach T
• TEN-GE-ER	10 GE extended range
• TEN-GE-LR	10 GE long range
• TEN-GE-SR	10 GE short range
• VX	Reach VX
• ZX	Reach ZX
<ENCAP>	Specifies the mapping mode on the port provisioned. Parameter Type is ENCAP.
• CBR	CBR mapping mode.
• GFP	GFP mapping mode.
• GMP	GMP mapping mode is supported only on 8GFC on 10x10G-LC card.
• TRP	Transparent mapping mode.
<PST>	(Optional) Primary state. The parameter type is PST, which indicates the current overall service condition of an entity.
• Unlocked	In service
• Locked	Out of service
<SST>	(Optional) Secondary state. the parameter type is SST, which provides additional information pertaining to PST and PSTQ.

Table 13-2 ED-<MOD1FCPAYLOAD> Command - Parameter Support

Input Parameters	Description
• AutomaticInService	Automatic in service
• Disabled	Disabled
• Loopback	Loopback
• MismatchofEquipmentAlarm	Mismatch of equipment and attributes
• Maintenance	Maintenance mode
• OutOfGroup	Out of group
• SoftwareDownload	Software downloading
• Unassigned	Unassigned
• NotInstalled	Unequipped

13.4 ED-<MOD1FICONPAYLOAD>

The Edit 1GFICON, 2GFICON, 4GFICON, or ESCON (ED-<MOD1FICONPAYLOAD>) command edits the attributes related with the FICON payload facility. The state Locked, AutomaticInService is not supported on the FICON port. See [Table 29-1 on page 29-1](#) for supported modifiers by platform.

Usage Guidelines

The default values for all optional parameters are NE default values. These values might not be the current value for a parameter. Use a retrieve command to obtain the current value.

Category

Ports

Security

Provisioning

Input Format

```
ED-<MOD1FICONPAYLOAD>[:<TID>]:<AID>:<CTAG>[::LINKRCVRY=<LINKRCVRY>],[DISTEXTN=<DISTANCE_EXTENSION>],[AUTODETECTION=<AUTO_DETECTION>],[LINKCREDITS=<CREDITS>],[FASTSWITCH=<FASTSWITCH>],[MFS=<MAXFRMSIZE>],[NAME=<NAME>],[CMDMDE=<CMDMDE>],[SOAK=<SOAK>],[FREQ=<FREQ>],[LOSSB=<LOSSB>],[SQUELCH=<SQUELCH>],[SQUELCHMODE=<SQUELCHMODE>],[ENCAP=<ENCAP>][:<PST>][:<SST>];
```

Input Example

```
ED-1GFICON:CISCO:FAC-6-1:1::LINKRCVRY=Y,DISTEXTN=NONE,AUTODETECTION=Y,
LINKCREDITS=10,FASTSWITCH=,MFS=2148,NAME="FC PORT",CMDMDE=NORM,SOAK=32,
FREQ=1550,LOSSB=LR-1::LOCKED,MAINTENANCE;
```

Table 13-3 ED-<MOD1FICONPAYLOAD> Command - Parameter Support

Input Parameters	Description
<AID>	Access identifier from the “27.15 FACILITY” section on page 27-23.
<LINKRCVRY>	(Optional) Link recovery. The parameter type is ON_OFF, which disables or enables an attribute.
• N	Disable an attribute.
• Y	Enable an attribute.
<DISTEXTN>	(Optional) Distance extension. It can be set to B2B Credit Management state or None. The parameter type is DISTANCE_EXTENSION.
	Note B2B and link recovery are mutually exclusive. You cannot turn on both B2B and link recovery at the same time.
• B2B	Buffer to buffer flow control
• NONE	No distance extension
<AUTODETECTION>	(Optional) Autodetection. Turns autodetection on or off. The parameter type is ON_OFF, which disables or enables an attribute.
• N	Disable an attribute.
• Y	Enable an attribute.
<LINKCREDITS>	(Optional) Number of link credits. If autodetection is set to off, the value of the link credits will be used to configure the hardware. LINKCREDITS is an integer.
<FASTSWITCH>	<TBD>
<MFS>	Maximum frame size. MFS is an integer.
<NAME>	NAME is a string. User-assigned port name.
<CMDMDE>	(Optional) Command mode. Normal (NORM) mode is the default behavior for all commands but you can specify forced (FRCD) mode to force the system to override a state where the command would normally be denied. The FRCD mode of operation is applicable to delete a virtual concatenated (VCAT) member cross-connect in Unlocked-Enabled or Locked-Disabled, AutomaticInService service states.
• FRCD	Force the system to override a state in which the command would normally be denied.
• NORM	Execute the command normally. Do not override any conditions that could make the command fail.
<SOAK>	(Optional) Locked-AutomaticInService to Unlocked transition soak time as measured in 15 minute intervals, so a value of 4 translates to a soak time of 1 hour. The allowable range is 0 to 192 intervals (maximum of 48 hours). SOAK is an integer.
<FREQ>	(Optional) Parameter type is OPTICAL_WLEN, which is the optical wavelength.
• 1310	Wavelength 1310

Table 13-3 ED-<MOD1FICONPAYLOAD> Command - Parameter Support

Input Parameters	Description
• 1470	Wavelength 1470
• 1490	Wavelength 1490
• 1510	Wavelength 1510
• 1529.55	Wavelength 1529.55
• 1529.94	Wavelength 1529.94
• 1530	Wavelength 1530
• 1530.33	Wavelength 1530.33
• 1530.73	Wavelength 1530.73
• 1531.12	Wavelength 1531.12
• 1531.51	Wavelength 1531.51
• 1531.90	Wavelength 1531.90
• 1532.29	Wavelength 1532.29
• 1532.68	Wavelength 1532.68
• 1533.07	Wavelength 1533.07
• 1533.47	Wavelength 1533.47
• 1533.86	Wavelength 1533.86
• 1534.25	Wavelength 1534.25
• 1534.64	Wavelength 1534.64
• 1535.04	Wavelength 1535.04
• 1535.43	Wavelength 1535.43
• 1535.82	Wavelength 1535.82
• 1536.22	Wavelength 1536.22
• 1536.61	Wavelength 1536.61
• 1537	Wavelength 1537
• 1537.40	Wavelength 1537.40
• 1537.79	Wavelength 1537.79
• 1538.19	Wavelength 1538.19
• 1538.58	Wavelength 1538.58
• 1538.98	Wavelength 1538.98
• 1539.37	Wavelength 1539.37
• 1539.77	Wavelength 1539.77
• 1540.16	Wavelength 1540.16
• 1540.56	Wavelength 1540.56
• 1540.95	Wavelength 1540.95
• 1541.35	Wavelength 1541.35
• 1541.75	Wavelength 1541.75

Table 13-3 *ED-<MOD1FICONPAYLOAD> Command - Parameter Support*

Input Parameters	Description
• 1542.14	Wavelength 1542.14
• 1542.35	Wavelength 1542.35
• 1542.54	Wavelength 1542.54
• 1542.94	Wavelength 1542.94
• 1543.33	Wavelength 1543.33
• 1543.73	Wavelength 1543.73
• 1544.13	Wavelength 1544.13
• 1544.53	Wavelength 1544.53
• 1544.92	Wavelength 1544.92
• 1545.32	Wavelength 1545.32
• 1545.72	Wavelength 1545.72
• 1546.12	Wavelength 1546.12
• 1546.52	Wavelength 1546.52
• 1546.92	Wavelength 1546.92
• 1547.32	Wavelength 1547.32
• 1547.72	Wavelength 1547.72
• 1548.12	Wavelength 1548.12
• 1548.51	Wavelength 1548.51
• 1548.92	Wavelength 1548.92
• 1549.32	Wavelength 1549.32
• 1549.71	Wavelength 1549.71
• 1550	Wavelength 1500
• 1550.12	Wavelength 1550.12
• 1550.52	Wavelength 1550.52
• 1550.92	Wavelength 1550.92
• 1551.32	Wavelength 1551.32
• 1551.72	Wavelength 1551.72
• 1552.12	Wavelength 1552.12
• 1552.52	Wavelength 1552.52
• 1552.93	Wavelength 1552.93
• 1553.33	Wavelength 1553.33
• 1553.73	Wavelength 1553.73
• 1554.13	Wavelength 1554.13
• 1554.13	Wavelength 1554.13
• 1554.94	Wavelength 1554.94
• 1555.34	Wavelength 1555.34

Table 13-3 ED-<MOD1FICONPAYLOAD> Command - Parameter Support

Input Parameters	Description
• 1555.75	Wavelength 1555.75
• 1556.15	Wavelength 1556.15
• 1556.55	Wavelength 1556.55
• 1556.96	Wavelength 1556.96
• 1557.36	Wavelength 1557.36
• 1557.77	Wavelength 1557.77
• 1558.17	Wavelength 1558.17
• 1558.58	Wavelength 1558.58
• 1558.98	Wavelength 1558.98
• 1559.39	Wavelength 1559.39
• 1559.79	Wavelength 1559.79
• 1560.20	Wavelength 1560.20
• 1560.61	Wavelength 1560.61
• 1561.01	Wavelength 1561.01
• 1561.42	Wavelength 1561.42
• 1561.83	Wavelength 1561.83
• 1570	Wavelength 1570
• 1570.83	Wavelength 1570.83
• 1571.24	Wavelength 1571.24
• 1571.65	Wavelength 1571.65
• 1572.06	Wavelength 1572.06
• 1572.48	Wavelength 1572.48
• 1572.89	Wavelength 1572.89
• 1573.30	Wavelength 1573.30
• 1573.71	Wavelength 1573.71
• 1574.13	Wavelength 1574.13
• 1574.54	Wavelength 1574.54
• 1574.95	Wavelength 1574.95
• 1575.37	Wavelength 1575.37
• 1575.78	Wavelength 1575.78
• 1576.20	Wavelength 1576.20
• 1576.61	Wavelength 1576.61
• 1577.03	Wavelength 1577.03
• 1577.44	Wavelength 1577.44
• 1577.86	Wavelength 1577.86
• 1578.27	Wavelength 1578.27

Table 13-3 *ED-<MOD1FICONPAYLOAD> Command - Parameter Support*

Input Parameters	Description
• 1578.69	Wavelength 1578.69
• 1579.10	Wavelength 1579.10
• 1579.52	Wavelength 1579.52
• 1579.93	Wavelength 1579.93
• 1580.35	Wavelength 1580.35
• 1580.77	Wavelength 1580.77
• 1581.18	Wavelength 1581.18
• 1581.60	Wavelength 1581.60
• 1582.02	Wavelength 1582.02
• 1582.44	Wavelength 1582.44
• 1582.85	Wavelength 1582.85
• 1583.27	Wavelength 1583.27
• 1583.69	Wavelength 1583.69
• 1584.11	Wavelength 1584.11
• 1584.53	Wavelength 1584.53
• 1584.95	Wavelength 1584.95
• 1585.36	Wavelength 1585.36
• 1585.78	Wavelength 1585.78
• 1586.20	Wavelength 1586.20
• 1586.62	Wavelength 1586.62
• 1587.04	Wavelength 1587.04
• 1587.46	Wavelength 1587.46
• 1587.88	Wavelength 1587.88
• 1588.30	Wavelength 1588.30
• 1588.73	Wavelength 1588.73
• 1589.15	Wavelength 1589.15
• 1589.57	Wavelength 1589.57
• 1589.99	Wavelength 1589.99
• 1590	Wavelength 1590
• 1590.41	Wavelength 1590.41
• 1590.83	Wavelength 1590.83
• 1591.26	Wavelength 1591.26
• 1591.68	Wavelength 1591.68
• 1592.10	Wavelength 1592.10
• 1592.52	Wavelength 1592.52
• 1592.95	Wavelength 1592.95

Table 13-3 ED-<MOD1FICONPAYLOAD> Command - Parameter Support

Input Parameters	Description
• 1593.37	Wavelength 1593.37
• 1593.79	Wavelength 1593.79
• 1594.22	Wavelength 1594.22
• 1594.64	Wavelength 1594.64
• 1595.06	Wavelength 1595.06
• 1595.49	Wavelength 1595.49
• 1596.34	Wavelength 1596.34
• 1596.76	Wavelength 1596.76
• 1597.19	Wavelength 1597.19
• 1597.62	Wavelength 1597.62
• 1598.04	Wavelength 1598.04
• 1598.47	Wavelength 1598.47
• 1598.89	Wavelength 1598.89
• 1599.32	Wavelength 1599.32
• 1599.75	Wavelength 1599.75
• 1600.06	Wavelength 1600.06
• 1601.03	Wavelength 1601.03
• 1601.46	Wavelength 1601.46
• 1601.88	Wavelength 1601.88
• 1602.31	Wavelength 1602.31
• 1602.74	Wavelength 1602.74
• 1603.17	Wavelength 1603.17
• 1603.60	Wavelength 1603.60
• 1604.03	Wavelength 1604.03
• 1610	Wavelength 1610
• USE-TWL1	Use Tunable Wavelength 1
<LOSSB>	The parameter type is REACH, which is the reach value.
• 100GBASE-LR4	100GBASE-LR4
• 100GBASE-SR10	100GBASE-SR10
• 40GBASE-FR	40GBASE-FR
• 40GBASE-LR4	40GBASE-LR4
• 40GBASE-SR4	Reach supported on 40GIGE payload on CFP-LC card.
• 4I1-9D1F	4I1-9D1F
• C4S1-2D1	C4S1-2D1
• FE-BX	FE-BX
• FX	FX

Table 13-3 *ED-<MOD1FICONPAYLOAD> Command - Parameter Support*

Input Parameters	Description
• GE-BX	GE-BX
• GE-EX	GE-EX
• LX-10	LX-10
• TEN-GE-LRM	TEN-GE-LRM
• TEN-GE-ZR	TEN-GE-ZR
• VSR2000-3R2	VSR2000-3R2
• AUTOPROV	Autoprovisioning
• CX	Reach CX
• CX1	Reach CX1
• DX	Reach DX
• HX	Reach HX
• I1	Reach I1
• IR-1	Reach IR-1
• IR-2	Reach IR-2
• L1	Reach L1
• L2	Reach L2
• L3	Reach L3
• LR-1	Reach LR-1
• LR-2	Reach LR-2
• LR-3	Reach LR-3
• LX	Reach LX
• S1	Reach S1
• S2	Reach S2
• SR	Reach SR
• SR-1	Reach SR-1
• SX	Reach SX
• T	Reach T
• TEN-GE-ER	10 GE extended range
• TEN-GE-LR	10 GE long range
• TEN-GE-SR	10 GE short range
• VX	Reach VX
• ZX	Reach ZX
<ENCAP>	Specifies the mapping mode on the port provisioned. Parameter Type is ENCAP.
• CBR	CBR mapping mode.
• GFP	GFP mapping mode.

Table 13-3 ED-<MOD1FICONPAYLOAD> Command - Parameter Support

Input Parameters	Description
• GMP	GMP mapping mode is supported only on 8GFC on 10x10G-LC card.
• TRP	Transparent mapping mode.
<PST>	(Optional) Primary state. The parameter type is PST, which indicates the current overall service condition of an entity.
• Unlocked	In service
• Locked	Out of service
<SST>	(Optional) Secondary state. the parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AutomaticInService	Automatic in service
• Disabled	Disabled
• Loopback	Loopback
• MismatchofEquipmentAlarm	Mismatch of equipment and attributes
• Maintenance	Maintenance mode
• OutOfGroup	Out of group
• SoftwareDownload	Software downloading
• Unassigned	Unassigned
• NotInstalled	Unequipped

13.5 ED-<MOD2NCSPAYLOAD>

The Edit 10GFC, 10GIGE, 100GIGE, 40GIGE, 1GFC, 1GFICON, 1GISC3, 2GFC, 2GFICON, 2GISC3, 4GFC, 4GFICON, 5GIB, 8GFC, D1VIDEO, DV6000, DVBASI, ESCON, ETRCLO, GIGE, HDTV, ISC1, ISC3, OTU3, OTU4, PASSTHRU, AUTO, 3GVIDEO, SDSDI, HDSDI, OTU1, OTU2, ISC3STP1G, or ISC3STP2G (ED-<MOD2NCSPAYLOAD>) command edits the operating parameters for a NCS client facility. See [Table 29-1 on page 29-1](#) for supported modifiers by platform. This command creates GCC with a given GCCRATE.

Usage Guidelines

The command supports the modifier AUTO, 3GVIDEO, SDSDI, HDSDI, OTU1, ISC3STP1G, and ISC3STP2G.

- Squelchmode applicable for SDSDI, HDSDI, 3GVIDEO, ISC3STG1G, ISC3STP2G, and ESCON are NONE and SQUELCH.
- Squelchmode applicable for 1GFC, 2GFC, 4GFC in NON-TXP mode and 8GFC are NONE, NOS and SQUELCH.
- Squelchmode for 4GFC client in TXP modes are NONE and NOS.
- The only allowed Squelchmode for 4GFC trunk is SQUELCH
- Video RATES - NTSC/PAL can be set based on ANSI/ETSI chassis types respectively for HDSDI and 3GVIDEO.

- Video RATE is not applicable for other video payloads - SDSDI, ESCON, ISC3STP1G, and ISC3STP2G.
- Video RATE is also not applicable for 1G/2G/3G/4G/8G-FC payloads.
- Editing the working port will automatically edit the protect port.
- OVRCLK is the new parameter added and applicable for OTU2 payload on SFP+ ports of 10x10G-LC only.

Category

NCS

Security

Provisioning

Input Format

ED-<MOD2NCSPAYLOAD>[:<TID>]:<AID>:<CTAG>[:::LINKRCVRY=<LINKRCVRY>],[DISTEXTN=<DISTANCE_EXTENSION>],[AUTODETECTION=<AUTO_DETECTION>],[LINKCREDIT S=<CREDITS>],[FASTSWITCH=<FASTSWITCH>],[MFS=<MAXFRMSIZE>],[NAME=<NAME>],[CMDMDE=<CMDMDE>],[SOAK=<SOAK>],[FREQ=<FREQ>],[LOSSB=<LOSSB>],[SQUELCH=<SQUELCH>],[SQUELCHMODE=<SQUELCHMODE>],[ENCAP=<ENCAP>],[<PST>[,<SST>]];

Input Example

ED-SDSDI::VFAC-3-1-1:1:::SQUELCHMODE=SQUELCH;

Table 13-4 ED-<MOD2NCSPAYLOAD> Command - Parameter Support

Input Parameters	Description
<AID>	The AR-MXP, AR-XP, and AR-XPE cards use the VFAC Access Identifier. See access identifier from the “27.1 ALL” section on page 27-1 .
<SQUELCHMODE>	Shuts down the far-end laser in response to certain defects.
• DISABLE	Disable
• AIS	AIS
• G-AIS	Generis AIS
• ODU-AIS	ODU AIS
• SQUELCH	Squelch is enabled
• NONE	Transparent
• NOS	Disable in FC payloads.
<ENCAP>	Specifies the mapping mode on the port provisioned. Parameter Type is ENCAP.
• CBR	CBR mapping mode.
• GFP	GFP mapping mode.

Table 13-4 *ED-<MOD2NCSPAYLOAD> Command - Parameter Support*

Input Parameters	Description
• GMP	GMP mapping mode is supported only on 8GFC on 10x10G-LC card.
• TRP	Transparent mapping mode.

13.6 ED-<MOD_PATH>

The Edit VC3, VC44C, VC464C, VC48C, VC4, VC416C, VC42C, VC43C, VC11, or VC12 (ED-<MOD_PATH>) command edits the attributes associated with VC paths.

Usage Guidelines

The SFBER, SDBER, RVRTV, and RVTM parameters only apply to subnetwork connection protection (SNCP) at the VC path level.

The path trace message is a 64-character string including the terminating carriage return (CR) and line feed (LF) that is transported in the J1 byte of the NCS VC Path overhead.

Both the EXPTRC and TRC string can be provisioned by a user with up to a 62-character string. The EXPTRC parameter indicates that the contents of the expected incoming path trace are provisioned by the user. The TRC parameter indicates the contents of the outgoing path trace message.

The INCTRC parameter indicates the contents of the incoming path trace message.

Path trace has three modes: OFF, MANUAL, and AUTO. The path trace mode defaults to OFF. The MANUAL mode performs the comparison of the received string with the user-entered expected string. The AUTO mode performs the comparison of the present received string with an expected string set to a previously received string. If there is a mismatch, TIM-P alarm is raised. When the path trace mode is in OFF mode, there is no path trace processing, and all the alarm and state conditions are reset.

The TACC parameter edits an existing single VC or VT and changes it to a test access point. When an editing command on TACC is executed, it assigns the VC or VT for the first two-way connection and VC+1 as the second 2-way connection. For single facility access digroup (FAD) test access, only a single VC/VT is used for the TAP creation.

J1 is implemented on the E1, E3, E4, DS3i-N-12, and STM cards.

E100 and E1000 cards do not support path trace.

The STM1, STM16AS, and STM64 cards only support EXPTRC in the ED-VC-PATH command.



Note

Each TL1 command must be less than or equal to 255 characters. Any command larger than 255 characters must be split into multiple commands. For example, if you use the ED-<VC_PATH> command to edit the J1 EXPTRC/TRC message, SNCP attributes, and TACC attributes and the command exceeds 255 characters, the command will not be processed. You must use multiple ED-<VC_PATH> commands instead.

The default values for all optional parameters are NE default values. These values might not be the current value for a parameter. Use a retrieve command to obtain the current value.

The following actions will return error messages:

- Sending this command to edit SFBER, SDBER, RVRTV or RVTM for the non-SNCP VC path.

- Sending this command to edit the EXPTRC string with the AUTO path trace mode (TRCMODE=AUTO).
- Sending this command to edit both TACC and any other attribute(s) will return the “Parameters Not Compatible” error message.
- Sending this command to edit TACC on an AID with cross-connects will return the “VC in Use” error message.

This command is allowed to edit EXPTRC on STM1, STM16AS, and STM64 cards.

**Note**

- TACC creation will be denied on protect ports and cards in 1:1, 1:N, and 1+1 configurations.
- The VFAC AID is only valid on slots containing an ML-Series card. TACC is not supported for the ML-Series cards.
- After the MS-SPRing switching, provisioning of the J1 trace string or trace mode is not allowed on the protection path.
- TACC creation is allowed on protection channel access (PCA) for two-fiber and four-fiber MS-SPRing.
- TACC is not supported on G1000, MXP_2.5_10G, TXP_MR_10G, ML1000-2, and ML100T-12 cards.
- HOLDOFFTIMER is not specific to a path. It is applicable to the SNCP selector. If HOLDOFFTIMER is changed on one path associated with the selector, the HOLDOFFTIMER of the other path associated with the same selector is also changed.
- The cross-connects on the DS3i-N-12 card are VC4 width, but the individual VC1s within the 3C will be accessible. For editing the path attributes, use ED-VC3 with the FAC AID. For test access creation, use ED-VC4 because the test access path width (like the cross-connect) has to be 3C on the DS3i-N-12 card, which creates a new entity (TAP) on the DS3i-N-12 card in 3C width. On the DS3i-N-12 card, the ED-VC command can be used either with VC3 or VC4 modifier depending on the parameter to be modified.

Category

Paths

Security

Provisioning

Input Format

```
ED-<MOD_PATH>:[TID]:<AID>:[CTAG]:::[SFBER=<SFBER>],[SDBER=<SDBER>],
[RVRTV=<RVRTV>],[RVTM=<RVTM>],[HOLDOFFTIMER=<HOLDOFFTIMER>],
[EXPTRC=<EXPTRC>],[TRC=<TRC>],[TRCMODE=<TRCMODE>],
[TACC=<TACC>],[TAPTYPE=<TAPTYPE>],[CMDMDE=<CMDMDE>]:[<PST>[,<SST>]];
```

Input Example

```
ED-VC3:FERNDAL:VC3-1-1-1:115:::SFBER=1E-3,SDBER=1E-5,RVRTV=Y,RVTM=1.0,
HOLDOFFTIMER=2000,EXPTRC="EXPTRCSTRING",TRC="TRCSTRING",
TRCMODE=OFF,TACC=8,TAPTYPE=SINGLE,CMDMDE=NORM:UNLOCKED,
AUTOMATICINSERVICE;
```


Table 13-5 *ED-<MOD_PATH> Command - Parameter Support*

Input Parameters	Description
<AID>	Access identifier from the “ 27.11 CrossConnectId1 ” section on page 27-16.
<SFBER>	(Optional) Signal failure threshold. Applies only to SNCP. Applies to VC4-level paths. The parameter type is SF_BER, which is the threshold for declaring signal failure on a facility or path.
• 1E-3	SFBER is 1E-3.
• 1E-4	SFBER is 1E-4.
• 1E-5	SFBER is 1E-5.
<SDBER>	(Optional) Signal degrade threshold. Applies only to SNCP. Applies to VC4-level paths (VCn). The parameter type is SD_BER, which is the threshold for declaring signal degrade on a facility or path.
• 1E-5	SDBER is 1E-5.
• 1E-6	SDBER is 1E-6.
• 1E-7	SDBER is 1E-7.
• 1E-8	SDBER is 1E-8.
• 1E-9	SDBER is 1E-9.
<RVRTV>	(Optional) Revertive mode. The value Y indicates that protection switching system reverts service to the original line after restoration. The value N indicates that protection switching system does not revert service to the original line after restoration. RVRTV is applicable only for 1+1 protection switching. Null defaults to N. Only applies to SNCP. The parameter type is ON_OFF, which disables or enables an attribute.
• N	Does not revert service to original line after restoration.
• Y	Reverts service to original line after restoration.
<RVTM>	(Optional) Revertive time. RVTM is not allowed to be set while RVRTV is N. Only applies to SNCP. The parameter type is REVERTIVE_TIME (revertive time).
• 0.5 to 12.0	Revertive time is 0.5 to 12.0 minutes.
• N	Disable an attribute.
• Y	Enable an attribute.
<HOLDOFFTIMER>	(Optional) Hold-off timer for SNCP DRI. Values must be within 0 and 10000 milliseconds (0 to 10 seconds), with increments of 100 milliseconds. HOLDOFFTIMER is an integer.
<EXPTRC>	(Optional) Expected path trace content. Indicates the expected path trace message (J1) contents. EXPTRC is any 64-character ASCII string, including the terminating CR and LF. Applicable to VC-level paths in NCS (VCn). EXPTRC is a string.
<TRC>	(Optional) The path trace message to be transmitted. The trace byte (J1) continuously transmits a 64-byte, fixed length ASCII string, one byte at a time. A null value defaults to the NE transmitting 62 null characters (hex 00) and CR and LF. A null value defaults to the NE transmitting null characters (Hex 00). Applicable to VC-level paths in NCS (VCn). TRC is a string.
<TRCMODE>	(Optional) Path trace mode. Applicable only to VC-level paths in NCS (VCn). Defaults to the OFF mode. The parameter type is TRCMODE (trace mode).
• AUTO	Use the previously received path trace string as the expected string. Not applicable to MXP/TXP cards.

Table 13-5 *ED-<MOD_PATH> Command - Parameter Support*

Input Parameters	Description
AUTO-NO-AIS	Use the previously received path trace string as the expected string and do not turn on alarm indication signal (AIS) and remote defect indication (RDI) if TIM-P is detected.
MAN	Use the provisioned expected string as the expected string.
MAN-NO-AIS	Use the provisioned expected string as the expected string and do not turn on AIS and RDI if TIM-P is detected.
OFF	Turn off path trace capability. Nothing will be reported.
<TACC>	(Optional) TAP number within a range of 0 to 999. Indicates whether the digroup being provisioned is to be used as a test access digroup. When TACC is 0 (zero), the TAP is deleted. TACC is an integer.
<TAPTYPE>	(Optional) TAP type. the parameter type is TAPTYPE (test access point type).
DUAL	Dual FAD
SINGLE	Single FAD
<CMDMDE>	(Optional) Command mode. Normal (NORM) mode is the default behavior for all commands but you can specify forced (FRCD) mode to force the system to override a state where the command would normally be denied. The FRCD mode of operation is applicable to delete a virtual concatenated (VCAT) member cross-connect in Unlocked-Enabled or Locked-Disabled, AutomaticInService service states.
FRCD	Force the system to override a state in which the command would normally be denied.
NORM	Execute the command normally. Do not override any conditions that could make the command fail.
<PST>	(Optional) Primary state. The parameter type is PST, which indicates the current overall service condition of an entity.
Unlocked	In service
Locked	Out of service
<SST>	(Optional) Secondary state. the parameter type is SST, which provides additional information pertaining to PST and PSTQ.
AutomaticInService	Automatic in service
Disabled	Disabled
Loopback	Loopback
MismatchofEquipment Alarm	Mismatch of equipment and attributes
Maintenance	Maintenance mode
OutOfGroup	Out of group
SoftwareDownload	Software downloading
Unassigned	Unassigned
NotInstalled	Unequipped

13.7 ED-<MOD_RING>

The Edit Multiplex Section-Shared Protection Ring (ED-<MOD_RING>) command edits the MS-SPRing attributes.

Usage Guidelines

The RVRTV, RVTM, SRVRTV, SRVTM, NODEID, and RINGID attributes can be edited for the four-fiber MS-SPRing.

The RVRTV, RVTM, NODEID, and RINGID attributes can be edited for the two-fiber MS-SPRing.

The default values for all optional parameters are NE default values. These values might not be the current value for a parameter. Use a retrieve command to obtain the current value.

The following actions will produce errors:

- If the system fails on getting IOR, a SROF (Get IOR Failed) error message is returned
- If the AID is invalid, an IIAC (Invalid AID) error message is returned.
- If the MS-SPRing does not exist, a SRQN (MSSPR Does Not Exist) error message is returned.
- The SROF (Facility Not Provisioned) or SROF (Cannot Access MSSPR) error message will be returned for an invalid query.
- The SRQN (MSSPR Edition Failed) error message is returned for an invalid edition query.
- Sending this command to modify SRVRTV or SRVTM on a two-fiber MS-SPRing will return an IDNV (Invalid Data For 2F-MS-SPRing) error message.
- Sending this command to modify the node ID with invalid data will return an IIAC (Invalid NodeId) error message.
- Sending this command to change the ring ID into invalid data will return an IIAC (Invalid RingId) error message.
- Changing the MS-SPRing node ID with a duplicated ID will return a SROF (Cannot Set NodeId) error message.
- Changing the MS-SPRing ring ID with a duplicated ID will return a SROF (Cannot Set RingId) error message.



Note

- The ALL AID is invalid for this command.
- The list AID format is supported in Release 4.6 and later.

Category

MS-SPRing

Security

Provisioning

Input Format

ED-<MOD_RING>:[<TID>]:<AID>:<CTAG>:::[RINGID=<RINGID>],[NODEID=<NODEID>],[RVRTV=<RVRTV>],[RVTM=<RVTM>],[SRVRTV=<SRVRTV>],[SRVTM=<SRVTM>][:];

Input Example ED-BLSR:PETALUMA:MSSPR-43:123::RINGID=43,NODEID=3,RVRTV=Y,RVTM=2.0,SRVRTV=Y,SRVTM=5.0;

Table 13-6 ED-<MOD_RING> Command - Parameter Support

Input Parameters	Description
<AID>	Access identifier from the “ 27.3 AidUnionId1 ” section on page 27-10. Identifies the MS-SPRing of the NE. ALL or MSSPR-ALL AID is not allowed for editing an MS-SPRing.
<RINGID>	The MS-SPRing ID of the NE, up to six characters. Valid characters are A-Z and 0-9. RINGID is a string.
<NODEID>	The MS-SPRing node ID of the NE. NODEID ranges from 0 to 31. NODEID is an integer.
<RVRTV>	Revertive mode. The value Y indicates that protection switching system reverts service to the original line after restoration. The value N indicates that protection switching system does not revert service to the original line after restoration. RVRTV is applicable only for 1+1 protection switching. Null defaults to N. The parameter type is ON_OFF (disable or enable an attribute).
• N	Does not revert service to original line after restoration.
• Y	Reverts service to original line after restoration.
RVTM	Revertive time. RVTM is not allowed to be set while “RVRTV” is N. the parameter type is REVERTIVE_TIME (revertive time).
• 0.5 to 12.0	Revertive time is 0.5 to 12.0 minutes.
<SRVRTV>	The span revertive mode for four-fiber MS-SPRing only. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<SRVTM>	The span revertive time for four-fiber MS-SPRing only. SRVTM is not allowed to be set while SRVRTV is N. The parameter type is REVERTIVE_TIME (revertive time).
• 0.5 to 12.0	Revertive time is 0.5 to 12.0 minutes.

13.8 ED-<STM_TYPE>

The Edit STM1, STM4, STM16, or STM64 command edits the attributes (for example, service parameters) and state of an STM facility. Allowable states for a facility are Locked, Locked with Automatic In Service transitioning, Locked for Maintenance, and Unlocked. See [Table 29-1 on page 29-1](#) for supported modifiers by platform.

Usage Guidelines

The OPRNOMINAL parameter is supported only by optical card types that support Optical PM. The following cards support OPRNOMINAL: STM1-8, MRC-12, MRC-12-2.5G, MRC-4-2.5G, STM64-XFP, CTX-2500, CTX, STM64-4, STM16-16, STM64-4-NCS, ASAP-4.

The data communications channel (DCC) transmit is bridged to both working and protect in a 1+1 configuration. On the receive side, the active one is selected for DCC. The DCC is provisioned on the working port only in a 1+1 configuration.

All lines in a 1+1 MS-SPRing must have the same mode. If you change the mode of a line that is in a 1+1 MS-SPRing, an error message will be returned.

The default values for all optional parameters are NE default values. These values might not be the current value for a parameter. Use a retrieve command to obtain the current value.

You cannot directly transition a facility from IS to Locked-Disabled,DSBLD service state. You can transition a facility to Locked-Disabled, DSBLD service state from any state except Locked-Disabled, Maintenance. To transition a facility from Locked-Disabled, Maintenance to Locked-Disabled, DSBLD service state, all the following conditions must be met:

- The facility is not sourcing a synchronization clock
- The facility's DCC is disabled
- The facility is not part of a protection group
- The facility is not supporting cross-connects
- The facility is not using overhead connections or overhead terminations (such as express orderwire, local orderwire, or user data channels [UDCs])

**Note**

The conditions stipulated can be overridden by using the CMDMDE=FRCD option. The FRCD option will immediately remove the facility from service (except for IS to Locked-Disabled, DSBLD transition) with no consideration for orderly interruption.

Category

Ports

Security

Provisioning

Input Format

```
ED-<STM_TYPE>:[<TID>]:<AID>:<CTAG>:::[DCC=<DCC>],[AREA=<AREA>],
[SYNCSMSG=<SYNCSMSG>],[SENDDUS=<SENDDUS>],[PJMON=<PJMON>],
[SFBER=<SFBER>],[SDBER=<SDBER>],[MODE=<MODE>],[MUX=<MUX>],
[SOAK=<SOAK>],[OSPF=<OSPF>],[MSDCC=<MSDCC>],[NAME=<NAME>],
[CMDMDE=<CMDMDE>],[EXPTRC=<EXPTRC>],[TRC=<TRC>],[TRCMODE=<TRCMODE>],
[TRCFORMAT=<TRCFORMAT>],[ADMSSM=<ADMSSM>],[SENDDUSFF=<SENDDUSFF>],
[AISONLPBK=<AISONLPBK>],[FREQ=<FREQ>],[LOSSB=<LOSSB>],
[FOREIGNFEND=<FOREIGNFEND>],[FOREIGNIP=<FOREIGNIP>],OPRNOMINAL=<OPRNOMINAL>]:[<PST>],[<SST>]];
```

Input Example

```
ED-STM16:PENNGROVE:FAC-6-1:114:::DCC=Y,AREA=10.92.63.1,SYNCSMSG=N,SENDDUS=N,
PJMON=48,SFBER=1E-4,SDBER=1E-6,MODE=SINGLESHELF,MUX=E2,SOAK=10,OSPF=Y,
MSDCC=N,NAME="STMPORT",CMDMDE=NORM,EXPTRC="AAA",TRC="AAA",
TRCMODE=MAN,TRCFORMAT=16-BYTE,ADMSSM=G811,SENDDUSFF=N,
AISONLPBK=AIS_ON_LPBK_ALL,FREQ=1550,LOSSB=LR-1,FOREIGNFEND=N,
FOREIGNIP="IPADDRESS",OPRNOMINAL=Y:UNLOCKED,AUTOMATICINSERVICE;
```

Table 13-7 ED-STM1 Command - Parameter Support

Input Parameters	Description
<AID>	Access identifier from the “ 27.15 FACILITY ” section on page 27-23.
<DCC>	(Optional) Indicates whether or not the RS-DCC is to be used. Identifies the RS-DCC connection of the port. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<AREA>	(Optional) The area ID shows up only if the DCC is enabled.
<SYNCSMSG>	(Optional) Synchronization status message. The parameter type is EXT_RING, which indicates if the ring supports the extended K1/K2/K3 protocol.
• N	The ring does not support the extended K1/K2/K3 protocol.
• Y	The ring does support the extended K1/K2/K3 protocol.
<SENDDUS>	(Optional) Whether the facility will send the Do Not Use for Synchronization (DUS) value as the synchronization status message for that facility. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<PJMON>	(Optional) Identifies an STM port PJMON. Defaults to 0 (zero). PJMON is an integer. Set a valid VC4 number of the optical port. Note The PJMON number displayed in TL1 interface does not correspond to the PJVC4MON number in CTC, but instead corresponds to the VC4 number of the optical port.
<SFBER>	(Optional) Signal failure threshold. the parameter type is SF_BER, which is the threshold for declaring signal failure on a facility or path.
• 1E-3	SFBER is 1E-3.
• 1E-4	SFBER is 1E-4.
• 1E-5	SFBER is 1E-5.
<SDBER>	(Optional) Signal degrade threshold. the parameter type is SD_BER, which is the threshold for declaring signal degrade on a facility or path.
• 1E-5	SDBER is 1E-5
• 1E-6	SDBER is 1E-6
• 1E-7	SDBER is 1E-7
• 1E-8	SDBER is 1E-8
• 1E-9	SDBER is 1E-9
<MODE>	(Optional) STM port mode. The parameter type is OPTICAL_MODE, which is the facility’s optical mode.
• SINGLESHELF	The NE contains only one shelf and the AID representation does not consider the shelf identifier for command requests/response and autonomous reports.
• MULTISHELF	The AID representation considers the shelf identifier for command requests/response and autonomous reports. This means the NE has more than one shelf configured or the user wants to use the new AID style.

Table 13-7 ED-STM1 Command - Parameter Support

Input Parameters	Description
MULTISHELFETH	The AID representation considers the shelf identifier for command requests/response and autonomous reports. This means the NE has more than one shelf configured or the user wants to use the new AID style. The shelves are connected by means of an external Ethernet switch.
<MUX>	(Optional) MS-SPRing extension byte (supported only on the STM16AS card). The parameter type is MUX_TYPE, which is the MS-SPRing extension type.
E2	E2 byte (orderwire)
F1	F1 byte (user)
K3	K3 byte
Z2	Z2 byte
<SOAK>	(Optional) Locked-AutomaticInService to Unlocked transition soak time as measured in 15-minute intervals. A value of 4 equals a soak time of 1 hour. The allowable range is 0 to 192 intervals (maximum of 48 hours). SOAK is an integer.
<OSFP>	(Optional) The Open Shortest Path First discovery. The parameter type is ON_OFF (disable or enable an attribute).
N	Disable an attribute.
Y	Enable an attribute.
<MSDCC>	(Optional) The MS-DCC connection on the port. The parameter type is EXT_RING, which indicates if the ring supports the extended K1/K2/K3 protocol.
N	The ring does not support the extended K1/K2/K3 protocol.
Y	The ring does support the extended K1/K2/K3 protocol.
<NAME>	(Optional) NAME is a user-specified string to identify the facility.
<CMDMDE>	(Optional) Command mode. Normal (NORM) mode is the default behavior for all commands but you can specify forced (FRCD) mode to force the system to override a state where the command would normally be denied. The FRCD mode of operation is applicable to delete a virtual concatenated (VCAT) member cross-connect in Unlocked-Enabled or Locked-Disabled, AutomaticInService service states.
FRCD	Force the system to override a state in which the command would normally be denied.
NORM	Execute the command normally. Do not override any conditions that could make the command fail.
<EXPTRC>	(Optional) Expected section trace content. Indicates the expected section trace message (J1) contents. EXPTRC is any 64-character ASCII string, including the terminating CR (carriage return) and LF (line feed). String data type.
<TRC>	(Optional) The section trace message to be transmitted. The trace byte (J1) continuously transmits a 64-byte, fixed length ASCII string, one byte at a time. Defaults to NULL. TRC is a string.
<TRCMODE>	(Optional) Section trace mode. Applicable only to VC-level paths in NCS (VCn). Defaults to the MAN mode. The parameter type is TRCMODE (trace mode).
AUTO	Use the previously received section trace string as the expected string. Not applicable to MXP/TXP cards.
AUTO-NO-AIS	Use the previously received section trace string as the expected string and do not turn on AIS and RDI if TIM-P is detected.
MAN	Use the provisioned expected string as the expected string.

Table 13-7 ED-STM1 Command - Parameter Support

Input Parameters	Description
• MAN-NO-AIS	Use the provisioned expected string as the expected string and do not turn on AIS and RDI if TIM-P is detected.
• OFF	Turn off section trace capability. Nothing will be reported.
<TRCFORMAT>	(Optional) Trace message size. The parameter type is TRCFORMAT (trace format).
• 1-BYTE	1 byte trace message
• 16-BYTE	16 byte trace message
• 64-BYTE	64 byte trace message
<ADMSSM>	(Optional) SSM selectable value. It will only appear when SSM is disabled. The parameter type is SYNC_CLOCK_REF_QUALITY_LEVEL, which is the clock source quality level for NCS.
• DUS_NCS	Do Not Use For Synchronization
• G811	G811 Standard
• RES_NCS	Reserved For Network Synchronization Use
• G812T	G812T Standard
• STU_NCS	Synchronized, Traceability Unknown
• G812TL	G812TL Standard
• SETS	Synchronous Equipment Timing Source
<SENDDUSFF>	(Optional) The parameter type is EXT_RING, which indicates whether the ring supports the extended K1/K2/K3 protocol.
• N	The ring does not support the extended K1/K2/K3 protocol.
• Y	The ring does support the extended K1/K2/K3 protocol.
<AISONLPBK>	(Optional) The parameter type is AIS_ON_LPBK, which indicates if AIS should be sent on loopback.
• AIS_ONLPBK_FACILITY	AIS is sent on facility loopback.
• AIS_ON_LPBK_ALL	AIS is sent on all loopbacks.
• AIS_ON_LPBK_OFF	AIS is not sent on loopback.
• AIS_ON_LPBK_TERMINAL	AIS is sent on terminal loopback.
<FREQ>	(Optional) The parameter type is OPTICAL_WLEN (optical wavelength).
• 1310	Wavelength 1310
• 1470	Wavelength 1470
• 1490	Wavelength 1490
• 1510	Wavelength 1510
• 1529.55	Wavelength 1529.55
• 1529.94	Wavelength 1529.94
• 1530	Wavelength 1530
• 1530.33	Wavelength 1530.33

Table 13-7 *ED-STM1 Command - Parameter Support*

Input Parameters	Description
• 1530.73	Wavelength 1530.73
• 1531.12	Wavelength 1531.12
• 1531.51	Wavelength 1531.51
• 1531.90	Wavelength 1531.90
• 1532.29	Wavelength 1532.29
• 1532.68	Wavelength 1532.68
• 1533.07	Wavelength 1533.07
• 1533.47	Wavelength 1533.47
• 1533.86	Wavelength 1533.86
• 1534.25	Wavelength 1534.25
• 1534.64	Wavelength 1534.64
• 1535.04	Wavelength 1535.04
• 1535.43	Wavelength 1535.43
• 1535.82	Wavelength 1535.82
• 1536.22	Wavelength 1536.22
• 1536.61	Wavelength 1536.61
• 1537	Wavelength 1537
• 1537.40	Wavelength 1537.40
• 1537.79	Wavelength 1537.79
• 1538.19	Wavelength 1538.19
• 1538.58	Wavelength 1538.58
• 1538.98	Wavelength 1538.98
• 1539.37	Wavelength 1539.37
• 1539.77	Wavelength 1539.77
• 1540.16	Wavelength 1540.16
• 1540.56	Wavelength 1540.56
• 1540.95	Wavelength 1540.95
• 1541.35	Wavelength 1541.35
• 1541.75	Wavelength 1541.75
• 1542.14	Wavelength 1542.14
• 1542.35	Wavelength 1542.35
• 1542.54	Wavelength 1542.54
• 1542.94	Wavelength 1542.94
• 1543.33	Wavelength 1543.33
• 1543.73	Wavelength 1543.73
• 1544.13	Wavelength 1544.13

Table 13-7 ED-STM1 Command - Parameter Support

Input Parameters	Description
• 1544.53	Wavelength 1544.53
• 1544.92	Wavelength 1544.92
• 1545.32	Wavelength 1545.32
• 1545.72	Wavelength 1545.72
• 1546.12	Wavelength 1546.12
• 1546.52	Wavelength 1546.52
• 1546.92	Wavelength 1546.92
• 1547.32	Wavelength 1547.32
• 1547.72	Wavelength 1547.72
• 1548.12	Wavelength 1548.12
• 1548.51	Wavelength 1548.51
• 1548.92	Wavelength 1548.92
• 1549.32	Wavelength 1549.32
• 1549.71	Wavelength 1549.71
• 1550	Wavelength 1500
• 1550.12	Wavelength 1550.12
• 1550.52	Wavelength 1550.52
• 1550.92	Wavelength 1550.92
• 1551.32	Wavelength 1551.32
• 1551.72	Wavelength 1551.72
• 1552.12	Wavelength 1552.12
• 1552.52	Wavelength 1552.52
• 1552.93	Wavelength 1552.93
• 1553.33	Wavelength 1553.33
• 1553.73	Wavelength 1553.73
• 1554.13	Wavelength 1554.13
• 1554.13	Wavelength 1554.13
• 1554.94	Wavelength 1554.94
• 1555.34	Wavelength 1555.34
• 1555.75	Wavelength 1555.75
• 1556.15	Wavelength 1556.15
• 1556.55	Wavelength 1556.55
• 1556.96	Wavelength 1556.96
• 1557.36	Wavelength 1557.36
• 1557.77	Wavelength 1557.77
• 1558.17	Wavelength 1558.17

Table 13-7 ED-STM1 Command - Parameter Support

Input Parameters	Description
• 1558.58	Wavelength 1558.58
• 1558.98	Wavelength 1558.98
• 1559.39	Wavelength 1559.39
• 1559.79	Wavelength 1559.79
• 1560.20	Wavelength 1560.20
• 1560.61	Wavelength 1560.61
• 1561.01	Wavelength 1561.01
• 1561.42	Wavelength 1561.42
• 1561.83	Wavelength 1561.83
• 1570	Wavelength 1570
• 1570.83	Wavelength 1570.83
• 1571.24	Wavelength 1571.24
• 1571.65	Wavelength 1571.65
• 1572.06	Wavelength 1572.06
• 1572.48	Wavelength 1572.48
• 1572.89	Wavelength 1572.89
• 1573.30	Wavelength 1573.30
• 1573.71	Wavelength 1573.71
• 1574.13	Wavelength 1574.13
• 1574.54	Wavelength 1574.54
• 1574.95	Wavelength 1574.95
• 1575.37	Wavelength 1575.37
• 1575.78	Wavelength 1575.78
• 1576.20	Wavelength 1576.20
• 1576.61	Wavelength 1576.61
• 1577.03	Wavelength 1577.03
• 1577.44	Wavelength 1577.44
• 1577.86	Wavelength 1577.86
• 1578.27	Wavelength 1578.27
• 1578.69	Wavelength 1578.69
• 1579.10	Wavelength 1579.10
• 1579.52	Wavelength 1579.52
• 1579.93	Wavelength 1579.93
• 1580.35	Wavelength 1580.35
• 1580.77	Wavelength 1580.77
• 1581.18	Wavelength 1581.18

Table 13-7 ED-STM1 Command - Parameter Support

Input Parameters	Description
• 1581.60	Wavelength 1581.60
• 1582.02	Wavelength 1582.02
• 1582.44	Wavelength 1582.44
• 1582.85	Wavelength 1582.85
• 1583.27	Wavelength 1583.27
• 1583.69	Wavelength 1583.69
• 1584.11	Wavelength 1584.11
• 1584.53	Wavelength 1584.53
• 1584.95	Wavelength 1584.95
• 1585.36	Wavelength 1585.36
• 1585.78	Wavelength 1585.78
• 1586.20	Wavelength 1586.20
• 1586.62	Wavelength 1586.62
• 1587.04	Wavelength 1587.04
• 1587.46	Wavelength 1587.46
• 1587.88	Wavelength 1587.88
• 1588.30	Wavelength 1588.30
• 1588.73	Wavelength 1588.73
• 1589.15	Wavelength 1589.15
• 1589.57	Wavelength 1589.57
• 1589.99	Wavelength 1589.99
• 1590	Wavelength 1590
• 1590.41	Wavelength 1590.41
• 1590.83	Wavelength 1590.83
• 1591.26	Wavelength 1591.26
• 1591.68	Wavelength 1591.68
• 1592.10	Wavelength 1592.10
• 1592.52	Wavelength 1592.52
• 1592.95	Wavelength 1592.95
• 1593.37	Wavelength 1593.37
• 1593.79	Wavelength 1593.79
• 1594.22	Wavelength 1594.22
• 1594.64	Wavelength 1594.64
• 1595.06	Wavelength 1595.06
• 1595.49	Wavelength 1595.49
• 1596.34	Wavelength 1596.34

Table 13-7 ED-STM1 Command - Parameter Support

Input Parameters	Description
• 1596.76	Wavelength 1596.76
• 1597.19	Wavelength 1597.19
• 1597.62	Wavelength 1597.62
• 1598.04	Wavelength 1598.04
• 1598.47	Wavelength 1598.47
• 1598.89	Wavelength 1598.89
• 1599.32	Wavelength 1599.32
• 1599.75	Wavelength 1599.75
• 1600.06	Wavelength 1600.06
• 1601.03	Wavelength 1601.03
• 1601.46	Wavelength 1601.46
• 1601.88	Wavelength 1601.88
• 1602.31	Wavelength 1602.31
• 1602.74	Wavelength 1602.74
• 1603.17	Wavelength 1603.17
• 1603.60	Wavelength 1603.60
• 1604.03	Wavelength 1604.03
• 1610	Wavelength 1610
• USE-TWL1	Use Tunable Wavelength 1
<LOSSB>	(Optional) The parameter type is REACH, which is the reach value.
• AUTOPROV	Autoprovisioning
• CWDM	Coarse wavelength division multiplexing (CWDM)
• CWDM-40KM	CWDM 40 kilometers.
• CX	Reach CX
• CX1	Reach CX1
• DX	Reach DX
• HX	Reach HX
• I1	Reach I1
• IR-1	Reach IR-1
• IR-2	Reach IR-2
• L1	Reach L1
• L2	Reach L2
• L3	Reach L3
• LR-1	Reach LR-1
• LR-2	Reach LR-2
• LR-3	Reach LR-3

Table 13-7 ED-STM1 Command - Parameter Support

Input Parameters	Description
• LX	Reach LX
• S1	Reach S1
• S2	Reach S2
• SR	Reach SR
• SR-1	Reach SR-1
• SX	Reach SX
• T	Reach T
• TEN-GE-ER	10 GE extended range
• TEN-GE-LR	10 GE long range
• TEN-GE-SR	10 GE short range
• ULH	Reach ULH
• VSR	Reach VSR
• VX	Reach VX
• ZX	Reach ZX
<FOREIGNFEND>	(Optional) Indicates whether the far-end NE on the DCC is a foreign NE. The parameter type is ON_OFF (disable or enabled an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<FOREIGNIP>	(Optional) The IP address of the far-end NE on the DCC. Used only if FOREIGNFEND is Y. FOREIGNIP is a string.
<OPRNOMINAL >	Reads the current raw optical receive power and sets the raw OPR value as the nominal optical receive power.
• N	Not Supported
• Y	Sets the OPR
<PST>	(Optional) Primary state. The parameter type is PST, which indicates the current overall service condition of an entity.
• Unlocked	In service
• Locked	Out of service
<SST>	(Optional) Secondary state. Defaults to AUTOMATICINSERVICE. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AutomaticInService	Automatic in service
• Disabled	Disabled
• Loopback	Loopback
• MismatchofEquipmentAlarm	Mismatch of equipment and attributes
• Maintenance	Maintenance mode
• OutOfGroup	Out of group

Table 13-7 ED-STM1 Command - Parameter Support

Input Parameters	Description
SoftwareDownload	Software downloading
Unassigned	Unassigned
NotInstalled	Unequipped

13.9 ED-<OCN_TYPE>

The Edit OC3, OC12, OC48, OC192, or OC768 (ED-<OCN_TYPE>) command edits the attributes (for example, service parameters) and status of an OC-N facility. Allowable states for a facility are Out Of Service (OOS), Out Of Service and Automatic In Service (OOS-AINS), Out Of Service and Maintenance (OOS-MT), and In Service (IS). See [Table 29-1 on page 29-1](#) for supported modifiers by platform.

Usage Guidelines

- Squelchmode applicable for OC3/OC12/OC48 payloads are NONE, G-AIS and SQUELCH
- The OPRNOMINAL parameter is supported only by optical card types that support Optical PM. The following cards support OPRNOMINAL: OC3-8, MRC-12, MRC-12-2.5G, MRC-4-2.5G, OC192-XFP, CTX-2500, CTX, OC192-4, OC48-16, OC192-4-DWDM, ASAP-4.
- The data communications channel (DCC) transmit side is bridged to both working and protect in a 1+1 protection scheme. On the receive side, the active one is selected for DCC. The DCC is provisioned on the working port only in a 1+1 protection scheme.
- All lines in a 1+1 BLSR must have the same mode. If you change the mode of a line that is in a 1+1 BLSR, an error message will be returned.
- You cannot directly transition a facility from IS to OOS-MA,DSBLD service state. You can transition a facility to OOS-MA,DSBLD service state from any state except OOS-MA,MT. To transition a facility from OOS-MA,MT to OOS-MA,DSBLD service state, all the following conditions must be met:
 - The facility is not sourcing a synchronization clock
 - The facility's DCC is disabled
 - The facility is not part of a protection group
 - The facility is not supporting cross-connects
 - The facility is not using overhead connections or overhead terminations (such as express orderwire, local orderwire, or user data channels [UDCs])



Note

The conditions stipulated can be overridden by using the CMDMDE=FRCD option. The FRCD option will immediately remove the facility from service (except for IS to OOS-MA,DSBLD transition) with no consideration for orderly interruption.



Note

OSI parameters are not supported in Release 9.0 and 9.1.

Category

Ports

Security

Provisioning

Input Format

ED-<OCN_TYPE>:[<TID>]:<AID>:<CTAG>:::[DCC=<DCC>],[AREA=<AREA>],[SYNCMSG=<SYNCMSG>],[SENDDUS=<SENDDUS>],[PJMON=<PJMON>],[SFBER=<SFBER>],[SDBER=<SDBER>],[MODE=<MODE>],[SOAK=<SOAK>],[OSPF=<OSPF>],[LDCC=<LDCC>],[NAME=<NAME>],[CMDMDE=<CMDMDE>],[EXPTRC=<EXPTRC>],[TRC=<TRC>],[TRCMODE=<TRCMODE>],[TRCFORMAT=<TRCFORMAT>],[ADMSSM=<ADMSSM>],[SENDDUSFF=<SENDDUSFF>],[AISONLPBK=<AISONLPBK>],[FOREIGNFEND=<FOREIGNFAREND>],[FOREIGNIP=<FOREIGNIPADDRESS>],[FREQ=<FREQ>],[LOSSB=<LOSSB>],[OPRNOMINAL=<OPRNOMINAL>],[OSISDCC=<OSISDCC>],[OSILDCC=<OSILDCC>],[OSIROUTER=<OSIROUTER>],[PORTMODE=<PORTMODE>],[SQUELCHMODE=<SQUELCHMODE>]:[<PST>][<SST>]]

Input Example

ED-OC48:ROCCIANERA:VFAC-12-1-1:1:::SQUELCHMODE=G-AIS;

Input Parameters

<AID>	Access identifier from the “27.15 FACILITY” section on page 27-23 .
<DCC>	Indicates whether or not the SDCC is to be used. Identifies the SDCC connection of the port. The parameter type is ON_OFF, which disables or enables an attribute.
• N	Disable an attribute.
• Y	Enable an attribute.
<AREA>	The area ID and shows up only if the DCC is enabled. AREA is a string.
<SYNCMSG>	Synchronization status message. The parameter type is EXT_RING, which indicates whether the ring supports the extended K1/K2/K3 protocol.
• N	The ring does not support the extended K1/K2/K3 protocol.
• Y	The ring does support the extended K1/K2/K3 protocol.
<SENDDUS>	The facility will send the DUS (Do not use for Synchronization) value as the SSM for that facility. The parameter type is ON_OFF, which disables or enables an attribute.
• N	Disable an attribute.
• Y	Enable an attribute.
<PJMON>	Identifies an OC-N port PJMON. PJMON is an integer. It defaults to 0 (zero). Set a valid STS number of the optical port. Note The PJMON number displayed in TL1 interface does not correspond to the PJVC4MON number in CTC, but instead corresponds to the STS number of the optical port.
<SFBER>	Signal failure threshold. The parameter type is SF_BER, which is the threshold for declaring signal failure on a facility or path.

• 1E-3	SFBER is 1E-3.
• 1E-4	SFBER is 1E-4.
• 1E-5	SFBER is 1E-5.
<SDBER>	Signal degrade threshold. The parameter type is SD_BER, which is the threshold for declaring signal degrade on a facility or path.
• 1E-5	SDBER is 1E-5.
• 1E-6	SDBER is 1E-6.
• 1E-7	SDBER is 1E-7.
• 1E-8	SDBER is 1E-8.
• 1E-9	SDBER is 1E-9.
<MODE>	This parameter identifies the facility's operating mode. The mode could be either SONET or SDH.
• SDH	SDH/ETSI mode
• SONET	SONET/ANSI mode
<MUX>	BLSR extension byte (supported only on the OC48AS card). MUX cannot be configured if: • The card is SONET and the media type is SDHT. • The card has an orderwire or user data channel (UDC) connection. • This is a protect line and the working line has an orderwire or UDC connection. The parameter type is MUX_TYPE, which is the BLSR extension type.
• E2	E2 byte (orderwire)
• F1	F1 byte (user)
• K3	K3 byte
• Z2	Z2 byte
<SOAK>	OOS-AINS to IS transition soak time as measured in 15-minute intervals. A value of 4 equals a soak time of 1 hour. The allowable range is 0 to 192 intervals (maximum of 48 hours). Defaults to 32. SOAK is an integer.
<OSFP>	The Open Shortest Path First discovery. Defaults to Y. The parameter type is ON_OFF, which disables or enables an attribute.
• N	Disable an attribute.
• Y	Enable an attribute.
<LDCC>	The LDCC connection on the port. Defaults to N. the parameter type is EXT_RING, which indicates if the ring supports the extended K1/K2/K3 protocol.
• N	The ring does not support the extended K1/K2/K3 protocol.
• Y	The ring does support the extended K1/K2/K3 protocol.

<NAME>	NAME is a user-specified string to identify the facility. It defaults to NULL. Its maximum length is 32 characters.
<CMDMDE>	The parameter type is command mode (CMDMDE). Normal (NORM) mode is the default behavior for all commands but you can specify forced (FRCD) mode to force the system to override a state where the command would normally be denied. The FRCD mode of operation is applicable to delete a virtual concatenated (VCAT) member cross-connect in IS-NR or OOS-AU,AINS service states.
• FRCD	Force the system to override a state where the command would normally be denied.
• NORM	Execute the command normally. Do not override any conditions that might make the command fail.
<EXPTRC>	Expected section trace content. Indicates the expected section trace message (J1) contents. EXPTRC is any 64-character ASCII string, including the terminating CR (carriage return) and LF (line feed). Applicable to STS-level paths in SONET (STS _n). Applicable to VT-level paths for the DS3XM-12 card. Defaults to NULL. EXPTRC is a string.
<TRC>	The section trace message to be transmitted. The trace byte (J1) continuously transmits a 64-byte, fixed length ASCII string, one byte at a time. A null value defaults to the NE transmitting 62 null characters (hex 00) and CR and LF. Applicable to STS-level paths in SONET (STS _n). Applicable to VT-level paths for the DS3XM-12 card. TRC is a string.
<TRCMODE>	Section trace mode. Applicable only to STS-level paths in SONET (STS _n). Defaults to MAN. The parameter type is TRCMODE (trace mode).
• AUTO	Use the previously received section trace string as the expected string. Not applicable to MXP or TXP cards.
• AUTO-NO-AIS	Use the previously received section trace string as the expected string and do not turn on AIS and RDI if TIMP is detected.
• MAN	Use the provisioned expected string as the expected string.
• MAN-NO-AIS	Use the provisioned expected string as the expected string and do not turn on AIS and RDI if TIMP is detected.
• OFF	Turn off section trace capability. Nothing will be reported.
<TRCFORMAT>	Trace message size. The parameter type is TRCFORMAT (trace format).
• 1-BYTE	1 byte trace message
• 16-BYTE	16 byte trace message
• 64-BYTE	64 byte trace message
<ADMSSM>	SSM selectable value. It will only appear when SSM is disabled. Defaults to STU. The parameter type is SYNC_CLOCK_REF_QUALITY_LEVEL, which is the clock source quality level for SONET.
• DUS	Do Not Use For Synchronization
• PRS	Primary Reference Source, Stratum 1 Traceable
• RES	Reserved For Network Synchronization Use

• SMC	SONET Minimum Clock Traceable
• ST2	Stratum 2 Traceable
• ST3	Stratum 3 Traceable
• ST3E	Stratum 3E Traceable
• ST4	Stratum 4 Traceable
• STU	Synchronized, Traceability Unknown
• TNC	Transit Node Clock (2nd Generation Only)
<SENDDUSFF>	The parameter type is ON_OFF, which disables or enables an attribute.
• N	Disable an attribute.
• Y	Enable an attribute.
<AISONLPBK>	The parameter type is AIS_ON_LPBK, which indicates if AIS is sent on a loopback.
• FACILITY	AIS is sent on facility loopbacks.
• ALL	AIS is sent on all loopbacks.
• OFF	AIS is not sent on loopbacks.
• TERMINAL	AIS is sent on terminal loopbacks.
<FREQ>	The parameter type is OPTICAL_WLEN (optical wavelength).
• 1310	Wavelength 1310
• 1470	Wavelength 1470
• 1490	Wavelength 1490
• 1510	Wavelength 1510
• 1528.77	Wavelength 1528.77
• 1529.16	Wavelength 1529.16
• 1529.55	Wavelength 1529.55
• 1529.94	Wavelength 1529.94
• 1530	Wavelength 1530
• 1530.33	Wavelength 1530.33
• 1530.73	Wavelength 1530.73
• 1531.12	Wavelength 1531.12
• 1531.51	Wavelength 1531.51
• 1531.90	Wavelength 1531.90
• 1532.29	Wavelength 1532.29
• 1532.68	Wavelength 1532.68
• 1533.07	Wavelength 1533.07
• 1533.47	Wavelength 1533.47
• 1533.86	Wavelength 1533.86
• 1534.25	Wavelength 1534.25
• 1534.64	Wavelength 1534.64
• 1535.04	Wavelength 1535.04
• 1535.43	Wavelength 1535.43
• 1535.82	Wavelength 1535.82

• 1536.22	Wavelength 1536.22
• 1536.61	Wavelength 1536.61
• 1537	Wavelength 1537
• 1537.40	Wavelength 1537.40
• 1537.79	Wavelength 1537.79
• 1538.19	Wavelength 1538.19
• 1538.58	Wavelength 1538.58
• 1538.98	Wavelength 1538.98
• 1539.37	Wavelength 1539.37
• 1539.77	Wavelength 1539.77
• 1540.16	Wavelength 1540.16
• 1540.56	Wavelength 1540.56
• 1540.95	Wavelength 1540.95
• 1541.35	Wavelength 1541.35
• 1541.75	Wavelength 1541.75
• 1542.14	Wavelength 1542.14
• 1542.35	Wavelength 1542.35
• 1542.54	Wavelength 1542.54
• 1542.94	Wavelength 1542.94
• 1543.33	Wavelength 1543.33
• 1543.73	Wavelength 1543.73
• 1544.13	Wavelength 1544.13
• 1544.53	Wavelength 1544.53
• 1544.92	Wavelength 1544.92
• 1545.32	Wavelength 1545.32
• 1545.72	Wavelength 1545.72
• 1546.12	Wavelength 1546.12
• 1546.52	Wavelength 1546.52
• 1546.92	Wavelength 1546.92
• 1547.32	Wavelength 1547.32
• 1547.72	Wavelength 1547.72
• 1548.12	Wavelength 1548.12
• 1548.51	Wavelength 1548.51
• 1548.92	Wavelength 1548.92
• 1549.32	Wavelength 1549.32
• 1549.71	Wavelength 1549.71
• 1550	Wavelength 1500
• 1550.12	Wavelength 1550.12
• 1550.52	Wavelength 1550.52
• 1550.92	Wavelength 1550.92
• 1551.32	Wavelength 1551.32

• 1551.72	Wavelength 1551.72
• 1552.12	Wavelength 1552.12
• 1552.52	Wavelength 1552.52
• 1552.93	Wavelength 1552.93
• 1553.33	Wavelength 1553.33
• 1553.73	Wavelength 1553.73
• 1554.13	Wavelength 1554.13
• 1554.13	Wavelength 1554.13
• 1554.94	Wavelength 1554.94
• 1555.34	Wavelength 1555.34
• 1555.75	Wavelength 1555.75
• 1556.15	Wavelength 1556.15
• 1556.55	Wavelength 1556.55
• 1556.96	Wavelength 1556.96
• 1557.36	Wavelength 1557.36
• 1557.77	Wavelength 1557.77
• 1558.17	Wavelength 1558.17
• 1558.58	Wavelength 1558.58
• 1558.98	Wavelength 1558.98
• 1559.39	Wavelength 1559.39
• 1559.79	Wavelength 1559.79
• 1560.20	Wavelength 1560.20
• 1560.61	Wavelength 1560.61
• 1561.01	Wavelength 1561.01
• 1561.42	Wavelength 1561.42
• 1561.83	Wavelength 1561.83
• 1562.23	Wavelength 1562.23
• 1562.64	Wavelength 1562.64
• 1563.05	Wavelength 1563.05
• 1563.45	Wavelength 1563.45
• 1563.86	Wavelength 1563.86
• 1564.27	Wavelength 1564.27
• 1564.68	Wavelength 1564.68
• 1565.09	Wavelength 1565.09
• 1565.50	Wavelength 1565.50
• 1565.90	Wavelength 1565.90
• 1566.31	Wavelength 1566.31
• 1566.72	Wavelength 1566.72
• 1570	Wavelength 1570
• 1570.83	Wavelength 1570.83
• 1571.24	Wavelength 1571.24

• 1571.65	Wavelength 1571.65
• 1572.06	Wavelength 1572.06
• 1572.48	Wavelength 1572.48
• 1572.89	Wavelength 1572.89
• 1573.30	Wavelength 1573.30
• 1573.71	Wavelength 1573.71
• 1574.13	Wavelength 1574.13
• 1574.54	Wavelength 1574.54
• 1574.95	Wavelength 1574.95
• 1575.37	Wavelength 1575.37
• 1575.78	Wavelength 1575.78
• 1576.20	Wavelength 1576.20
• 1576.61	Wavelength 1576.61
• 1577.03	Wavelength 1577.03
• 1577.44	Wavelength 1577.44
• 1577.86	Wavelength 1577.86
• 1578.27	Wavelength 1578.27
• 1578.69	Wavelength 1578.69
• 1579.10	Wavelength 1579.10
• 1579.52	Wavelength 1579.52
• 1579.93	Wavelength 1579.93
• 1580.35	Wavelength 1580.35
• 1580.77	Wavelength 1580.77
• 1581.18	Wavelength 1581.18
• 1581.60	Wavelength 1581.60
• 1582.02	Wavelength 1582.02
• 1582.44	Wavelength 1582.44
• 1582.85	Wavelength 1582.85
• 1583.27	Wavelength 1583.27
• 1583.69	Wavelength 1583.69
• 1584.11	Wavelength 1584.11
• 1584.53	Wavelength 1584.53
• 1584.95	Wavelength 1584.95
• 1585.36	Wavelength 1585.36
• 1585.78	Wavelength 1585.78
• 1586.20	Wavelength 1586.20
• 1586.62	Wavelength 1586.62
• 1587.04	Wavelength 1587.04
• 1587.46	Wavelength 1587.46
• 1587.88	Wavelength 1587.88
• 1588.30	Wavelength 1588.30

• 1588.73	Wavelength 1588.73
• 1589.15	Wavelength 1589.15
• 1589.57	Wavelength 1589.57
• 1589.99	Wavelength 1589.99
• 1590	Wavelength 1590
• 1590.41	Wavelength 1590.41
• 1590.83	Wavelength 1590.83
• 1591.26	Wavelength 1591.26
• 1591.68	Wavelength 1591.68
• 1592.10	Wavelength 1592.10
• 1592.52	Wavelength 1592.52
• 1592.95	Wavelength 1592.95
• 1593.37	Wavelength 1593.37
• 1593.79	Wavelength 1593.79
• 1594.22	Wavelength 1594.22
• 1594.64	Wavelength 1594.64
• 1595.06	Wavelength 1595.06
• 1595.49	Wavelength 1595.49
• 1596.34	Wavelength 1596.34
• 1596.76	Wavelength 1596.76
• 1597.19	Wavelength 1597.19
• 1597.62	Wavelength 1597.62
• 1598.04	Wavelength 1598.04
• 1598.47	Wavelength 1598.47
• 1598.89	Wavelength 1598.89
• 1599.32	Wavelength 1599.32
• 1599.75	Wavelength 1599.75
• 1600.06	Wavelength 1600.06
• 1601.03	Wavelength 1601.03
• 1601.46	Wavelength 1601.46
• 1601.88	Wavelength 1601.88
• 1602.31	Wavelength 1602.31
• 1602.74	Wavelength 1602.74
• 1603.17	Wavelength 1603.17
• 1603.60	Wavelength 1603.60
• 1604.03	Wavelength 1604.03
• 1610	Wavelength 1610
• USE-TWL1	Use Tunable Wavelength 1
<LOSSB>	The parameter type is REACH (reach value)
• 100GBASE-LR4	100GBASE-LR4
• 100GBASE-SR10	100GBASE-SR10

• 40GBASE-FR	40GBASE-FR
• 40GBASE-LR4	40GBASE-LR4
• 40GBASE-SR4	Reach supported on 40GIGE payload on CFP-LC card.
• 4I1-9D1F	4I1-9D1F
• C4S1-2D1	C4S1-2D1
• FE-BX	FE-BX
• FX	FX
• GE-BX	GE-BX
• GE-EX	GE-EX
• LX-10	LX-10
• TEN-GE-LRM	TEN-GE-LRM
• TEN-GE-ZR	TEN-GE-ZR
• VSR2000-3R2	VSR2000-3R2
• AUTOPROV	Autoprovisioning
• CX	Reach CX
• CX1	Reach CX1
• DX	Reach DX
• HX	Reach HX
• I1	Reach I1
• IR-1	Reach IR-1
• IR-2	Reach IR-2
• L1	Reach L1
• L2	Reach L2
• L3	Reach L3
• LR-1	Reach LR-1
• LR-2	Reach LR-2
• LR-3	Reach LR-3
• LX	Reach LX
• P1I1-2D1	Long haul 10G Ethernet with 1310 nm wavelength
• P1L1-1D2	Longhaul 2.5G Ethernet with 1550 nm wavelength
• P1L1-2D2	Long haul 10G Ethernet with 1550 nm wavelength
• P1S1-1D1	Shorthaul 2.5G Ethernet with 1310 nm wavelength
• P1S1-2D1	Short haul 10G Ethernet in 1310 nm wavelength
• SC	Reach SC
• S1	Reach S1
• S2	Reach S2
• SR	Reach SR
• SR-1	Reach SR-1
• SX	Reach SX
• T	Reach T
• TEN-GE-ER	10 GE extended range

• TEN-GE-LR	10 GE long range
• TEN-GE-SR	10 GE short range
• VX	Reach VX
• ZX	Reach ZX
<FOREIGNFEND>	Indicates whether the far-end NE on the DCC is a foreign NE. The parameter type is ON_OFF, which disables or enables an attribute.
• N	Disable an attribute.
• Y	Enable an attribute.
<FOREIGNIP>	The IP address of the far-end NE on the DCC. Used only if FOREIGNFEND is Y. FOREIGNIP is a string.
<OPRNOMINAL>	Reads the current raw optical receive power and sets the raw OPR value as the nominal optical receive power.
• N	Not Supported.
• Y	Sets the OPR.
OSISDCC	Indicates whether or not the OSI SDCC is to be used. Identifies the SDCC connection of the port. The parameter type is ON_OFF, which disables or enables an attribute.
• Y	Enable an attribute.
• N	Disable an attribute.
OSILDCC	Indicates whether or not the OSI LDCC is to be used. Identifies the SDCC connection of the port. The parameter type is ON_OFF, which disables or enables an attribute.
• Y	Enable an attribute.
• N	Disable an attribute.
OSIROUTER	The OSI virtual router number in the range of 1 to 3.
<PORTMODE>	Describes the termination mode of each interface on the OTU2-XP card.
• DWDM-LINE	Line terminating mode.
• DWDM-SECTION	Section terminating mode.
• DWDM-TRANS-AIS	Transparent mode AIS.
• DWDM-TRANS-SQUELCH	Transparent mode squelch.
• 10GLANWAN-SQUELCH	10G LAN to WAN Squelch.
<SQUELCHMODE>	Shuts down the far-end laser in response to certain defects
• NONE	Transparent
• SQUELCH	Squelch is enabled
• AIS	Generic AIS
• DISABLE	Squelch is disabled
<PST>	Primary state. The parameter type is PST, which indicates the current overall service condition of an entity.
• IS	In service
• OOS	Out of service
<SST>	Secondary state. Defaults to AINS. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AINS	Automatic in service

• DSBLD	Disabled
• LPBK	Loopback
• MEA	Mismatch of equipment and attributes
• MT	Maintenance mode
• OOG	Out of group
• SWDL	Software downloading
• UAS	Unassigned
• UEQ	Unequipped

13.10 ED-ALS

The Edit Automatic Laser Shutdown (ED-ALS) command is used to modify the automatic laser shutdown (ALS) attributes of an STM facility and all the facilities that support the ALS feature. For transponder and muxponder cards, this command is used to modify the ALS parameter of the STM16 and STM64 ports.

Usage Guidelines

The ED-ALS command is applicable for the following:

- For all non-OTU payloads on 100G-LC-C, 10x10G-LC, and CFP-LC cards on the CHAN AID.
- Payload interfaces for OTU enabled ports.

Category

Ports

Security

Provisioning

Input Format

ED-ALS[:<TID>]:<AID>:<CTAG>[::<ALSMODE>=<ALSMODE>],[<ALSRCINT>=<ALSRCINT>],[<ALSRCPW>=<ALSRCPW>],[<OSRI>=<OSRI>],[:];

Input Example

ED-ALS:CISCO:FAC-4-1-1:1::ALSMODE=AUTO,ALSRCINT=130,ALSRCPW=80.1;

Table 13-8 ED-ALS Command - Parameter Support

Input Parameters	Description
<SRC>	Access identifier from the “27.2 AidUnionId” section on page 27-7.
<ALSMODE>	(Optional) ALS is enabled or disabled. the parameter type is ALS_MODE, which is the working mode for automatic laser shutdown.
• AUTO	Automatic
• DISABLED	Disabled
• MAN	Manual

Table 13-8 ED-ALS Command - Parameter Support

Input Parameters	Description
• MAN-RESTART	Manual restart for test
<ALSRCINT>	(Optional) ALS recovery interval. The range is 60 to 300 seconds. ALSRCINT is an integer.
<ALSRCPW>	(Optional) ALS recovery pulse width. The range is 80.0 to 100.00 seconds, in increments of 100 ms. ALSRCPW is a float.

13.11 ED-APC

The Edit Amplification Power Control (ED-APC) command is used to modify the APC application attributes. The default value for an optional parameter is the NE default value. The value might not be the current value for the parameter. Use a retrieve command to retrieve the current value.

Usage Guidelines None

Category NCS

Security Provisioning

Input Format ED-APC[:<TID>]:<AID>:<CTAG>[:<ROLE>][:APCENABLE=<APCENABLE>][:];

Input Example ED-APC:PENNGROVE:WDMSIDE-A:CTAG:::APCENABLE=N;

Table 13-9 ED-APC Command - Parameter Support

Input Parameters	Description
<WDMSIDE>	The AID is used to access the WDM side of an MSTP node.
• WDMSIDE-{UNKNOWN, A, B, C, D, E, F, G, H}	MSTP side identifier
<ROLE>	The role the unit is playing in the protection group.
• PROT	The entity is the protection unit in the protection group.
• WORK	The entity is the working unit in the protection group.
<APCENABLE>	(Optional) Enable/disable the APC application. Default is N. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.

13.12 ED-AUTO

The Edit Auto (ED-AUTO) command is used to retrieve the AUTO port provisioned. Port bandwidth changes to OC3/OC12/OC48/1GE as per the incoming signal when auto sense is enabled. Default is OC48 when auto sense is disabled.

Usage Guidelines	None	
Category	NCS	
Security	Provisioning	
Input Format	ED-AUTO:[<TID>]:<AID>:<CTAG>::: AUTOSENSE=<AUTOSENSE>;	
Input Example	ED-AUTO:CISCO:VFAC-2-1-1:CTAG:::AUTOSENSE=Y;	
Input Parameters	<AID>	The AR-MXP, AR-XP, and AR-XPE cards use the VFAC AID.
	<AUTOSENSE>	Specifies if auto sense must be enabled or disabled.
	Y	Enables auto sense.
	N	Disables auto sense.

13.13 ED-BITS

The Edit Building Integrated Timing Supply (ED-BITS) command edits the building integrated timing supply (BITS) reference attributes.

Usage Guidelines	The SYNC-BITS1 and SYNC-BITS2 AIDs can be used to set the BITS-OUT port state. The default values for all optional parameters are NE default values. These values might not be the current value for a parameter. Use a retrieve command to obtain the current value.
Category	Synchronization
Security	Provisioning

Input Format

ED-BITS:[<TID>]:<AID>:<CTAG>:::[LINECDE=<LINECDE>],[FMT=<FMT>],[SABIT=<SABIT>],
 ,[LBO=<LBO>],[SYNCSMSG=<SYNCSMSG>],[AISTHRSHLD=<AISTHRSHLD>],
 [BITSFAC=<BITSFAC>],[ADMSSM=<ADMSSM>][:<PST>];

Input Example

ED-BITS:SONOMA:BITS-2:779:::LINECDE=AMI,FMT=E1-MF,SYNCSMSG=N,
 ,SABIT=BYTE-5,BITSFAC=E1,ADMSSM=G811:UNLOCKED

Table 13-10 ED-BITS Command - Parameter Support

Input Parameters	Description
<AID>	Access identifier from the “27.6 BITS” section on page 27-11 .
<LINECDE>	(Optional) Line code. The parameter type is LINE_CODE (line code).
• AMI	Line code value is AMI.
• B3ZS	Binary three-zero substitution.
• B6ZS	Line code value is B6ZS.
• B8ZS	Line code value is B8ZS.
• HDB3	Line code value is HDB3. (Applicable only for NCS platform).
• JBZS	JBZS
• ZBTSI	ZBTSI
<FMT>	(Optional) Digital signal frame format. Defaults to E1-MF. The parameter type is FRAME_FORMAT, which is the frame format for an E1 port.
• AUTOPROV	AUTOPROV
• CBIT	C-BIT line type applies to the DS3XM and DS3E cards.
• D4	Frame format is D4
• DS2 FRAMED	DS2 FRAMED
• E1-CRC	NCS E1 CRC frame format
• E1-CRCMF	NCS E1 CRCMF frame format
• E1-MF	NCS E1 MF frame
• E1-FRAME	NCS E1-frame format
• E1-UNFRAMED	NCS E1 unframed format
• E2 FRAMED	E2 FRAMED
• E3-FRAME	E3-FRAME
• E3-PLCP	E3-PLCP
• ESF	Frame format is ESF
• FRAMENA	FRAMENA
• G-751	G-751
• G-832	G-832
• M13	M13 line type applies to the DS3XM and DS3E cards.
• M23	M23
• SYNTRAN	SYNTRAN

Table 13-10 ED-BITS Command - Parameter Support

Input Parameters	Description
• UNFRAMED	Frame format is unframed
<IMPEDANCE>	(Optional) Impedance is the total opposition that a circuit presents to alternating current. The maximum power transfer that takes place from the source to load when the impedance match.
• 120 ohms	120 ohm termination
• 100 ohms	100 ohm termination
• 75 ohms	75 ohm termination
<LBO>	(Optional) Line buildout settings. BITS line buildout. Default value is 0 to 133. LBO is an integer. The parameter type is BITS_LineBuildOut (BITS line buildout).
• 0–133	BITS line buildout range is 0–133.
• 134–266	BITS line buildout range is 134–266.
• 267–399	BITS line buildout range is 267–399.
• 400–533	BITS line buildout range is 400–533.
• 534–655	BITS line buildout range is 534–655.
<SYNCSMSG>	(Optional) Indicates whether the BITS facility supports synchronization status message. Default is on (Y). The parameter type is EXT_RING, which indicates whether the ring supports the extended K1/K2/K3 protocol.
• N	The ring does not support the extended K1/K2/K3 protocol.
• Y	The ring does support the extended K1/K2/K3 protocol.
<AISTHRSHLD>	(Optional) Alarm indication signal threshold. The parameter type is SYNC_CLOCK_REF_QUALITY_LEVEL, which is the clock source quality level for NCS.
• DUS_NCS	Do Not Use For Synchronization
• G811	G811 Standard
• RES_NCS	Reserved For Network Synchronization Use
• G812T	G812T Standard
• STU_NCS	Synchronized, Traceability Unknown
• G812TL	G812TL Standard
• SETS	Synchronous Equipment Timing Source
<SABIT>	(Optional) When the frame format selection is E1, SABIT is the bit used to receive and transmit the SSM. The parameter type is SABITS (SA BITS).
• BYTE-4	SABIT is BYTE-4.
• BYTE-5	SABIT is BYTE-5.
• BYTE-6	SABIT is BYTE-6.
• BYTE-7	SABIT is BYTE-7.
• BYTE-8	SABIT is BYTE-8.
<BITSFAC>	(Optional) BITS facility settings. BITS-2 always inherits the value of BITS-1. The parameter type is BITS_FAC, which is the BITS facility rate.
• 2 M	2 MHz rate
• 64 K	64 K rate

Table 13-10 ED-BITS Command - Parameter Support

Input Parameters	Description
• 6 M	6 MHz rate
• E1	E1 rate
<ADMSSM>	(Optional) SSM selectable. Only applicable to BITS-IN when SSM is disabled. The parameter type is SYNC_CLOCK_REF_QUALITY_LEVEL, which is the clock source quality level for NCS.
• DUS_NCS	Do Not Use For Synchronization
• G811	G811 Standard
• RES_NCS	Reserved For Network Synchronization Use
• G812T	G812T Standard
• STU_NCS	Synchronized, Traceability Unknown
• G812TL	G812TL Standard
• SETS	Synchronous Equipment Timing Source
<PST>	(Optional) Primary state. The parameter type is PST, which indicates the current overall service condition of an entity.
• Unlocked	In service
• Locked	Out of service

13.14 ED-BULKROLL-<STM_TYPE>

The Edit Bulkroll for STM4, STM64, STM1, and STM16 command edits information about the rolling of traffic from one endpoint to another without interrupting service. This uses the FORCE option to force a valid signal. The only parameters that can be edited are RMODE and FORCE. The time slots cannot be edited. Use ED-ROLL-<MOD_PATH> for single path level rolling. See [Table 29-1 on page 29-1](#) for supported modifiers by platform.

Usage Guidelines None

Category Bridge and Roll

Security Provisioning

Input Format ED-BULKROLL-<STM_TYPE>:[<TID>]:<FROM>:<CTAG>:::
[RFROMSTART=<RFROMSTART>],[RTOSTART=<RTOSTART>],
[RFROMEND=<RFROMEND>],[CMDMDE=<CMDMDE>];

Input Example ED-BULKROLL-STM16:CISCO:FAC-1-1:1:::RFROMSTART=VC3-1-1-1,
RTOSTART=VC3-1-1-1,RFROMEND=VC3-1-1-1,CMDMDE=FRCD;

Table 13-11 ED-ROLL-<MOD_PATH> Command - Parameter Support

Input Parameters	Description
<FROM>	One of the end points. Access identifier from the “27.15 FACILITY” section on page 27-23 for line level rolling and bulk rolling. Must not be null.
<RFROMSTART>	(Optional) The starting time slot in the source roll port. For bulk rolling only. The AID is from the “27.11 CrossConnectId1” section on page 27-16 (VC or VC11).
<RFROMEND>	(Optional) The ending time slot in the source roll port. For bulk rolling only. The AID is from the “27.11 CrossConnectId1” section on page 27-16 (VC or VC11).
<CMDMDE>	(Optional) Command mode. Normal (NORM) mode is the default behavior for all commands but you can specify forced (FRCD) mode to force the system to override a state where the command would normally be denied. The FRCD mode of operation is applicable to delete a virtual concatenated (VCAT) member cross-connect in Unlocked-Enabled or Locked-Disabled, AutomaticInService service states.
• FRCD	Force the system to override a state in which the command would normally be denied.
• NORM	Execute the command normally. Do not override any conditions that could make the command fail.

13.15 ED-BULKROLL-<OCN_TYPE>

The Edit Bulkroll for OC12, OC192, OC3, OC48, or OC768 (ED-BULKROLL-<OCN_TYPE>) command edits information about the rolling of traffic from one endpoint to another without interrupting service. This command uses the FORCE option to force a valid signal. The only parameters that can be edited are RMODE and FORCE. The time slots cannot be edited. Use ED-ROLL-<MOD_PATH> for single path level rolling.

Usage Guidelines See [Table 29-1 on page 29-1](#) for supported modifiers by platform.

Category Bridge and Roll

Security Provisioning

Input Format ED-BULKROLL-<OCN_TYPE>:[<TID>]:<FROM>:<CTAG>:::
[RFROMSTART=<RFROMSTART>],[RFROMEND=<RFROMEND>],[CMDMDE=<CMDMDE>];

Input Example ED-BULKROLL-OC48:PETALUMA:FAC-1-1:1:::RFROMSTART=STS-1-1-1,
RFROMEND=STS-1-1-11,CMDMDE=FRCD;

Input Parameters

<FROM>	One of the endpoints. Access identifier from the “27.15 FACILITY” section on page 27-23 for line level rolling and bulk rolling.
<RFROMSTART>	The starting time slot in the source roll port. For bulk rolling only. The AID is from the “27.11 CrossConnectId1” section on page 27-16 (except VCM and FACILITY). Defaults to STS-<FROMSLOT>-<FROMPORT>-1, where <FROMSLOT> and <FROMPORT> are the slot and port of the <FROM> AID.
<RFROMEND>	The ending time slot in the source roll port. For bulk rolling only. The AID is from the “27.11 CrossConnectId1” section on page 27-16 (except VCM and FACILITY). Defaults to STS-<FROMSLOT>-<FROMPORT>-N, where <FROMSLOT> and <FROMPORT> are the slot and port of the <FROM> AID and N is the value of OCn. (for example, OC48, n=48).
<CMDMDE>	The parameter type is command mode (CMDMDE). Normal (NORM) mode is the default behavior for all commands but you can specify forced (FRCD) mode to force the system to override a state where the command would normally be denied. The FRCD mode of operation is applicable to delete a virtual concatenated (VCAT) member cross-connect in IS-NR or OOS-AU,AINS service states.
• FRCD	Force the system to override a state where the command would normally be denied.
• NORM	Execute the command normally. Do not override any conditions that might make the command fail.

13.16 ED-BWP-ETH

This command is used to modify a Bandwidth Profile entry in BWP DB. The BWP DB is a collection of BWP used in a Network Element.

Usage Guidelines

Error conditions for deleting bandwidth profile can be:

- Invalid AID. If the AID is invalid, an IIAC (Invalid AID) error message is returned.
- The "ALL" AID is invalid for this command.
- The BWP having the specified AID should be present in the node, that is, already been entered by ENT-BWP-ETH command.

Category

ETHERNET

Security

Provisioning

Input Format

ED-BWP-ETH:[<TID>]:<AID>:<CTAG>::[NAME=<NAME>],[CIR=<CIR>],[CBS=<CBS>],[PBS=<PBS>],[PIR=<PIR>],[CFMSTATE=<CFM_STATE>][:];

Input Example

```
ED-BWP-ETH:ROCKS:BWP-10000:1:::NAME="MyBWP",CIR=10,CBS=1M,PBS=1M,PIR=20,CFM
STATE=Y;
```

Input Parameters**Table 13-12 ED-BWP-ETH Command - Parameter Support**

Input Parameters	Description
<AID>	This AID is used to access BWP.
• BWP-ALL	All aid for BWP.
• BWP-{1-10000}	Single AID for BWP. The valid identifiers ranges from 1 to 10000.
<NAME>	The BWP name. BWP name is a String.
<CIR>	Ingress committed information rate. This is a value between 0.0 and 100.0. Default value is 100.0.
<CBS>	Ingress committed burst bucket size.
• 4K	4 Kbit bucket size
• 8K	16 Kbit bucket size
• 16K	32 Kbit bucket size
• 32K	64 Kbit bucket size
• 64K	128 Kbit bucket size
• 128K	256 Kbit bucket size
• 256K	512 Kbit bucket size
• 512K	1 Mbit bucket size
• 1M	2 Mbit bucket size
• 2M	4 Mbit bucket size
• 4M	8 Mbit bucket size
• 8M	16 Mbit bucket size
• 16M	16 Kbit bucket size
<PBS>	Ingress peak burst bucket size
• 4K	4 Kbit bucket size
• 8K	8 Kbit bucket size
• 16K	16 Kbit bucket size
• 32K	32 Kbit bucket size
• 64K	64 Kbit bucket size
• 128K	128 Kbit bucket size
• 256K	256 Kbit bucket size
• 512K	512 Kbit bucket size
• 1M	1 Mbit bucket size
• 2M	2 Mbit bucket size

• 128K	128 Kbit bucket size
• 256K	256 Kbit bucket size
• 512K	512 Kbit bucket size
• 1M	1 Mbit bucket size
• 2M	2 Mbit bucket size

13.17 ED-CFM

The Edit Connectivity Fault Management (ED-CFM) command edits the Connectivity Fault Management (CFM) protocol at the port level.

Usage Guidelines

- This command is applicable only to GE_XP and 10GE_XP cards.
- The card should be in Layer2 over DMDM mode.

Category

Port

Security

Provisioning

Input Format

ED-CFM:[<TID>]:<AID>:<CTAG>;

Input Example

ED-CFM:454-156:ETH-1-1-1:1::CFMSTATE=enable;

Input Parameters

Table 13-13 ED-CFM Command - Parameter Support

Input Parameters	Description
<AID>	Ethernet AIDs are used to access L2 Ethernet ports. Access identifier from the “27.14 ETH” section on page 27-23.
<CFM_STATE>	Indicates whether the CFM is enabled or disabled on the port.
• ENABLE	Indicates the CFM is enabled on the port.
• DISABLE	Indicates the CFM is disabled on the port.

13.18 ED-CHGRP

The Edit Channel Group (ED-CHGRP) command edits the layer 2 channel group information of GE_XP and 10GE_XP ethernet cards.

Usage Guidelines

The default values for all optional parameters are network element (NE) default values. These values might not be the current value for a parameter. Use a retrieve command to obtain the current value.

Category

Channel Group

Security

Provisioning

Input Format

ED-CHGRP:[<TID>]:<AID>:<CTAG>:::[ATTACH=<ATTACH>],[DETACH=<DETACH>],[LACPMODE=<LACPMODE>],[HASHALGO=<HASHALGO>],[NIMODE=<NIMODE>],[MACLEARNING=<MACLEARNING>],[INGRESSCOS=<INGRESSCOS>],[ETHERCETYPE=<ETHERCETYPE>],[ETHERSTYPE=<ETHERSTYPE>],[BPDU=<BPDU>],[QNQMODE=<QNQMODE>],[TRNSPSVLAN=<TRNSP_SVLAN>],[MTU=<MTU>],[FLOWCONTROL=<FLOWCONTROL>],[SPEED=<SPEED>],[EXPSPEED=<EXPSPEED>],[CIR=<CIR>],[CBS=<CBS>],[EBS=<EBS>]:[<PST>[,<SST>]];

Input Example

ED-CHGRP::CHGRP-12-2:1:::ATTACH=ETH-12-5-1&ETH-12-1-1,LACPMODE=ON,HASHINGALGO=HASHING-UCAST-SA-DA-VLAN-INCOMING-PORT,NIMODE=UNI,MACLEARNING=Y,INGRESSCOS=0,ETHERCETYPE=8100,ETHERSTYPE=8100,BPDU=Y,QNQMODE=SELECTIVE,MTU=9700,FLOWCTRL=ASYMMETRIC,SPEED=10_GBPS,EXPSPEED=1_GBPS,CIR=100,CBS=4K,EBS=4k;

Table 13-14 ED-CHGRP Command - Parameter Support

Input Parameters	Description
<AID>	Access identifier from the “27.8 CHGRP” section on page 27-14.
<NIMODE>	Identifies the Ethernet Network Interface Mode.

Table 13-14 ED-CHGRP Command - Parameter Support

Input Parameters	Description
• NNI	(Default) Network-Network Interface Mode
• UNI	User-Network Interface Mode
<LACPMODE>	LACP mode values
• ON	Manual mode of LACP
• ACTIVE	Active mode of LACP
• PASSIVE	Passive mode of LACP
<HASHINGALGO>	Hashing algorithm value
• HASHING_SA_VLAN_INCOMING_PORT	The Hashing Algorithm value is HASHING_SA_VLAN_INCOMING_PORT.
• HASHING_DA_VLAN_INCOMING_PORT	The Hashing Algorithm is HASHING_DA_VLAN_INCOMING_PORT.
• HASHING_SA_DA_VLAN_INCOMING_PORT	The Hashing Algorithm is HASHING_SA_DA_VLAN_INCOMING_PORT.
• HASHING_SRC_IP_TCP_UDP	The Hashing Algorithm is HASHING_SRC_IP_TCP_UDP.
• HASHING_DST_IP_TCP_UDP	The Hashing Algorithm is HASHING_DST_IP_TCP_UDP
• HASHING_SRC_DST_IP_TCP_UDP	The Hashing Algorithm is HASHING_SRC_DST_IP_TCP_UDP.
<MTU>	(Optional) Maximum transport unit. The parameter type is MTU_TYPE, which indicates the maximum transport unit used by an Ethernet card. Defaults to 9600.
• 10004	10004. Indicates jumbo size.
• 1500	1500
• 1548	1548
• 9600	9600. Indicates jumbo size.
• 64	64
• 9700	9700. Indicates jumbo size.
<ATTACH >	Ethernet AID for the ethernet port on GE_XP and 10GE_XP card.
<DETACH>	To remove or detach the port.
<SPEED>	(Optional) The parameter type is ETHER_SPEED, which indicates Ethernet speed. Defaults to AUTO.
• 100_MBPS	100 Megabits per second
• 10_GBPS	10 Gigabits per second
• 10_MBPS	10 Megabits per second
• 1_GBPS	1 Gigabit per second
• 40_GBPS	40 Gigabit per second
• AUTO_FDX	Enable auto negotiation with full duplex.
<EXPSPEED>	(Optional) Ethernet speed. The parameter type is ETHER_SPEED, which is the Ethernet speed.
• 100_MBPS	100 Megabits per second

Table 13-14 ED-CHGRP Command - Parameter Support

Input Parameters	Description
• 10_GBPS	10 Gigabits per second
• 10_MBPS	10 Megabits per second
• 1_GBPS	1 Gigabit per second
• AUTO	Auto
<CIR>	Ingress committed information rate. The value ranges from 0.0 to 100.0. The default value is 100.0.
<CBS>	Ingress committed burst bucket size.
• 4K	4 Kbit bucket size
• 8K	16 Kbit bucket size
• 16K	32 Kbit bucket size
• 32K	64 Kbit bucket size
• 64K	128 Kbit bucket size
• 128K	256 Kbit bucket size
• 256K	512 Kbit bucket size
• 512K	1 Mbit bucket size
• 1M	2 Mbit bucket size
• 2M	4 Mbit bucket size
• 4M	8 Mbit bucket size
• 8M	16 Mbit bucket size
• 16M	16 Kbit bucket size
<EBS>	Ingress excess burst bucket size.
<MACLEARNING>	MAC Address Learning Mode. This activates the MAC address learning on the interface to avoid packet broadcasting.
• Y	Enables the MAC learning on the interface.
• N	Disables the MAC learning on the interface.
<INGRESSCOS>	Identifies the COS value set in the S-VLAN tag.
• 0 to 7	Set a Cos value
• TRUST	Use the Customer COS
• VLAN	The COS will be provisioned on CVLAN basis (QinQ selective mode)
<ETHERCETYPE>	Identifies a customer foreseen Ethernet type. If the customer uses a non-standard Ethernet type, the incoming packets will be accepted only if the CE-VLAN Ethernet type matches this parameter.
<ETHERSTYPE>	Identifies a customer foreseen Ethernet type. If the customer uses a non-standard Ethernet type, the incoming packets will be accepted only if the CE-VLAN Ethernet type matches this parameter.
<BPDU>	BPDU (Bridge Protocol Data Unit) management mode; Drop/Passthrough BPDU tagged packets.
• Y	Enables the BPDU tag.

Table 13-14 ED-CHGRP Command - Parameter Support

Input Parameters	Description
N	Disables the BPDU tag.
<QNQMODE>	This is used to represent the QinQ mode operations.
Selective	The S-VLAN tag is added only on specified CE-VLANs. The other packets are dropped.
Transparent	The S-VLAN tag is always performed where all packets having the S-VLAN-ID identified by TRNSPSVLAN parameter are allowed.
<TRNSPSVLAN>	VLAN identifier. A VLAN ID is a number between 1 and 4096. The value 0 is reserved for untagged VLANs. This identifier is used for customer VLAN IDs and service provider VLAN IDs.
<NAME>	(Optional) NAME is a string. User-assigned port name.

13.19 ED-CMD-SECU

The Edit Command Security (ED-CMD-SECU) command edits the command security level of a particular command.

Usage Guidelines None

Category Security

Security Superuser

Input Format ED-CMD-SECU:[<TID>]:<AID>:<CTAG>::<CAP>;

Input Example ED-CMD-SECU::INIT-REG:1::SUPER;

Table 13-15 ED-CMD-SECU Command - Parameter Support

Input Parameters	Description
<AID>	Access identifier string. Identifies the entity in the NE to which the command pertains. It is the command verb along with verb modifier(s), as it currently exists. It can be a single command or a block of commands, where the block could include all commands. Only INIT-REG will be supported. AID is a string. It must not be null.
<CAP>	Command access privilege. It must not be null. The parameter type is PRIVILEGE, which is the security level.
PROV	Provision security level. 60 minutes of idle time.
SUPER	Superuser security level. 15 minutes of idle time.

Table 13-15 ED-CMD-SECU Command - Parameter Support

Input Parameters	Description
• ROOT_USER	Root user.
• SEC_SUPER	Security super user.
• SEC_USER	Security user.

13.20 ED-COS-ETH

The Edit Cost of Service Ethernet (ED-COS-ETH) command edits the egress parameter of a CoS table associated to an L2 Ethernet port.

Usage Guidelines

The default values for all optional parameters are NE default values, but these values might not be the current value for a parameter. Use a retrieve command to obtain the current value.

Category

Ethernet

Security

Provisioning

Input Format

ED-COS-ETH:[<TID>]:<AID>:<CTAG>:::[QOSENABLED=<QOSENABLED>],[BW0=<BW0>],[WEIGHT0=<WEIGHT0>],[BW1=<BW1>],[WEIGHT1=<WEIGHT1>],[BW2=<BW2>],[WEIGHT2=<WEIGHT2>],[BW3=<BW3>],[WEIGHT3=<WEIGHT3>],[BW4=<BW4>],[WEIGHT4=<WEIGHT4>],[BW5=<BW5>],[WEIGHT5=<WEIGHT5>],[BW6=<BW6>],[WEIGHT6=<WEIGHT6>],[BW7=<BW7>],[WEIGHT7=<WEIGHT7>][:];

Input Example

ED-COS-ETH:PETALUMA:ETH-1-1-1-1:::QOSENABLED=Y,BW0=10,WEIGHT0=0,BW1=20,WEIGHT1=2,BW2=40,WEIGHT2=4,BW3=60,WEIGHT3=6,BW4=70,WEIGHT4=8,BW5=80,WEIGHT5=10,BW6=85,WEIGHT6=12,BW7=100,WEIGHT7=15;;

Table 13-16 ED-COS-ETH Command - Parameter Support

Input Parameters	Description
<AID>	Ethernet AIDs are used to access L2 Ethernet ports. Access identifier from the “27.15 FACILITY” section on page 27-23 .
<QOSENABLED>	Used to enable or disable the egress QOS policy of an L2 Ethernet port.
• N	Disable the service.
• Y	Enable the service.
<BW0>	Bandwidth percentage, a value between 0 and 100.
<WEIGHT0>	Value represents the weighted round-robin (WRR) weight associated to the COS values, an integer value between 0 and 15.

Table 13-16 *ED-COS-ETH Command - Parameter Support*

Input Parameters	Description
<BW1>	Bandwidth percentage, a value between 0 and 100.
<WEIGHT1>	Value represents the WRR weight associated to the COS values, an integer value between 0 and 15.
<BW2>	Bandwidth percentage, a value between 0 and 100.
<WEIGHT2>	Value represents the WRR weight associated to the COS values, an integer value between 0 and 15.
<BW3>	Bandwidth percentage, a value between 0 and 100.
<WEIGHT3>	Value represents the WRR weight associated to the COS values, an integer value between 0 and 15.
<BW4>	Bandwidth percentage, a value between 0 and 100.
<WEIGHT4>	Value represents the WRR weight associated to the COS values, an integer value between 0 and 15.
<BW5>	Bandwidth percentage, a value between 0 and 100.
<WEIGHT5>	Value represents the WRR weight associated to the COS values, an integer value between 0 and 15.
<BW6>	Bandwidth percentage, a value between 0 and 100.
<WEIGHT6>	Value represents the WRR weight associated to the COS values, an integer value between 0 and 15.
<BW7>	Bandwidth percentage, a value between 0 and 100.
<WEIGHT7>	Value represents the WRR weight associated to the COS values, an integer value between 0 and 15.

13.21 ED-CRS-<PATH>

The Edit Cross-Connection for VC3, VC44C, VC38C, VC464C, VC48C, VC4, VC416C, VC42C, VC43C, VC11, or VC12 (ED-CRS-<PATH>) command edits a cross-connect. See [Table 29-1 on page 29-1](#) for supported modifiers by platform.

Usage Guidelines

- ADD and REMOVE cannot be used together. The example provided is for informational purposes only. ADD and REMOVE are mutually exclusive.
- Add/Remove drops is possible only on ONEWAY, SNCP_DROP, SNCP_DC, and SNCP_EN type of cross-connects (one-way only).
- Traditional cross-connections cannot be upgraded to DRI cross-connections using the ED_CRS command.
- CKTID is a string of ASCII characters. The maximum length of CKTID is 48. If the CKTID is EMPTY or NULL, this field will not appear.
- The default values for all optional parameters are NE default values. These values might not be the current value for a parameter. Use a retrieve command to obtain the current value.
- You cannot add or drop onto unidirectional connections on MS-SPRing DRI primary or secondary nodes.

Category

Cross Connections

Security

Provisioning

Input Format

ED-CRS-<PATH>[:<TID>]:<SRC>,<DST>:<CTAG>::[<CCT>]:[ADD=<ADD>],
[REMOVE=<REMOVE>],[CKTID=<CKTID>],[CMDMDE=<CMDMDE>]:[<PST>[,<SST>]];

Input Example

ED-CRS-VC4::VC4-1-1-1,VC4-2-1-1:1:::ADD=VC4-13-1-1,REMOVE=VC4-2-1-1,CKTID=CKTID
CMDMDE=FRCD:UNLOCKED,AUTOMATICINSERVICE;

Table 13-17 ED-CRS-<PATH> Command- Parameter Support

Input Parameters	Description
<SRC>	Source AID from the “ 27.11 CrossConnectId1 ” section on page 27-16.
<DST>	Destination AID from the “ 27.11 CrossConnectId1 ” section on page 27-16.
<CCT>	(Optional) Type of connection. Used for specifying one or two-way connections. The parameter type is CCT, which is the type of cross-connect to be created.
• 1WAY	A unidirectional connection from a source tributary to a destination tributary
• 1WAYDC	SNCP multicast drop (one-way continue)
• 1WAYEN	SNCP multicast end node (one-way continue)
• 1WAYMON	A bidirectional connection between the two tributaries Note 1WAYMON is not supported with TL1. However, it is still supported from Cisco Transport Controller (CTC). Using CTC, you can create 1WAYMON cross-connects and can be retrieved through TL1.
• 1WAYPCA	A unidirectional connection from a source tributary to a destination tributary on the protection path/fiber
• 2WAY	A bidirectional connection between the two tributaries
• 2WAYDC	A bidirectional drop-and-continue connection applicable only to SNCP traditional and integrated DRIs
• 2WAYPCA	A bidirectional connection between the two tributaries on the extra protection path/fiber
• DIAG	Diagnostics cross-connect. Supports BERT (MS-SPRing PCA diagnostics cross-connect).
<ADD>	(Optional) AID from the “ 27.2 AidUnionId ” section on page 27-7.
<REMOVE>	(Optional) AID from the “ 27.2 AidUnionId ” section on page 27-7.
<CKTID>	(Optional) Circuit identification that contains the common language Circuit ID or other alias of the circuit being provisioned. Cannot contain blank spaces. CKTID is a string of ASCII characters. The maximum length of CKTID can be 48.
<CMDMDE>	(Optional) Command mode. Normal (NORM) mode is the default behavior for all commands but you can specify forced (FRCD) mode to force the system to override a state where the command would normally be denied. The FRCD mode of operation is applicable to delete a virtual concatenated (VCAT) member cross-connect in Unlocked-Enabled or Locked-Disabled, AutomaticInService service states.
• FRCD	Force the system to override a state in which the command would normally be denied.
• NORM	Execute the command normally. Do not override any conditions that could make the command fail.

Table 13-17 *ED-CRS-<PATH> Command- Parameter Support*

Input Parameters	Description
<PST>	(Optional) Primary state. The parameter type is PST, which indicates the current overall service condition of an entity.
• Unlocked	In service
• Locked	Out of service
<SST>	(Optional) Secondary state. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AutomaticInService	Automatic in service
• Disabled	Disabled
• Loopback	Loopback
• MismatchofEquipmentAlarm	Mismatch of equipment and attributes
• Maintenance	Maintenance mode
• OutOfGroup	Out of group
• SoftwareDownload	Software downloading
• Unassigned	Unassigned
• NotInstalled	Unequipped

13.22 ED-CRS-ETH

This command modifies an ethernet connection relationship between two or more ethernet connection end points inside the ethernet facilities.

Usage Guidelines

The default values for all optional parameters are NE default values. These values may not be the current value for a parameter. In order to obtain the current value use RTRV-XX command to retrieve them.

The ethernet connection end point identifier must be the same for all the ethernet ports inside the connection and must be kept the same for all the ethernet circuit.

CKTID is a string of ASCII characters. The maximum length of CKTID can be 48. If the CKTID is EMPTY or NULL this field is not displayed

If the AID is invalid, an IIAC (Invalid AID) error message is returned.

The "ALL" AID is invalid for this command.

Category

ETHERNET

Security

Provisioning

Input Format ED-CRS-ETH:[<TID>]:<SRC>,<DST>:<CTAG>:::[ADD=<ADD>],[REMOVE=<REMOVE>],[CKTID=<CKTID>][:];

Input Example ED-CRS-ETH:KARTHIK:ETH-1-1-1-12,ETH-1-21-1-12:1:::CKTID=NEW,ADD=ETH-1-2-1;

Table 13-18 ED-CRS-ETH Command - Parameter Support

Input Parameters	Description
<SRC>	Ethernet connection identifier AIDs used to access L2 ethernet connection end point.
ALL	The ALL aid is applicable for RTRV-only commands, basically the RTRV-rr type of commands.
ETHID[-{1-12}]-{1-5,12-16}-{1-22}-1-{1-20}	Ethernet connection end point aid for GE-XP card.
ETHID[-{1-12}]-{1-6,12-17}-{1-4}-1-{1-20}	Facility AID for 10GE-XP card.
<DST>	Ethernet connection identifier AIDs are used to access L2 ethernet connection end point
ALL	The ALL aid is applicable for RTRV-only commands, basically the RTRV-rr type of commands.
ETHID[-{1-12}]-{1-5,12-16}-{1-22}-1-{1-20}	Ethernet connection end point aid for GE-XP card.
ETHID[-{1-12}]-{1-6,12-17}-{1-4}-1-{1-20}	Facility aid for 10GE-XP card.
<ADD>	The AID AidUnionId. Default value is - NULL
<REMOVE>	The AID AidUnionId. Default value is - "NULL".
<CKTID>	Circuit identification parameter contains the Common Language Circuit ID or other alias of the circuit being provisioned. Default value is - "NULL"

13.23 ED-DAT

The Edit Date and Time (ED-DAT) command edits the date and time.

Usage Guidelines None

Category System

Security Provisioning

Input Format ED-DAT:[<TID>]:<CTAG>::[<DATE>],[<TIME>];

Input Example

ED-DAT:CISCO::1234::99-12-21,14-35-15;

Input Parameters

<DATE>	(Optional) Date. DATE is a string.
<TIME>	(Optional) Time. TIME is a string.

13.24 ED-DS3I

The Edit DS3I (ED-DS3I) command edits the attributes of a DS3i-N-12 facility.

Usage Guidelines

The following actions will return error messages:

- Sending this command to edit TACC and any other attribute while the port has a cross-connection or the port/VT has a test access point (TAP or TACC Number) will return the IPNC (Parameters Not Compatible) error message.
- Editing the TACC through the ED-xxx command is only allowed if there are no circuits or cross-connects on the port and the port or VT does not have a test access point (TAP or TACC Number). Otherwise, an error message will be returned.

**Note**

- This command is not allowed if the card is a protect card. TACC creation will be denied on protect ports/cards.
- Automatic application of loopbacks originating from the far end can be inhibited on the ports of a DS3i-N-12 card.
- The default values for all optional parameters are NE default values. These values might not be the current value for a parameter. Use a retrieve command to obtain the current value.

You cannot directly transition a facility from IS to Locked-Disabled,DSBLD service state. You can transition a facility to Locked-Disabled,DSBLD service state from any state except Locked-Disabled,Maintenance. To transition a facility from Locked-Disabled,Maintenance to Locked-Disabled,DSBLD service state, all the following conditions must be met:

- The facility is not sourcing a synchronization clock
- The facility's DCC is disabled
- The facility is not part of a protection group
- The facility is not supporting cross-connects
- The facility is not using overhead connections or overhead terminations (such as express orderwire, local orderwire, or user data channels [UDCs])

**Note**

The conditions stipulated can be overridden by using the CMDMDE=FRCD option. The FRCD option will immediately remove the facility from service (except for IS to Locked-Disabled,DSBLD transition) with no consideration for orderly interruption.

Category

Ports

Security

Provisioning

Input Format

ED-DS3I:[<TID>]:<AID>:<CTAG>:::[FMT=<FMT>],[LINECDE=<LINECDE>],[LBO=<LBO>],[INHFELPBK=<INHFELPBK>],[TACC=<TACC>],[TAPTYPE=<TAPTYPE>],[SFBER=<SFBER>],[SDBER=<SDBER>],[SOAK=<SOAK>],[NAME=<NAME>],[CMDMDE=<CMDMDE>]:[<PST>[,<SST>]];

Input Example

ED-DS3I:CISCO:FAC-1-2:1:::FMT=C-BIT,LINECDE=B8ZS,LBO=0-255,INHFELPBK=N,TACC=8,TAPTYPE=SINGLE,SFBER=1E-4,SDBER=1E-6,SOAK=10,NAME="DS3I PORT",CMDMDE=NORM:UNLOCKED,AUTOMATICINSERVICE;

Table 13-19 ED-DS3I Command - Parameter Support

Input Parameters	Description
<AID>	Access identifier from the “27.15 FACILITY” section on page 27-23.
• C-BIT	C-BIT line type applies to the DS3i-N-12 cards.
• M13	M13 line type applies to the DS3i-N-12 cards.
• UNFRAMED	Line type is unframed.
<LINECDE>	(Optional) Line code. Defaults to B8ZS. The parameter type is DS_LINE_CODE.
• AMI	Line code value is AMI.
• B8ZS	Line code value is B8ZS.
• HDB3	Line code value is HDB3.
<LBO>	(Optional) Line buildout settings. LBO is an integer. Defaults to 0–255. The parameter type is E_LBO, which is the electrical signal line buildout.
• 0–225	Electrical signal line buildout range is 0–225.
• 226–450	Electrical signal line buildout range is 226–450.
<INHFELPBK>	(Optional) Far-end loopback inhibition attribute of the port. If it is Y, the automatic far-end loopbacks are inhibited. It is either on or off. Defaults to Y. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<TACC>	(Optional) TAP number within a range of 0 to 999. Indicates whether the digroup being provisioned is to be used as a test access digroup. When TACC is 0 (zero), the TAP is deleted. TACC is an integer.
<TAPTYPE>	(Optional) TAP type. The parameter type is TAPTYPE, which is the test access point type.
• DUAL	Dual FAD
• SINGLE	Single FAD

Table 13-19 ED-DS3I Command - Parameter Support

Input Parameters	Description
<SFBER>	(Optional) Signal failure threshold. Defaults to 1E-4. The parameter type is SF_BER, which is the threshold for declaring signal failure on a facility or path.
• 1E-3	SFBER is 1E-3.
• 1E-4	SFBER is 1E-4.
• 1E-5	SFBER is 1E-5.
<SDBER>	(Optional) Signal degrade threshold. Defaults to 1E-7. The parameter type is SD_BER, which is the threshold for declaring signal degrade on a facility or path.
• 1E-5	SDBER is 1E-5.
• 1E-6	SDBER is 1E-6.
• 1E-7	SDBER is 1E-7.
• 1E-8	SDBER is 1E-8.
• 1E-9	SDBER is 1E-9.
<SOAK>	(Optional) Locked-AutomaticInService to Unlocked transition soak time as measured in 15-minute intervals. Defaults to 32. SOAK is an integer.
<NAME>	(Optional) Maximum length is 32 characters. NAME is a string. Defaults to Null.
<CMDMDE>	(Optional) Command mode. Normal (NORM) mode is the default behavior for all commands but you can specify forced (FRCD) mode to force the system to override a state where the command would normally be denied. The FRCD mode of operation is applicable to delete a virtual concatenated (VCAT) member cross-connect in Unlocked-Enabled or Locked-Disabled, AutomaticInService service states.
• FRCD	Force the system to override a state in which the command would normally be denied.
• NORM	Execute the command normally. Do not override any conditions that could make the command fail.
<PST>	(Optional) Primary state. Defaults to Unlocked. The parameter type is PST, which indicates the current overall service condition of an entity.
• Unlocked	In service
• Locked	Out of service
<SST>	(Optional) Secondary state. Defaults to AutomaticInService. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AutomaticInService	Automatic in service
• Disabled	Disabled
• Loopback	Loopback
• MismatchofEquipmentAlarm	Mismatch of equipment and attributes
• Maintenance	Maintenance mode
• OutOfGroup	Out of group
• SoftwareDownload	Software downloading
• Unassigned	Not assigned
• NotInstalled	Unequipped

13.25 ED-DSCP-<MOD2>

The Edit ETH or CHGRP (ED-DSCP-<MOD2>) command edits Differentiated Service Code Points (DSCP) to COS conversion table associated to a L2 ethernet port or a channel group.

Usage Guidelines	This command is applicable when the INGRESSCOS parameter is set to DSCP value on the ethernet port or channel group.
Category	Ethernet or Channel Group
Security	Provisioning
Input Format	ED-DSCP-MOD2:[<TID>]:<AID>:<CTAG>::<COS>:DSCPFIRST=<DSCP_FIRST>,DSCPLAST=<DSCP_LAST>[:];
Input Example	ED-DSCP-ETH::ETH-5-1-1:1234::3:DSCPFIRST=26,DSCPLAST=30; ED-DSCP-CHGRP::CHGRP-5-1-1::3:DSCPFIRST=26,DSCPLAST=30;

Table 13-20 ED-DSCP-MOD2 Command - Parameter Support

Input Parameters	Description
<AID>	Access identifier.
Ethernet	Ethernet AIDs are used to access L2 Ethernet ports. Access identifier from the “27.14 ETH” section on page 27-23 .
Channel Group	Access identifier from the “27.8 CHGRP” section on page 27-14 .
<INGRESSCOS>	Identifies the COS value set in the S-VLAN tag.
0 to 7	Set a Cos value
DSCP	The COS is set according to DSCP to COS mapping table.
TRUST	Use the Customer COS
VLAN	The COS will be provisioned on CVLAN basis (QinQ selective mode)
<DSCPFIRST>	DSCP range. Indicates a DSCP value used in the ethernet frame to define the QoS in L3 ethernet transport. It is a number in the range 0..64. Default values is 0
<DSCPLAST>	DSCP range. Indicates a DSCP value used in the ethernet frame to define the QoS in L3 ethernet transport. It is a number in the range 0..64. Default values is 0.

13.26 ED-E1

The Edit E1(ED-E1) command edits the attributes of an E1 facility.

Usage Guidelines

The default values for all optional parameters are NE default values. These values might not be the current value for a parameter. Use a retrieve command to obtain the current value.

Sending this command to edit TACC and any other attribute while the port has a cross-connect or the port/VT has a test access point (TAP or TACC Number), will return the IPNC (Parameters Not Compatible) error message.



Note

TACC creation will be denied on the protect ports/cards.

You cannot directly transition a facility from IS to Locked-Disabled,DSBLD service state. You can transition a facility to Locked-Disabled,DSBLD service state from any state except Locked-Disabled,Maintenance. To transition a facility from Locked-Disabled,Maintenance to Locked-Disabled,DSBLD service state, all the following conditions must be met:

- The facility is not sourcing a synchronization clock
- The facility's DCC is disabled
- The facility is not supporting cross-connects



Note

The conditions stipulated can be overridden by using the CMDMDE=FRCD option. The FRCD option will immediately remove the facility from service (except for IS to Locked-Disabled,DSBLD transition) with no consideration for orderly interruption.

Category

Ports

Security

Provisioning

Input Format

```
ED-E1[:<TID>]:<AID>:<CTAG>[:<CLKSRC>=<CLKSRC>],[LINECDE=<LINECDE>],[FMT=<FMT>],
[TACC=<TACC>],[TAPTYPE=<TAPTYPE>],[SFBER=<SFBER>],[SDBER=<SDBER>],[SOAK=
<SOAK>],[NAME=<NAME>],[CMDMDE=<CMDMDE>],[SYNCMSG=<SYNCMSG>],[SENDDUS
=<SENDDUS>],[ADMSSM=<ADMSSM>],[SABIT=<SABIT>][:<PST>[:<SST>]];
```

Input Example

```
ED-E1:CISCO:FAC-2-1:1:::LINECDE=HDB3,FMT=E1-MF,TACC=8,TAPTYPE=SINGLE,
SFBER=1E-4,SDBER=1E-6,SOAK=10,NAME="E1 PORT",CMDMDE=NORM,
SYNCMSG=N,SENDDUS=N,RETIME=Y,ADMSSM=STU_NCS,
SABIT=BYTE-4:UNLOCKED,AUTOMATICINSERVICE;
```

Table 13-21 ED-E1 Command - Parameter Support

Input Parameters	Description
<AID>	Access identifier from the “27.15 FACILITY” section on page 27-23 .
<CLKSRC>	Clock source
• INTERNAL	INTERNAL
• LOOPBACK TIMING	LOOPBACK TIMING
• SYNCE	SYNCE
• ADAPTIVE	ADAPTIVE
<LINECDE>	(Optional) Line code. Defaults to HDB3. The parameter type is LINE_CODE (line code). (Applicable only for NCS platform).
• AMI	Line code value is AMI.
• B3ZS	Binary three-zero substitution.
• B6ZS	Line code value is B6ZS.
• B8ZS	Line code value is B8ZS.
• HDB3	Line code value is HDB3. (Applicable only for NCS platform).
• JBZS	JBZS
• ZBTISI	ZBTISI
<FMT>	(Optional) Digital signal frame format. Defaults to E1-MF. The parameter type is FRAME_FORMAT, which is the frame format for an E1 port.
• AUTOPROV	AUTOPROV
• CBIT	C-BIT line type applies to the DS3XM and DS3E cards.
• D4	Frame format is D4
• DS2 FRAMED	DS2 FRAMED
• E1-CRCMF	NCS E1 CRCMF frame format
• E1-MF	NCS E1 MF frame
• E1-UNFRAMED	NCS E1 unframed format
• E2 FRAMED	E2 FRAMED
• E3-FRAME	E3-FRAME
• E3-PLCP	E3-PLCP
• ESF	Frame format is ESF
• FRAMENA	FRAMENA
• G-751	G-751
• G-832	G-832
• M13	M13 line type applies to the DS3XM and DS3E cards.
• M23	M23
• SYNTRAN	SYNTRAN
• UNFRAMED	Frame format is unframed

Table 13-21 ED-E1 Command - Parameter Support

Input Parameters	Description
<TACC>	(Optional) TAP number within a range of 0 to 999. Indicates whether the digroup being provisioned is to be used as a test access digroup. When TACC is 0 (zero), the TAP is deleted. Default is N. TACC is an integer.
<TAPTYPE>	(Optional) TAP type. Defaults to DUAL. The parameter type is TAPTYPE, which is the test access point type.
• DUAL	Dual FAD
• SINGLE	Single FAD
• 1E-5	SDBER is 1E-5.
• 1E-6	SDBER is 1E-6.
• 1E-7	SDBER is 1E-7.
• 1E-8	SDBER is 1E-8.
• 1E-9	SDBER is 1E-9.
<SOAK>	(Optional) Locked-AutomaticInService to Unlocked transition soak time as measured in 15-minute intervals. Defaults to 32. SOAK is an integer.
<NAME>	(Optional) NAME is a string. Defaults to NULL. Maximum length is 32 characters.
<CMDMDE>	(Optional) Command mode. Normal (NORM) mode is the default behavior for all commands but you can specify forced (FRCD) mode to force the system to override a state where the command would normally be denied. The FRCD mode of operation is applicable to delete a virtual concatenated (VCAT) member cross-connect in Unlocked-Enabled or Locked-Disabled, AutomaticInService service states.
• FRCD	Force the system to override a state in which the command would normally be denied.
• NORM	Execute the command normally. Do not override any conditions that could make the command fail.
<SYNCMSG>	(Optional) Synchronization status messaging is enabled or disabled on the E1 facility. Defaults to N. The parameter type is ON_OFF (disable or enable an attribute).
• N	No
• Y	Yes
<SENDDUS>	(Optional) The facility will send the DUS value as the synchronization status message for that facility. Defaults to N. The parameter type is ON_OFF (disable or enable an attribute).
• N	No
• Y	Yes
<RETIME>	(Optional) Indicates if retiming is needed. Defaults to N. The parameter type is ON_OFF (disable or enable an attribute).
• N	No
• Y	Yes

Table 13-21 ED-E1 Command - Parameter Support

Input Parameters	Description
<ADMSSM>	(Optional) The administrative synchronization status message. Defaults to STU_NCS. The parameter type is SYNC_CLOCK_REF_QUALITY_LEVEL, which is the clock source quality level.
• DUS	Do Not Use For Synchronization
• PRS	Primary Reference Source, Stratum 1 Traceable
• DUS_NCS	Do Not Use For Synchronization
• G811	G811 Standard
• G812T	G812T Standard
• STU_NCS	Synchronized, Traceability Unknown
• G812TL	G812TL Standard
• SETS	Synchronous Equipment Timing Source
<SABIT>	(Optional) When the frame format selection is E1, SABIT is the bit used to receive and transmit the SSM. The parameter type is SABITS (SA BITS).
• BYTE-4	SABIT is BYTE-4.
• BYTE-5	SABIT is BYTE-5.
• BYTE-6	SABIT is BYTE-6.
• BYTE-7	SABIT is BYTE-7.
• BYTE-8	SABIT is BYTE-8.
<PST>	(Optional) Primary state. Defaults to Unlocked. The parameter type is PST, which indicates the current overall service condition of an entity.
• Unlocked	In service
• Locked	Out of service
<SST>	(Optional) Secondary state. Defaults to AutomaticInService. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AutomaticInService	Automatic in service
• Disabled	Disabled
• Loopback	Loopback
• MismatchofEquipmentAlarm	Mismatch of equipment and attributes
• Maintenance	Maintenance mode
• OutOfGroup	Out of group
• SoftwareDownload	Software downloading
• Unassigned	Unassigned
• NotInstalled	Unequipped

13.27 ED-E3

The Edit E3 (ED-E3) command edits the attributes of an E3 facility.

Usage Guidelines

The default values for all optional parameters are NE default values. These values might not be the current value for a parameter. Use a retrieve command to obtain the current value.

Sending this command to edit TACC and any other attribute while the port has a cross-connect or the port or VT has a test access point (TAP or TACC Number) will return the IPNC (Parameters Not Compatible) error message.



Note

TACC creation will be denied on the protect ports and cards.

You cannot directly transition a facility from IS to Locked-Disabled,DSBLD service state. You can transition a facility to Locked-Disabled,DSBLD service state from any state except Locked-Disabled,Maintenance. To transition a facility from Locked-Disabled,Maintenance to Locked-Disabled,DSBLD service state, all the following conditions must be met:

- The facility is not sourcing a synchronization clock
- The facility's DCC is disabled
- The facility is not supporting cross-connects



Note

The conditions stipulated can be overridden by using the CMDMDE=FRCD option. The FRCD option will immediately remove the facility from service (except for IS to Locked-Disabled,DSBLD transition) with no consideration for orderly interruption.

Category

Ports

Security

Provisioning

Input Format

```
ED-E3[:<TID>]:<AID>:<CTAG>[:::CLKSRC=<CLKSRC>],[FMT=<FMT>],[LINECDE=<LINECDE>],
[TACC=<TACC>],[TAPTYPE=<TAPTYPE>],[SFBER=<SFBER>],[SDBER=<SDBER>],[SOAK=
<SOAK>],[NAME=<NAME>],[CMDMDE=<CMDMDE>],[AISONLPBK=<AISONLPBK>][:<PST>
[,<SST>]];
```

Input Example

```
ED-E3:CISCO:E3-1-2:1:::TACC=8,TAPTYPE=SINGLE,SFBER=1E-4,SDBER=1E-6,SOAK=10,
NAME="E3 PORT",CMDMDE=CMDMDE, UNLOCKED,AUTOMATICINSERVICE;
```

Table 13-22 ED-E3 Command - Parameter Support

Input Parameters	Description
<AID>	Access identifier from the “ 27.15 FACILITY ” section on page 27-23.
• FACILITY	Facility
• TERMINAL	Terminal
• OFF	Off
• ALL	All
<CLKSRC>	Clock Source
• INTERNAL	INTERNAL
• LOOPBACK TIMING	LOOPBACK TIMING
• SYNCE	SYNCE
• ADAPTIVE	ADAPTIVE
<FMT>	(Optional) Digital signal frame format. Defaults to E1-MF. The parameter type is FRAME_FORMAT, which is the frame format for an E1 port.
• AUTOPROV	AUTOPROV
• CBIT	C-BIT line type applies to the DS3XM and DS3E cards.
• DS2 FRAMED	DS2 FRAMED
• E2 FRAMED	E2 FRAMED
• E3-FRAME	E3-FRAME
• E3-PLCP	E3-PLCP
• FRAMENA	FRAMENA
• G-751	G-751
• G-832	G-832
• M13	M13 line type applies to the DS3XM and DS3E cards.
• M23	M23
• SYNTRAN	SYNTRAN
<LINECDE>	(Optional) Line code. Defaults to HDB3. The parameter type is LINE_CODE (line code). (Applicable only for NCS platform).
• B3ZS	Binary three-zero substitution.
• B6ZS	B6ZS
• JBZS	JBZS
• ZBTSI	ZBTSI
<TACC>	(Optional) TAP number within a range of 0 to 999. Indicates whether the digroup being provisioned is to be used as a test access digroup. When TACC is 0 (zero), the TAP is deleted. Default is N. TACC is an integer.
<TAPTYPE>	(Optional) TAP type. Defaults to DUAL. The parameter type is TAPTYPE, which is the test access point type.
• DUAL	Dual FAD

Table 13-22 ED-E3 Command - Parameter Support

Input Parameters	Description
• SINGLE	Single FAD
<SFBER>	(Optional) Signal failure threshold. Defaults to 1E-4. The parameter type is SF_BER, which is the threshold for declaring signal failure on a facility or path.
• 1E-3	SFBER is 1E-3.
• 1E-4	SFBER is 1E-4.
• 1E-5	SFBER is 1E-5.
<SDBER>	(Optional) Signal degrade threshold. Defaults to 1E-7. The parameter type is SD_BER, which is the threshold for declaring signal degrade on a facility or path.
• 1E-5	SDBER is 1E-5.
• 1E-6	SDBER is 1E-6.
• 1E-7	SDBER is 1E-7.
• 1E-8	SDBER is 1E-8.
• 1E-9	SDBER is 1E-9.
<SOAK>	(Optional) Locked-AutomaticInService to Unlocked transition soak time as measured in 15-minute intervals. Defaults to 32. SOAK is an integer.
<NAME>	(Optional) NAME is a string. Defaults to NULL. Maximum length is 32 characters.
<CMDMDE>	(Optional) Command mode. Normal (NORM) mode is the default behavior for all commands but you can specify forced (FRCD) mode to force the system to override a state where the command would normally be denied. The FRCD mode of operation is applicable to delete a virtual concatenated (VCAT) member cross-connect in Unlocked-Enabled or Locked-Disabled, AutomaticInService service states.
• FRCD	Force the system to override a state in which the command would normally be denied.
• NORM	Execute the command normally. Do not override any conditions that could make the command fail.
<PST>	(Optional) Primary state. Defaults to Unlocked. The parameter type is PST, which indicates the current overall service condition of an entity.
• Unlocked	In service
• Locked	Out of service
<SST>	(Optional) Secondary state. Defaults to AutomaticInService. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AutomaticInService	Automatic in service
• Disabled	Disabled
• Loopback	Loopback
• MismatchofEquipmentAlarm	Mismatch of equipment and attributes

Table 13-22 ED-E3 Command - Parameter Support

Input Parameters	Description
• Maintenance	Maintenance mode
• OutOfGroup	Out of group
• SoftwareDownload	Software downloading
• Unassigned	Unassigned
• NotInstalled	Unequipped

13.28 ED-E4

The Edit E4 (ED-E4) command edits the attributes of an E4 facility. Currently this is only applicable to STM1E Ports 9 to 12 when they are in E4-FRAMED or E4-UNFRAMED mode.

Usage Guidelines

The default values for all optional parameters are NE default values. These values might not be the current value for a parameter. Use a retrieve command to obtain the current value.

Category

Ports

Security

Provisioning

Input Format

ED-E4:[<TID>]:<AID>:<CTAG>:::[SFBER=<SFBER>],[SDBER=<SDBER>],[SOAK=<SOAK>],[NAME=<NAME>],[CMDMDE=<CMDMDE>]:[<PST>[,<SST>]];

Input Example

ED-E4:CISCO1:FAC-6-1:114::SFBER=1E-4,SDBER=1E-6,SOAK=10,NAME="E4 PORT",CMDMDE=NORM:UNLOCKED,AUTOMATICINSERVICE;

Table 13-23 ED-E4 Command Parameter Support

Input Parameters	Description
<AID>	Access identifier from the “27.15 FACILITY” section on page 27-23.
<SFBER>	(Optional) Signal failure threshold. Defaults to 1E-4. The parameter type is SF_BER, which is the threshold for declaring signal failure on a facility or path.
• 1E-3	SFBER is 1E-3.
• 1E-4	SFBER is 1E-4.
• 1E-5	SFBER is 1E-5.

Table 13-23 ED-E4 Command Parameter Support

Input Parameters	Description
<SDBER>	(Optional) Signal degrade threshold. Defaults to 1E-7. The parameter type is SD_BER, which is the threshold for declaring signal degrade on a facility or path.
• 1E-5	SDBER is 1E-5.
• 1E-6	SDBER is 1E-6.
• 1E-7	SDBER is 1E-7.
• 1E-8	SDBER is 1E-8.
• 1E-9	SDBER is 1E-9.
<SOAK>	(Optional) Locked-AutomaticInService to Unlocked transition soak time as measured in 15-minute intervals. Defaults to 32. SOAK is an integer.
<NAME>	(Optional) NAME is a string. Defaults to NULL. Maximum length is 32 characters.
<CMDMDE>	(Optional) Command mode. Normal (NORM) mode is the default behavior for all commands but you can specify forced (FRCD) mode to force the system to override a state where the command would normally be denied. The FRCD mode of operation is applicable to delete a virtual concatenated (VCAT) member cross-connect in Unlocked-Enabled or Locked-Disabled, AutomaticInService service states.
• FRCD	Force the system to override a state in which the command would normally be denied.
• NORM	Execute the command normally. Do not override any conditions that could make the command fail.
<PST>	(Optional) Primary state. Defaults to Unlocked. The parameter type is PST, which indicates the current overall service condition of an entity.
• Unlocked	In service
• Locked	Out of service
<SST>	(Optional) Secondary state. Defaults to AutomaticInService. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AutomaticInService	Automatic in service
• Disabled	Disabled
• Loopback	Loopback
• MismatchofEquipment Alarm	Mismatch of equipment and attributes
• Maintenance	Maintenance mode
• OutOfGroup	Out of group
• SoftwareDownload	Software downloading
• Unassigned	Unassigned
• NotInstalled	Unequipped

13.29 ED-EFM

The Edit Ethernet in the First Mile (ED-EFM) command edits the ethernet OAM parameters on the front end port of the fast (10/100 Mbps) ethernet card.

Usage Guidelines

- The EFMSTATE parameter should be “enabled” for the facility by ED-FSTE to edit the EFM parameters.
- You cannot enable or disable the remote loopback through the local interface on the remote OAM peer entity if any other type of loopback (facility/terminal) is already configured on the local interface.

Category

Ports

Security

Provisioning

Input Format

ED-EFM:[<TID>]:<AID>:<CTAG>:::[STATE=<STATE>],[MODE=<MODE>],[LFACTION=<LFACTION>],[SESSIONTIMER=<SESSIONTIMER>];

Input Example

ED-EFM::ETH-12-1-1:1:::MODE=PASSIVE,LFACTION=ERROR-BLOCK,DGACTION=ERROR-BLOCK,SESSIONTIMER=40;

Table 13-24 ED-EFM Command - Parameter Support

Input Parameters	Description
<AID>	Access identifier from the “27.14 ETH” section on page 27-23 .
<STATE>	Indicates whether the EFM is enabled or disabled on the port.
• ENABLE	Indicates the EFM is enabled on the port.
• DISABLE	Indicates the EFM is disabled on the port.
<MODE>	Indicates the mode of the EFM port.
• ACTIVE	The port is in the active state.
• PASSIVE	The port is in the passive state.
<LFACTION>	Action to be taken for the failure of the link on the port.
• RFACTION-NONE	No action.
• ERROR-BLOCK	Block the port.
<SESSIONTIMER>	Session expire timer for EFM (in seconds).

13.30 ED-ETH

The Edit Ethernet (ED-ETH) command edits the front-end port information of a 10/100/1000 Mbps Ethernet card.

Usage Guidelines

The default values for all optional parameters are NE default values, but these values might not be the current value for a parameter. Use a retrieve command to obtain the current value.

SELECTIVEAUTO parameter is applicable only when EXPSPEED and EXPDUPLEX is not set to AUTO mode.



Note

This command is available in Software Release 8.0.1 and later. It is not available in R8.0.0 and earlier.

Category

Ethernet

Security

Provisioning

Input Format

ED-ETH:[<TID>]:<AID>:<CTAG>:::[FLOW=<FLOW>],[EXPDUPLEX=<EXPDUPLEX>],[SELECTIVEAUTO=<SELECTIVEAUTO>],[EXPSPEED=<EXPSPEED>],[VLANCOS=<VLANCOSTHRESHOLD>],[IPTOS=<IPTOSTHRESHOLD>],[NAME=<NAME>],[CMDMDE=<CMDMDE>],[SUPPRESS=<SUPPRESS>],[SOAK=<SOAK>],[LIENABLE=<LIENABLE>],[LITIMER=<LITIMER>][:<PST>[:<SST>]];

Input Example

ED-ETH:CISCO:FAC-1-1:123::FLOW=FLOW,EXPDUPLEX=EXPDUPLEX,SELECTIVEAUTO=SELECTIVEAUTO,EXPSPEED=EXPSPEED,VLANCOS=VLANCOS,IPTOS=IPTOS,NAME="ETHPORT",CMDMDE=CMDMDE,SOAK=32,LIENABLE=Y,LITIMER=200:IS,AINS;

Table 13-25 ED-ETH Command - Parameter Support

Input Parameters	Description
<AID>	Ethernet AIDs are used to access L2 Ethernet ports. Access identifier from the “27.14 ETH” section on page 27-23.
<FACILITY>	Access identifier from the “27.15 FACILITY” section on page 27-23.
<FLOW	(Optional) Flow. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<EXPDUPLEX>	(Optional) Ethernet duplex mode. The parameter type is ETHER_DUPLEX, which is the duplex mode.

Table 13-25 ED-ETH Command - Parameter Support

Input Parameters	Description
• AUTO	Auto mode
• FULL	Full mode
• HALF	Half mode
<SELECTIVEAUTO>	(Optional) Selective auto-negotiation. The parameter is Y or N (enable or disable auto-negotiation) This indicates selective auto-negotiation of EXPSPEED and EXPDUPLEX only.
• Y	Enable selective auto-negotiation.
• N	Disable selective auto-negotiation.
<EXPSPEED>	(Optional) Ethernet speed. The parameter type is ETHER_SPEED, which is the Ethernet speed.
• 100_MBPS	100 Megabits per second
• 10_GBPS	10 Gigabits per second
• 10_MBPS	10 Megabits per second
• 1_GBPS	1 Gigabit per second
• 40_GBPS	40 Gigabit per second
• AUTO	Auto
• AUTO_FDX	Enable auto negotiation with full duplex.
<VLANCOS>	(Optional) Priority queuing threshold based on VLAN class of service for incoming Ethernet packets. VLANCOS is an integer.
<IPTOS>	(Optional) Priority queuing threshold based on IP type of service for incoming Ethernet packets. IPTOS is an integer.
<NAME>	(Optional) Name. NAME is a string.
<CMDMDE>	(Optional) Command mode. Normal (NORM) mode is the default behavior for all commands but you can specify forced (FRCD) mode to force the system to override a state where the command would normally be denied. The FRCD mode of operation is applicable to delete a virtual concatenated (VCAT) member cross-connect in Unlocked-Enabled or Locked-Disabled, AutomaticInService service states.
<SUPPRESS>	Pre-service alarm flag for data ports.
• ON	Enable suppress.
• OFF	Disable suppress. Default is Off.
<SOAK>	(Optional) OOS-AINS to IS transition soak time as measured in 15-minute intervals. SOAK is an integer.
<LIENABLE>	(Optional) Enable or Disable link integrity timer. Takes either Y or N. Value Y enables the LITIMER and value N disables LITIMER. By default LITIMER is enabled.
<LITIMER>	(Optional) Link integrity timer duration in the range between 200 ms and 10000 ms in multiples on 100 ms.

Table 13-25 ED-ETH Command - Parameter Support

Input Parameters	Description
<PST>	(Optional) Primary state. Defaults to Unlocked. The parameter type is PST, which indicates the current overall service condition of an entity.
• Unlocked	In service
• Locked	Out of service
<SST>	(Optional) Secondary state. Defaults to AutomaticInService. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AutomaticInService	Automatic in service
• Disabled	Disabled
• Loopback	Loopback
• MismatchofEquipmentAlarm	Mismatch of equipment and attributes
• Maintenance	Maintenance mode
• OutOfGroup	Out of group
• SoftwareDownload	Software downloading
• Unassigned	Unassigned
• NotInstalled	Unequipped

13.31 ED-EQPT

The Edit Equipment (ED-EQPT) command edits the attributes for a given equipment slot in the NE. If the card is in an equipment slot, this command is allowed only on the working AID. The ED-EQPT command also modifies a shelf role from NC to SC on an NE configured in multishelf mode.

Usage Guidelines

The PROTID parameter indicates the unique identifier of the protection group (the protect card). “NULL” is a special value of the PROTID parameter and indicates absence of a protection group. For the 1:1 protection type, RVRTV and RVTM parameters can be changed. For the 1:1 protection type, if the PROTID parameter is entered as “NULL”, the protection group is deleted, as shown in the following example:

```
ED-EQPT:[<TID>]:SLOT-2:<CTAG>:::PROTID=NULL;
```

For the 1:N protection type, if the PROTID is “NULL”, the AIDs in the list are removed from the protection group. If all the working cards are in the AID list, the protection group is deleted.

For example, if Slot 1, Slot 2, and Slot 4 were the only working cards in the protection group, the following command will remove Slot 4 from the protection group:

```
ED-EQPT:[<TID>]:SLOT-4:<CTAG>:::PROTID=NULL;
```

The protection group still has Slot 1 and Slot 2 as working cards.

The following command will remove all the other working cards in the preceding example and consequently delete the protection group itself:

```
ED-EQPT:[<TID>]:SLOT-2&SLOT-1:<CTAG>:::PROTID=NULL;
```

The ED-EQPT command can be successfully executed on an already provisioned card to add or remove a working card from a protection group. This command is not valid on a protect card. Only cards can be added to or removed from a protection group. Protection type is immutable and is determined at the time of creation of a protection group (while adding the first working card). After it is provisioned, the equipment type cannot be edited either.

The default values for all optional parameters are NE default values. These values might not be the current value for a parameter. Use a retrieve command to obtain the current value.

The following examples show how to add an existing card to a protection group using the ED-EQPT command:

- 1:1 protection group:
ED-EQPT::SLOT-2:12:::PROTID=SLOT-1,RVRTV=Y,RVTM=9.0;
- 1:N protection group:
ED-EQPT::SLOT-2:12:::PROTID=SLOT-3,PRTYPE=1-N,RVTM=6.5;

Error conditions for editing a 1:1 or 1:N protection group could be:

- Editing the PRTYPE or PROTID (non-NULL value) parameters.
- Editing RVRTV or RVTM when no protection group exists.
- Editing RVRTV for 1:N protection.
- Failed to remove, currently switched to protect.

The DS3i-N-12 card's provisioning is based on the cross-connect type and the DS3i-N-1 card's location. CARDMODE provisioning is allowed on the DS3i-N-12 and ML-Series cards as follows:

- The DS3i-N-12 card in the lower speed I/O slot with the cross-connect card only allows the DS3I-VC32 CARDMODE. Other cases allow the CARDMODE to be DS3I-VC-4-16.
- There is no card reboot if the CARDMODE is changed on the DS3i-N-12 card.
- The DS3i-N-12 card can be upgraded or downgraded by changing the CARDMODE with the ED-EQPT command.

CMDMDE provisioning behaves as follows:

- If the command mode (CMDMDE) is set to NORM during the creation of a 1:1 or 1:N protection group, all cards must be physically plugged in and in the service state (IS). If the cards are not physically plugged in and are not in ready state, the command is denied with an appropriate error message. CMDMDE=FRCD will override the default behavior and allow creation of protection group regardless of the physical presence and ready state of cards.
- If the command mode is set to NORM during the removal of a card in a 1:1 or 1:N protection group, there must be no cross-connects (for example, services) present on the card. CMDMDE=FRCD will override the default behavior and allow deletion of protection group regardless of presence of cross-connects on the card.

On the FC_MR-4 card, the card mode cannot be changed to FCMR-LINERATE when the payload on any port is 1GFICON or 2GFICON. These payloads are allowed only in Distance Extension Card Mode.

Category

Equipment

Security

Provisioning

Input Format

ED-EQPT[:<TID>]:<AID>:<CTAG>[:<PROTID=<PROTID>],[PRTYPE=<PRTYPE>],[RVRTV=<RVRTV>],[RVTM=<RVTM>],[CARDMODE=<CARDMODE>],[PEERID=<PEERID>],[REGENNAME=<REGENNAME>],[PEERNAME=<PEERNAME>],[CMDMDE=<CMDMDE>],[RETIME=<RETIME>],[SHELFROLE=<SHELFROLE>],[NEWSHELFID=<NEWSHELFID>],[FRPROLE=<FRPROLE>],[FRPSTATE=<FRPSTATE>],[FRPHOLDOFFTIME=<FRPHOLDOFFTIME>],[ADMINCVLAN=<ADMINCVLAN>],[ADMINSVLAN=<ADMINSVLAN>],[CFMSTATE=<CFMSTATE>],[CCTIMER=<CCTIMER>],[PROTOPMODE=<PROTOPMODE>],[SWITCHWITHCRCALARM=<SWITCHWITHCRCALARM>],[CRCTHR=<CRCTHR>],[CRCPOLLINTRVL=<CRCPOLLINTRVL>],[CRCSOAKCNT=<CRCSOAKCNT>],[USB=<USB>],[LEDSTATE=<LEDSTATE>],[CLOCKTYPE=<CLOCKTYPE>][:<PST>[:<SST>]]];

Input Example

ED-EQPT::SLOT-15:a::CARDMODE=GEXP-L2ETH,SWITCHWITHCRCALARM=Y;
 ED-EQPT::SLOT-15:a::CARDMODE=GEXP-L2ETH,CRCPOLLINTRVL=4;
 ED-EQPT::SLOT-3:12::LEDSTATE=Y,CLOCKTYPE=TNC;

Table 13-26 ED-EQPT Command - Parameter Support

Input Parameters	Description
<AID>	Access identifier from the “27.13 EQPT” section on page 27-21.
<CMDMDE>	The parameter type is command mode (CMDMDE). Normal (NORM) mode is the default behavior for all commands but you can specify forced (FRCD) mode to force the system to override a state where the command would normally be denied. The FRCD mode of operation is applicable to delete a virtual concatenated (VCAT) member cross-connect in IS-NR or OOS-AU,AINS service states.
FRCD	Force the system to override a state where the command would normally be denied.
NORM	Execute the command normally. Do not override any conditions that might make the command fail.
<CARDMODE>	Defines the card mode.
10GLANWAN-LINE-SQUELCH	Changes the card mode from LAN to WAN.
DS1E1-DS1ONLY	DS1 mode on DS1E1 card.
DS1E1-E1ONLY	E1 mode on DS1E1 card.
DS1E1-E1MIXED	Hybrid/E1-retimed port usage profile.
DS1E1-DS1MIXED	Hybrid/DS1-retimed port usage profile.
DS3XM12-STS12	Indicates the DS3XM-12 card in the STS12 back plane rate mode.
DS3XM12-STS48	Indicates the DS3XM-12 card in the STS12 back plane rate mode.
NCS-LINE	Line terminating mode.
NCS-SECTION	Section terminating mode.
NCS-TRANS-AIS	Transparent mode AIS.
NCS-TRANS-SQUELCH	Transparent mode SQUELCH.
FCMR-DISTEXTN	FC-MR-4 card with Distance Extension support.
FCMR-LINERATE	FC-MR-4 card without Distance Extension support.

Table 13-26 ED-EQPT Command - Parameter Support

Input Parameters	Description
• ML-GFP	ML1 series card in DOS FPGA using GFP framing type.
• ML-HDLC	ML1 series card in DOS FPGA using HDLC framing type.
• ML-IEEE-RPR	ML1 series card in DOS FPGA which supports Resilient Packet Ring (RPR).
• MXPMR25G-FCGE	Fiber channel or GIGE mode for the MXP-MR-2.5G.
• MXPMR10DME-FCGE ISC	Fiber channel, GIGE, or ISC mode for the Cisco ONS MXP-MR-10DME, MXP-MR-10DMEX card series.
• MXPMR10DME-FCGE ISC-4GFC	1..4 facilities with fiber channel, GIGE, or ISC traffic mode and facility 5 with 4 Gbps fiber channel traffic mode for the MXP-MR-10DME, MXP-MR-10DMEX card series.
• MXPMR10DME-4GFC- FCGEISC	Facility 1 with 4 Gbps fiber channel traffic mode and 5..8 facilities with fiber channel, GIGE, or ISC traffic mode for the MXP-MR-10DME, MXP-MR-10DMEX card series.
• MXPMR10DME-4GFC	4 Gbps fiber channel traffic mode for the MXP-MR-10DME, MXP-MR-10DMEX card series.
• PSM-NORMAL	PSM working in classic configuration.
• PSM-STANDALONE	PSM working in stand-alone mode.
• AMPL-BST	Booster mode for amplifier cards: OPT-AMP-L, OPT-AMP-17-C and OPT-AMP-23-C cards.
• AMPL-PRE	Pre-amplifier mode for amplifier cards: OPT-AMP-L, OPT-AMP-17-C and OPT-AMP-23-C cards.
• 10GEXP-TXP	10GE-XP behaves as two separate transponders, where client 1 is associated to trunk 3 and client 2 is associated to trunk 4.
• 10GEXP-L2ETH	10GE-XP behaves as an L2 Ethernet switch.
• GEXP-10x1Gx2-MXP	GE-XP behaves as a double Muxponder having ten 1 Gbps client facilities with one trunk. The first 10 GIGE clients are associated to the first trunk (21), while GIGE facilities from 11 to 20 are associated to trunk 22.
• GEXP-20x1G-MXP	GE-XP behaves as a single Muxponder having ten 1 Gbps client facilities with one trunk. Only the first 10 GIGE clients are associated to the first trunk (21) while the other facilities are unused.
• GEXP-L2ETH	GE-XP behaves as an L2 Ethernet Switch.
• CEMR-AUTO	Auto allocation of back-end channels for CE-MR-10
• CEMR-MANUAL	Manual allocation of back-end channels for CE-MR-10
• UNKNOWN	Unknown.
• WXC80-BIDI	80-WXC-C working in bidirectional mode.
• WXC80-DMX	80-WXC-C working as demultiplexer.
• WXC80-MUX	80-WXC-C working as multiplexer.
• 40G-MXP-MUXPOND ER	40G-MXP-MUXPONDER working as multiplexer.
• 40G-MXP-UNIDIR-RE GEN	40G-MXP-UNIDIR-REGEN working as regenerator.
<FRPHOLDOFFTIME>	Indicates the hold off timer value. The protection does not start until the hold off time expires.
• 100-MSEC	Indicates the hold off timer value as 100 milliseconds.
• 1-MSEC	Indicates the hold off timer value as 1milisecond.

Table 13-26 ED-EQPT Command - Parameter Support

Input Parameters	Description
• 200-MSEC	Indicates the hold off timer value as 200 milliseconds.
• 2-MSEC	Indicates the hold off timer value as 2 milliseconds.
• 500-MSEC	Indicates the hold off timer value as 500 milliseconds.
• 50-MSEC	Indicates the hold off timer value as 50 milliseconds.
• 5-MSEC	Indicates the hold off timer value as 5 milliseconds.
• DISABLED	Indicates that the hold off timer is disabled.
<ADMINCVLAN>	Customer VLAN identifier for REP. ADMINCVLAN is a number between 1 and 4096. The value 0 is reserved to untagged VLAN.
<ADMINSVLAN>	Service provider VLAN identifier for REP. ADMINSVLAN is a number between 1 and 4096. The value 0 is reserved to untagged VLAN.
<CFMSTATE>	Link Integrity status.
• Y	Enabled
• N	Disabled
<CCTIMER>	Indicates continuity check message timer.
• ONE-MIN	1 minute.
• ONE-SEC	1 second.
• TEN-SEC	10 seconds.
<PROTOPMODE>	PROTOPMODE
<FRPROLE>	Indicates the fast ring protection enable mode for GE-XP/10GE-XP units involved in a protection scheme.
• MASTER	Role is of card master of the ring.
• SLAVE	Role is of card slave of the ring.
<FRPSTATE>	Indicates the fast ring protection enable state.
• DISABLED	Disabled protection
• ENABLED	Enabled protection
• FORCED	Forced protection
<NEWSHELFID>	(Optional) New shelf identifier is used to change the value of the shelf identifier for the addressed shelf. The value must be different by one and can be in the range from two to eight. This field can only be changed if (in the same command) the SHELFROLE is equal to SC. Integer.
<PEERID>	The regeneration peer slot from the “27.13 EQPT” section on page 27-21.
<PROTID>	(Optional) Protection group name. PROTID is a string.
<REGENNAME>	The name of a regeneration group. REGENNAME is a string.
<RETIME>	(Optional) Indicates the RETIME function for all the facilities on this card. The parameter type is ON_OFF (disable or enable an attribute). (Supported on the DS1/E1-56 card.
• N	Disable an attribute.
• Y	Enable an attribute.

Table 13-26 ED-EQPT Command - Parameter Support

Input Parameters	Description
<RVRTV>	(Optional) Revertive mode. The value Y indicates that protection switching system reverts service to the original line after restoration. The value N indicates that protection switching system does not revert service to the original line after restoration. RVRTV is applicable only for 1+1 protection switching. Defaults to N, non-revertive.
• N	Does not revert service to original line after restoration.
• Y	Reverts service to original line after restoration.
<RVTM>	(Optional) Revertive time. The parameter type is REVERTIVE_TIME (revertive time).
• 0.5 to 12.0	Revertive time is 0.5 to 12.0 minutes.
<SWITCHWITHCRCALARM>	Switch the GZ card with CRC Alarms
<CRCTHR>	CRC threshold values beyond which alarms are raised. The available threshold values are 10E-2, 10E-3, and 10E-4.
<CRCPOLLINTRVL>	Interval of time after which the polling starts.
<CRCISOAKCNT>	Number of poll cycles during which defect is integrated. The value ranges from 3 to 10.
<USB>	Identifies the USB port where a passive unit is connected.
<CLOCKTYPE>	The parameter type is CLOCKTYPE. Sets the clock type.
• INTERNAL	Clock type set to INTERNAL.
• TNC	Clock type set to TNC.
<LEDSTATE>	LED state.
<PST>	(Optional) Primary state. The parameter type is PST, which indicates the current overall service condition of an entity.
• Unlocked	In service
• Locked	Out of service
<SHELFROLE>	The role of the shelf in the context of the node. When it is omitted it defaults to SC. The parameter is SHELF_ROLE.
<SST>	(Optional) Secondary state. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AutomaticInService	Automatic in service
• Disabled	Disabled
• Loopback	Loopback
• MismatchofEquipmentAlarm	Mismatch of equipment and attributes
• Maintenance	Maintenance mode
• OutOfGroup	Out of group
• SoftwareDownload	Software downloading
• Unassigned	Unassigned
• NotInstalled	Unequipped

13.32 ED-FAC

The Edit Facility (ED-FAC) command edits the payload (or signal) type of a facility.

Usage Guidelines

The default values for all optional parameters are NE default values. These values might not be the current value for a parameter. Use a retrieve command to obtain the current value.

Category

Ports

Security

Provisioning

Input Format

ED-FAC:[<TID>]:<SRC>:<CTAG>:::[PAYLOAD=<PAYLOAD>],
[CMDMDE=<CMDMDE>]:[<PST>[,<SST>]];

Input Example

ED-FAC:CISCO:FAC-3-9:2222:::PAYLOAD=E4-FRAMED,
CMDMDE=NORM:UNLOCKED,AUTOMATICINSERVICE;

Table 13-27 ED-FAC Command - Parameter Support

Input Parameters	Description
<SRC>	Source access identifier from the “27.15 FACILITY” section on page 27-23 .
<PAYLOAD>	(Optional) Payload. The parameter type is PAYLOAD, which identifies payload type.
• E4 Framed	E4 Framed facility
• E4 Unframed	E4 Unframed facility
• STM 1E	STM 1E facility
• E3	E3 facility
• T3	T3 facility
• OC3	OC3 facility
• OC12	OC12 facility
• OC48	OC48 facility
<CMDMDE>	Command mode. Defaults to NORM. The parameter type is CMDMDE, which forces the system to execute a given command regardless of any standing conditions. Normal mode is the default behavior for all commands but you can specify FRCD to force the system to override a state in which the command would normally be denied.
• FRCD	Force the system to override a state in which the command would normally be denied.

Table 13-27 ED-FAC Command - Parameter Support

Input Parameters	Description
• NORM	Execute the command normally. Do not override any conditions that could make the command fail.
<PST>	Primary state. Defaults to Unlocked. The parameter type is PST, which indicates the current overall service condition of an entity.
• Unlocked	In service
• Locked	Out of service
<SST>	Secondary state. Defaults to AutomaticInService. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AutomaticInService	Automatic in service
• Disabled	Disabled
• Maintenance	Maintenance mode

13.33 ED-FFP-<MOD2NCSPAYLOAD>

The Edit Facility Protection Group for 10GFC, 10GIGE, 40GIGE, 100GIGE, 1GFC, 1GFICON, 2GFC, 2GFICON, 4GFC, 4GFICON, 8GFC, D1VIDEO, DV6000, DVBASI, ETRCLO, FSTE, GIGE, HDTV, ISC1, OTU3, OTU1, OTU2, OTU4, ISC3STP1G, or ISC3STP2G (ED-FFP-<MOD2NCSPAYLOAD>) command edits the operating parameters for a NCS client facility.

Usage Guidelines

- Y-cable with bidirectional protection is applicable only for ISC3STP1G and ISC3STP2G payloads on the AR-MXP, AR-XP, and AR-XPE cards.
- Y-cable with unidirectional protection is applicable only for payloads other than ISC3STP1G and ISC3STP2G on the AR-MXP, AR-XP, and AR-XPE cards.
- The command does not support 3GVIDEO, SDSDI, HDSDI, and AUTO payloads on AR-MXP, AR-XP, and AR-XPE cards.

Category

NCS

Security

Provisioning

Input Format

ED-FFP-<MOD2NCSPAYLOAD>:[<TID>]:<AID>:<CTAG>:::[PROTID=<PROTID>],
[RVRTV=<RVRTV>],[RVTM=<RVTM>],[PSDIRN=<PSDIRN>][:];

Input Example

ED-FFP-OTU1:CISCO:VFAC-1-1-1:100:::PROTID=DC-METRO,RVRTV=N,RVTM=1.0,PSDIRN=BI
;

Table 13-28 ED-FFP-<MOD2NCSPAYLOAD> Command - Parameter Support

Input Parameters	Description
<AID>	Access identifier from the “ 27.15 FACILITY ” section on page 27-23. The AR-MXP, AR-XP, and AR-XPE cards use the VFAC AID.
<PROTAID>	(Optional) The protection group identifier (protection group name). Defaults to the protecting port AID of the protection group. PROTAID can have a maximum length of 32 characters. PROTAID is a string.
<RVRTV>	(Optional) Revertive mode. The value Y indicates that protection switching system reverts service to the original line after restoration. The value N indicates that protection switching system does not revert service to the original line after restoration. RVRTV is applicable only for 1+1 protection-switching. Null defaults to N. Only applies to SNCP. The parameter type is ON_OFF (disable or enable an attribute).
• N	Does not revert service to original line after restoration.
• Y	Reverts service to original line after restoration.
<RVTM>	(Optional) Revertive time. RVTM is not allowed to be set while RVRTV is N. Only applies to SNCP. The parameter type is REVERTIVE_TIME (revertive time).
• 0.5 to 9.5	Revertive time is 0.5 to 9.5 minutes.
<PSDIRN>	(Optional) Protection switch operation. Identifies the switching mode. Defaults to UNI. The parameter type is UNI_BI (unidirectional or bidirectional switch operations). Note The MXP_2.5G_10G and TXP_MR_10G cards do not support bidirectional switching.
• BI	Bidirectional protection switching
• UNI	Unidirectional protection switching

13.34 ED-FFP-<STM_TYPE>

The Edit Facility Protection Group for STM1, STM4, STM16, or STM64 (ED-FFP-<STM_TYPE>) command edits the optical facility protection. See [Table 29-1 on page 29-1](#) for supported modifiers by platform.

Usage Guidelines

The default values for all optional parameters are NE default values. These values might not be the current value for a parameter. Use a retrieve command to obtain the current value.



Note

This command can be used on both protecting and working AIDs.

Category

Protection

Security

Provisioning

13.34 ED-FFP-<STM_TYPE>

Input Format ED-FFP-<STM_TYPE>[:<TID>]:<AID>:<CTAG>:::[PROTID=<PROTID>],[RVRTV=<RVRTV>],[RVTM=<RVTM>],[PSDIRN=<PSDIRN>],[[:];

Input Example ED-FFP-STM1:PETALUMA:FAC-1-1:1:::PROTID=PROT_NAME,RVRTV=Y,RVTM=1.0,PSDIRN=BI;

Table 13-29 ED-FFP-<STM_TYPE Command - Parameter Support

Input Parameters	Description
<AID>	Access identifier from the “27.15 FACILITY” section on page 27-23 .
<PROTAID>	(Optional) The protection group identifier (protection group name). PROTAID can have a maximum length of 32 characters. PROTAID is a string.
• Y	Reverts service to original line after restoration.
<RVTM>	(Optional) Revertive time. The parameter type is REVERTIVE_TIME (revertive time).
• 0.5 to 12.0	Revertive time is 0.5 to 12.0 minutes.
<PSDIRN>	(Optional) Protection switch operation. Indicates the switch mode. The parameter type is TRANS_MODE, which is the G1000 transponder mode.
• BI	Bidirectional
• NONE	Not in transponder mode
• UNI	Unidirectional
<VRGRDTM>	(Optional) Verification guard timer. Only applicable to optimized 1+1. The parameter type is VERIFICATION_GUARD_TIMER, which is the optimized 1+1 verification guard timer.
• 0.5	500 ms
• 1.0	1 second
<DTGRDTM>	(Optional) Detection guard timer. Only applicable to optimized 1+1. The parameter type is DETECTION_GUARD_TIMER, which is the optimized 1+1 detection guard timer.
• 0.0	0 seconds
• 0.05	50 ms
• 0.1	100 ms
• 0.5	500 ms
• 1.0 to 5.0	1 second to 5 seconds
<RCGRDTM>	(Optional) Recovery guard timer. Only applicable to optimized 1+1. The parameter type is RECOVERY_GUARD_TIMER, which is the optimized 1+1 recovery guard timer.
• 0.0	0 seconds
• 0.05	50 ms
• 0.1	100 ms
• 0.5	500 ms
• 1.0 to 10.0	1 second to 10 seconds

13.35 ED-FFP-<OCN_TYPE>

The Edit Facility Protection Group for OC3, OC12, OC48, OC192, or OC768 (ED-FFP-<OCN_TYPE>) command edits the optical facility protection.

Usage Guidelines

See [Table 29-1 on page 29-1](#) for supported modifiers by platform.



Note

- This command can be used on both protecting and working AIDs. Optimized 1+1 and related attributes.
- The default values for all optional parameters are NE default values. These values might not be the current value for a parameter. Use a retrieve command obtain the current value.

Category

Protection

Security

Provisioning

Input Format

ED-FFP-<OCN_TYPE>[:<TID>]:<AID>:<CTAG>:::[PROTID=<PROTID>],
[RVRTV=<RVRTV>],[RVTM=<RVTM>],[PSDIRN=<PSDIRN>],[VRGRDTM=<VRGRDTM>],
[DTGRDTM=<DTGRDTM>],[RCGRDTM=<RCGRDTM>][:];

Input Example

ED-FFP-OC3:PETALUMA:FAC-1-1-1:::PROTID=PROT_NAME,RVRTV=Y,RVTM=1.0,
PSDIRN=BI,VRGRDTM=0.5,DTGRDTM=1.0,RCGRDTM=1.0;

Input Parameters

<AID>	Access identifier from the “27.15 FACILITY” section on page 27-23 .
<PROTAID>	The protection group identifier (protection group name). PROTAID can have a maximum length of 32 characters. It is a string.
<RVRTV>	Revertive mode. The value Y indicates that protection switching system reverts service to the original line after restoration. The value N indicates that protection switching system does not revert service to the original line after restoration. RVRTV is applicable only for 1+1 protection switching. Null defaults to N. The parameter type is ON_OFF, which disables or enables an attribute.
• N	Does not revert service to original line after restoration.
• Y	Reverts service to original line after restoration.
<RVTM>	Revertive time. The parameter type is REVERTIVE_TIME (revertive time).
• 0.5 to 12.0	Revertive time is 0.5 to 12.0 minutes.

<PSDIRN>	Protection switch operation. Indicates the switch mode. Defaults to UNI. The parameter type is UNI_BI (unidirectional and bidirectional switch operations).
• BI	Bidirectional protection switching
• UNI	Unidirectional protection switching
<VRGRDTM>	Verification guard timer. Only applicable to optimized 1+1. The parameter type is VERIFICATION_GUARD_TIMER (optimized 1+1 verification guard timer).
• 0.5	500 milliseconds
• 1.0	1 second
<DTGRDTM>	Detection guard timer. Only applicable to optimized 1+1. The parameter type is DETECTION_GUARD_TIMER (optimized 1+1 detection guard timer).
• 0.0	0 seconds
• 0.05	50 milliseconds
• 0.1	100 milliseconds
• 0.5	500 milliseconds
• 1.0 to 5.0	1 second to 5 seconds
<RCGRDTM>	Recovery guard timer. Only applicable to optimized 1+1. The parameter type is RECOVERY_GUARD_TIMER (optimized 1+1 recovery guard timer).
• 0.0	0 seconds
• 0.05	50 milliseconds
• 0.1	100 milliseconds
• 0.5	500 milliseconds
• 1.0 to 10.0	1 second to 10 seconds

13.36 ED-FFP-OCH

The Edit Facility Protection Group Optical Channel (ED-FFP-OCH) command changes the provisioning for the default protection group on the NCS port of a TXP_MR_2.5G or TXPP_MR_2.5G card.

Usage Guidelines

The default values for all optional parameters are NE default values. These values might not be the current value for a parameter. Use a retrieve command to obtain the current value.

Category

NCS

Security

Provisioning

Input Format

ED-FFP-OCH:[<TID>]:<AID>:<CTAG>:::[PROTID=<PROTID>],[RVRTV=<RVRTV>],
[RVTM=<RVTM>],[PSDIRN=<PSDIRN>][:];

Input Example

ED-FFP-OCH:VA454-22:CHAN-2-2:100:::PROTID="FIXED PROTECTION",RVRTV=N,
RVTM=1.0,PSDIRN=BI;

Table 13-30 ED-FFP-OCH Command - Parameter Support

Input Parameters	Description
<AID>	Access identifier from the “27.7 CHANNEL” section on page 27-12 .
<PROTAID>	(Optional) The protection group identifier (protection group name). PROTAID is a string.
<RVRTV>	(Optional) Revertive mode. The value Y indicates that protection switching system reverts service to the original line after restoration. The value N indicates that protection switching system does not revert service to the original line after restoration. RVRTV is applicable only for 1+1 protection switching. Null defaults to N. The parameter type is ON_OFF (disable or enable an attribute).
• N	Does not revert service to original line after restoration.
• Y	Reverts service to original line after restoration.
<RVTM>	(Optional) Revertive time. The parameter type is REVERTIVE_TIME (revertive time).
• 0.5 to 12.0	Revertive time is 0.5 to 12.0 minutes.
<PSDIRN>	(Optional) Protection switch operation. The parameter type is TRANS_MODE, which is the G1000 transponder mode.
• BI	Bidirectional
• NONE	Not in transponder mode
• UNI	Unidirectional

13.37 ED-FFP-OTS

The Edit Facility Protection Group OTS (ED-FFP-OTS) command changes provisioning for the Y-cable or splitter protection group on the OTU2-XP card

Usage Guidelines

The default values for all optional parameters are NE default values. These values might not be the current value for a parameter. Use a retrieve command to obtain the current value.

Category

NCS

Security

Provisioning

Input Format

ED-FFP-OTS:[<TID>]:<AID>:<CTAG>:::[PROTID=<PROTID>],[RVRTV=<RVRTV>],
[RVTM=<RVTM>],[PSDIRN=<PSDIRN>][:];

Input Example

ED-FFP-OTS:VA454-22:CHAN-2-2:100:::PROTID="FIXED PROTECTION",RVRTV=N,
RVTM=1.0,PSDIRN=BI;

Table 13-31 **Parameter Support**

Parameter	Description
<AID>	Access identifier from the “27.7 CHANNEL” section on page 27-12.
<PROTAID>	The protection group identifier (protection group name). PROTAID is a string.
<RVRTV>	(Optional) Revertive mode. The value Y indicates that protection switching system reverts service to the original line after restoration. The value N indicates that protection switching system does not revert service to the original line after restoration. RVRTV is applicable only for 1+1 protection switching. Null defaults to N. The parameter type is ON_OFF (disable or enable an attribute).
• N	Does not revert service to original line after restoration.
• Y	Reverts service to original line after restoration.
<RVTM>	(Optional) Revertive time. The parameter type is REVERTIVE_TIME (revertive time).
• 0.5 to 12.0	Revertive time is 0.5 to 12.0 minutes.
<PSDIRN>	(Optional) Protection switch operation. The parameter type is TRANS_MODE, which is the G1000 transponder mode.
• BI	Bidirectional
• NONE	Not in transponder mode
• UNI	Unidirectional

13.38 ED-FOG

The Edit Fan-Out-Group (ED-FOG) command adds and deletes the members connecting to the CPT 50 panel and applied on the carrier packet transport (CPT) system.

Usage Guidelines

The interfaces that can be attached should be valid for the FOG. At least one interface must be always attached to the FOG.

Category

Equipment

Security

Provisioning

Input Format

ED-FOG[:<TID>]:<AID>:<CTAG>[:::[ATTACH=<ATTACH>],[DETACH=<DETACH>],[QUEUEMODE=<QUEUEMODE>],[PBNAME=<PBNAME>];

Input Examples

ED-FOG::FOG-1-36:1:::ATTACH=FAC-2-2-1;

Input Parameters

<AID>	Access identifier from the “27.13 EQPT” section on page 27-21.
<ATTACH>	AID of the fabric and line card ports used as the Fan-out members. This is the AID of the interface to be attached to the FOG.
<DETACH>	AID of the fabric and line card ports used as the Fan-out members. This is the AID of the interface to be detached from the FOG.
<QUEUEMODE> >	QUEUEMODE
• NOPRI	NOPRI
• STRICT	STRICT
<PBNAME>	PBNAME

13.39 ED-FSTE

The Edit Fast Ethernet (ED-FSTE) command edits the front end port information of the Fast Ethernet (10/100 Mbps) card.

Usage Guidelines

The default values for all optional parameters are NE default values. These values might not be the current value for a parameter. Use a retrieve command to obtain the current value.

SELECTIVEAUTO parameter is applicable only when EXPSPPEED and EXPDUPLEX is not set to AUTO mode.

Squelch can either be enabled or set to transparent on FE.

**Note**

For the ML-100T-8 card, only the NAME parameter can be set.

Category

Ports

Security

Provisioning

Input Format

ED-FSTE[:<TID>]:<SRC>:<CTAG>[:::[FLOW=<FLOW>],[EXPDUPLEX=<EXPDUPLEX>],[EXPSPPEED=<EXPSPPEED>],[SELECTIVEAUTO=<SELECTIVEAUTO>],[VLANCOS=<VLANCOSTHRESHOLD>],[IPTOS=<IPTOSTHRESHOLD>],[NAME=<NAME>],[CMDMDE=<CMDMDE>],[SUPP

```
RESS=<SUPPRESS>],[SOAK=<SOAK>],[LIENABLE=<LIENABLE>],[LITIMER=<LITIMER>],[F
REQ=<FREQ>],[LOSSB=<LOSSB>],[CIR=<CIR>],[CBS=<CBS>],[EBS=<EBS>],[OSC=<OSC>],[
AUTONEG=<AUTONEG>],[MTU=<MTU>],[SQUELCHMODE=<SQUELCH>]:[<PST>[,<SST>]];
```

Input Example

```
ED-FSTE:CISCO:FAC-1-1:123:::FLOW=Y,EXPDUPLX=HALF,EXPSPEED=10_MBPS,
SELECTIVEAUTO=Y,VLANCOS=2,IPTOS=4,NAME="FSTEPORT",CMDMDE=FRCD,
SUPPRESS=Y,SOAK=32,LIENABLE=Y,LITIMER=200:IS,AINS;
```

Table 13-32 ED-FSTE Command- Parameter Support

Input Parameter s	Description
<AID>	Access identifier from the “27.15 FACILITY” section on page 27-23 . The AR-MXP, AR-XP, and AR-XPE cards use the VFAC Access Identifier.
<FLOW>	(Optional) Flow control. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<EXPDUPLX>	(Optional) Ethernet duplex mode. The parameter type is ETHER_DUPLEX, which is the duplex mode.
• AUTO	Auto mode
• FULL	Full mode
• HALF	Half mode
<EXPSPEED>	(Optional) Ethernet speed. The parameter type is ETHER_SPEED, which is the Ethernet speed.
• 100_MBPS	100 Megabits per second
• 10_GBPS	10 Gigabits per second
• 40_GBPS	40 Gigabits per second
• AUTO_FDX	Enable auto negotiation with full duplex.
<SELECTIVEAUTO>	Auto-negotiation.
• Y	Enable selective auto-negotiation.
• N	Disable selective auto-negotiation.
<VLANCOS>	(Optional) Priority queuing threshold based on VLAN class of service of incoming Ethernet packets. Default value is 1175. VLANCOS is an integer.
<IPTOS>	(Optional) Priority queuing threshold based on IP type of service of incoming Ethernet packets. Default value is 368. IPTOS is an integer.
<NAME>	(Optional) Name. NAME is a string.
<CMDMDE>	(Optional) Command mode. Normal (NORM) mode is the default behavior for all commands but you can specify forced (FRCD) mode to force the system to override a state where the command would normally be denied. The FRCD mode of operation is applicable to delete a virtual concatenated (VCAT) member cross-connect in Unlocked-Enabled or Locked-Disabled, AutomaticInService service states.

Table 13-32 ED-FSTE Command- Parameter Support

Input Parameter s	Description
FRCD	Force the system to override a state in which the command would normally be denied.
NORM	Execute the command normally. Do not override any conditions that could make the command fail.
<SUPPRESS>	Pre-service alarm flag for data ports.
ON	Enable suppress.
OFF	Disable suppress. Default is Off.
<SOAK>	(Optional) Locked-AutomaticInService to Unlocked transition soak time as measured in 15 minute intervals, so a value of 4 translates to a soak time of 1 hour. The allowable range is 0 to 192 intervals (maximum of 48 hours). SOAK is an integer.
<LIENABLE>	(Optional) Enable or Disable link integrity timer. Takes either Y or N. Value Y enables the LITIMER and value N disables LITIMER. By default LITIMER is enabled.
<LITIMER>	(Optional) Link integrity timer duration in the range between 200 ms and 10000 ms in multiples on 100 ms.
<FREQ>	(Optional) The parameter type is OPTICAL_WLEN, which indicates the optical wavelength.
1310	Wavelength 1310.
1529.16	Wavelength 1529.16
1562.23	Wavelength 1562.23
1562.64	Wavelength 1562.64
1563.05	Wavelength 1563.05
1563.45	Wavelength 1563.45
1563.86	Wavelength 1563.86
1564.27	Wavelength 1564.27
1564.68	Wavelength 1564.68
1565.09	Wavelength 1565.09
1565.50	Wavelength 1565.50
1565.90	Wavelength 1565.90
1566.31	Wavelength 1566.31
1566.72	Wavelength 1566.72
<LOSSB>	(Optional) The parameter type is REACH, which indicates the reach values.
100GBASE-LR4	100GBASE-LR4
100GBASE-SR10	100GBASE-SR10
40GBASE-FR	40GBASE-FR
40GBASE-LR4	40GBASE-LR4
40GBASE-SR4	Reach supported on 40GIGE payload on CFP-LC card.

Table 13-32 ED-FSTE Command- Parameter Support

Input Parameter s	Description
• 4I1-9D1F	4I1-9D1F
• C4S1-2D1	C4S1-2D1
• FE-BX	FE-BX
• FX	FX
• GE-BX	GE-BX
• GE-EX	GE-EX
• LX-10	LX-10
• TEN-GE-LRM	TEN-GE-LRM
• TEN-GE-ZR	TEN-GE-ZR
• VSR2000-3R2	VSR2000-3R2
• AUTOPROV	Auto provisioning
• CWDM	Coarse wavelength division multiplexing (CWDM)
• CWDM-40KM	CWDM 40 kilometers.
• CX1	Reach CX1
• LR	Reach LR
• LR-2	Reach LR-2
• LX	Reach LX
• P1I1-2D1	Long haul 10G Ethernet with 1310 nm wavelength
• P1L1-1D2	Longhaul 2.5G Ethernet with 1550 nm wavelength
• P1L1-2D2	Long haul 10G Ethernet with 1550 nm wavelength
• P1S1-1D1	Shorthaul 2.5G Ethernet with 1310 nm wavelength
• P1S1-2D1	Short haul 10G Ethernet in 1310 nm wavelength
• SC	Reach SC
• SR	Reach SR
• TEN-GE-ER	10 GE extended range
• TEN-GE-LR	10 GE long range
• TEN-GE-SR	10 GE short range
• ULH	Reach ULH
• VSR	Reach VSR
<CIR>	Ingress committed information rate. This is a value between 0.0 and 100.0. Default value is 100.0.
<CBS>	Ingress committed burst bucket size.
• 4K	4 Kbit bucket size
• 8K	8 Kbit bucket size
• 16K	16 Kbit bucket size
• 32K	32 Kbit bucket size

Table 13-32 ED-FSTE Command- Parameter Support

Input Parameter s	Description
• 64K	64 Kbit bucket size
• 128K	128 Kbit bucket size
• 256K	256 Kbit bucket size
• 512K	512 Kbit bucket size
• 1M	1 Mbit bucket size
• 2M	2 Mbit bucket size
• 4M	4 Mbit bucket size
• 8M	8 Mbit bucket size
• 16M	16 Mbit bucket size
<EBS>	Ingress excess burst bucket size.
<OSC>	To enable or disable the OSC on the port.
<AUTONEG>	Automatic negotiation. Defaults to Y. The parameter type is ON_OFF, which disables or enables an attribute.
<MTU>	(Optional) Maximum transport unit. The parameter type is MTU_TYPE, which indicates the maximum transport unit used by an Ethernet card. Defaults to 9600.
<SQUELCHMODE>	Shuts down the far-end laser in response to certain defects
• NONE	Transparent
• SQUELCH	Squelch is enabled
<PST>	(Optional) Primary state. The parameter type is PST, which indicates the current overall service condition of an entity.
• Unlocked	In service
• Locked	Out of service
<SST>	Secondary state. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AINS	Automatic in service
• DSBLD	Disabled
• LPBK	Loopback
• MEA	Mismatch of equipment and attributes
• MT	Maintenance mode
• OOG	Out of group
• SWDL	Software downloading
• UAS	Unassigned
• UEQ	Unequipped

13.40 ED-FTPSERVER

The Edit FTP Server (ED-FTPSERVER) command edits FTP server entries.

Usage Guidelines

This command is used to edit only the ENABLE and TIMER parameters.

Category

ENE

Security

Superuser

Input Format

ED-FTPSERVER:[<TID>]::<CTAG>::IPADDR=<IPADDR>,[ENABLE=<ENABLE>],
[TIMER=<TIMER>];

Input Examples

- ED-FTPSERVER:::A::IPADDR=10.20.30.40,ENABLE=Y,TIMER=30;
- ED-FTPSERVER:TID::CTAG::IPADDR="[3ffe:0501:0008:0000:0260:97ff:fe40:efab]",ENABLE=Y
,
TIMER=45;

Table 13-33 ED-FTPSERVER- Parameter Support

Input Parameters	Description
<IPADDR>	Specifies the IP address of the FTP Server.
<ENABLE>	Specifies the enable/disable option of the FTP Server. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<TIMER>	(Optional) Specifies the timeout value of the FTP server in minutes. Timer is an integer that can be set between 0 and 60 minutes.

13.41 ED-G1000

The Edit G1000 (ED-G1000) command edits the attributes related to a G1000 port.

Usage Guidelines

The default values for all optional parameters are NE default values. These values might not be the current value for a parameter. Use a retrieve command to obtain the current value.

Category

Ports

Security

Provisioning

Input Format

ED-G1000:[<TID>]:<AID>:<CTAG>:::[MFS=<MFS>],[FLOW=<FLOW>],
 [LOWMRK=<LOWMRK>],[HIWMRK=<HIWMRK>],[AUTONEG=<AUTONEG>],
 [NAME=<NAME>],[CMDMDE=<CMDMDE>],[SOAK=<SOAK>],[LIENABLE=<LIENABLE>],
 [LITIMER=<LITIMER>]:[<PST>[,<SST>]];

Input Example

ED-G1000:CISCO:FAC-1-1:CTAG:::MFS=1548,FLOW=Y,LOWMRK=20,HIWMRK=492,
 AUTONEG=Y,NAME="G1000 PORT",CMDMDE=FRCD,SOAK=32,LIENABLE=Y
 LITIMER=300:UNLOCKED,DSBLD;

Table 13-34 ED-G1000 Command - Parameter Support

Input Parameters	Description
<LIENABLE>	(Optional) Enable or Disable link integrity timer. Takes either Y or N. Value Y enables the LITIMER and value N disables LITIMER. By default LITIMER is enabled.
<LITIMER>	(Optional) Link integrity timer duration in the range between 200 ms and 10000 ms in multiples on 100 ms.
<ENCAP>	Specifies the mapping mode on the port provisioned. Parameter Type is ENCAP.
• CBR	CBR mapping mode.
• GFP	GFP mapping mode.
• GMP	GMP mapping mode is supported only on 8GFC on 10x10G-LC card.
• TRP	Transparent mapping mode.
<PST>	(Optional) Primary state. The parameter type is PST, which indicates the current overall service condition of an entity.
• Unlocked	In service
• Locked	Out of service
<SST>	(Optional) Secondary state. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AutomaticInService	Automatic in service
• Disabled	Disabled
• Loopback	Loopback
• MismatchofEquipmentAlarm	Mismatch of equipment and attributes
• Maintenance	Maintenance mode
• OutOfGroup	Out of group
• SoftwareDownload	Software downloading
• Unassigned	Unassigned
• NotInstalled	Unequipped

13.42 ED-GFP

The Edit Generic Framing Protocol (ED-GFP) command edits GFP parameters on FC_MR-4 and CE-1000-4 cards

Usage Guidelines

On the FC_MR-4 card, the parameters AUTOTHGFPBUF, GFPBUF, and FILTER can be edited only if distance extension is enabled (set to B2B).

Category

Ports

Security

Provisioning

Input Format

ED-GFP:[<TID>]:<AID>:<CTAG>:::[FCS=<FCS>],[AUTOTHGFPBUF=<AUTOTHGFPBUF>],[GFPBUF=<GFPBUF>],[FILTER=<FILTER>];

Input Example

ED-GFP:CISCO:VFAC-1-0:123:::FCS=N,AUTOTHGFPBUF=Y,GFPBUF=16,FILTER=EGRESS;

Table 13-35 ED-GFP Command - Parameter Support

Input Parameters	Description
<AID>	Access identifier from the “ 27.15 FACILITY ” section on page 27-23.
<FCS>	(Optional) Payload frame check sequence. The parameter type is FCS (frame check sequence).
- FCS-16 - FCS-32 - NONE	Frame check sequencing using 16 bits. Frame check sequencing using 32 bits. No frame check sequence.
<AUTOTHGFPBUF>	(Optional) Autothreshold GFP Buffer. The parameter type is ON_OFF (disable or enable an attribute).
- N - Y	Disable an attribute. Enable an attribute.
<GFPBUF>	(Optional) GFP buffer size. GFPBUF is an integer.
<FILTER>	(Optional) Parameter type is GFP_FILTER, which provides the filter feature in GFP.
- INGRESS - NONE	Active filter feature on the Ingress port. Turn off filter feature.

13.43 ED-HDLC

The Edit High-Level Data Link Control (ED-HDLC) command edits HDLC-related attributes for HDLC-encapsulated payloads.

Usage Guidelines

On the FC_MR-4 card, the parameters AUTOTHGFPBUF, GFPBUF, and FILTER can be edited only if distance extension is enabled (set to B2B).

On POS ports of CE-MR-10 card, FCS cannot be set to NONE when the encapsulation is set to GFP.

Category

Ports

Security

Provisioning

Input Format

ED-HDLC:[<TID>]:<SRC>:<CTAG>[:<FCS>=<FCS>][<CRC>=<CRC>];

Input Example

ED-HDLC:PETALUMA:VFAC-1-1-PORT:CTAG:::FCS=FCS-16;

Table 13-36 ED-HDLC Command - Parameter Support

Input Parameters	Description
<SRC>	Access identifier from the “27.15 FACILITY” section on page 27-23 .
<FCS>	Payload frame check sequence. The parameter type is FCS (frame check sequence).
• FCS-16	Frame check sequence using 16 bits
• FCS-32	Frame check sequence using 32 bits
• NONE	No frame check sequence
<CRC>	Cyclic Redundancy Check. Note CRC is applicable only to ADM10G card.
• CRC-16	Cyclic Redundancy Check using 16 bits.
• CRC-32	Cyclic Redundancy Check using 32 bits.

13.44 ED-L2-ETH

The Edit layer 2 Ethernet (ED-L2-ETH) command edits the layer 2 port information of GE-XP and 10GE-XP Ethernet cards.

Usage Guidelines

The default values for all optional parameters are NE default values, but these values might not be the current value for a parameter. Use a retrieve command to obtain the current value.

Category Ethernet

Security Provisioning

Input Format ED-L2-ETH[:<TID>]:<AID>:<CTAG>[::<NIMODE>=<NIMODE>],[MACLEARNING=<MACLEARNING>],[INGRESSCOS=<INGRESSCOS>],[ETHERCETYPE=<ETHER_CE_TYPE>],[ETHERSTYPE=<ETHER_S_TYPE>],[ALWMACADDR=<ALW_MAC_ADDR>],[INHMACADDR=<INH_MAC_ADDR>],[BPDU=<BPDU>],[BRIDGESTATE=<BRIDGE_STATE>],[QNM=<QNM>],[TRNSPSVLAN=<TRNSP_SVLAN>],[NAME=<NAME>],[IGMPROUTER=<IGMPROUTER>],[AISACTION=<AISACTION>],[PROTACTION=<PROTACTION>],[CMDMDE=<CMDMD>],[IGMPONCVLAN=<IGMPONCVLAN>],[IGMPCVLAN=<IGMPCVLAN>],[DLF=<DLF>],[DLFTHRES=<DLFTHRES>],[MCAST=<MCAST>],[MCASTTHRES=<MCASTTHRES>],[BCAST=<BCAST>],[BCASTTHRES=<BCASTTHRES>],[CLRCRCALM=<CLRCRCALM>][:];

Input Example "ETH-2-21-1::NIMODE=NNI,MACLEARNING=N,INGRESSCOS=0,ETHERCETYPE=8100,ETHERSTYPE=8100,BPDU=N,BRIDGESTATE=FORWARDING,ACTBRIDGESTATE=UNKNOWN,QNM=SELECTIVE,IGMPROUTER=NONE,AISACTION=AIS-NONE,PROTACTION=PROT-SQU ELCH,IGMPONCVLAN=N,DLF=N,DLFTHRES=0,MCAST=N,MCASTTHRES=0,BCAST=N,BCASTTHRES=0,CLRCRCALM=N:"

"ETH-2-22-1::NIMODE=NNI,MACLEARNING=N,INGRESSCOS=0,ETHERCETYPE=8100,ETHERSTYPE=8100,BPDU=N,BRIDGESTATE=FORWARDING,ACTBRIDGESTATE=UNKNOWN,QNM=SELECTIVE,IGMPROUTER=NONE,AISACTION=AIS-NONE,PROTACTION=PROT-SQU ELCH,IGMPONCVLAN=N,DLF=N,DLFTHRES=0,MCAST=N,MCASTTHRES=0,BCAST=N,BCASTTHRES=0,CLRCRCALM=Y:"

Table 13-37 ED-L2-ETH Command - Parameter Support

Input Parameters	Description
<AID>	Ethernet AIDs are used to access L2 Ethernet ports. Access identifier from the “27.14 ETH” section on page 27-23.
<NIMODE>	Identifies the Ethernet Network Interface Mode.
• NNI	(Default) Network-Network Interface Mode
• UNI	User-Network Interface Mode
<MACLEARNING>	MAC address learning mode. This activates the MAC address learning on the interface to avoid packet broadcasting.
• Y	Enables MAC learning
• N	Disable MAC learning
<INGRESSCOS>	Identifies the COS value set in the S-VLAN tag.
• 0 to 7	Set a Cos value
• DSCP	The COS is set according to DSCP to COS mapping table.
• TRUST	Use the Customer COS

Table 13-37 ED-L2-ETH Command - Parameter Support

Input Parameters	Description
• VLAN	The COS will be provisioned on CVLAN basis (QinQ selective mode)
<ETHERCETYPE>	Identifies a customer foreseen Ethernet type. If the customer uses a non-standard Ethernet type, the incoming packets will be accepted only if the CE-VLAN Ethernet type matches this parameter.
<ETHERSTYPE>	Identifies a customer foreseen Ethernet type. If the customer uses a non-standard Ethernet type, the incoming packets will be accepted only if the CE-VLAN Ethernet type matches this parameter.
<ALWMACADDR>	Identifies the allowed MAC addresses filtered out by the L2 Ethernet port. Every single MAC address is in the format of aa-bb-cc-dd-ee-ff, where every digit is in a hexadecimal form.
<INHMACADDR>	Identifies the inhibited MAC addresses filtered out by the L2 Ethernet port. Every single MAC address is in the format of aa-bb-cc-dd-ee-ff, where every digit is in a hexadecimal form.
<BPDU>	BPDU (Bridge Protocol Data Unit) management mode; Drop/Passthrough BPDU tagged packets.
• Y	Enables the BPDU tag.
• N	Disables the BPDU tag.
<BRIDGESTATE>	Defines if the traffic is blocked on the port.
• Unknown	Unknown state
• Disabled	Disabled state
• Blocking	Blocking state
• Listening	Listening state
• Learning	Learning state
• Forwarding	Forwarding state
• Broken	Broken state
<QNQMODE>	This is used to represent the QinQ mode operations.
• Selective	The S-VLAN tag is added only on specified CE-VLANs. The other packets are dropped.
• Transparent	The S-VLAN tag is always performed where all packets having the S-VLAN-ID identified by TRNSPSVLAN parameter are allowed.
<TRNSPSVLAN>	VLAN identifier. A VLAN ID is a number between 1 and 4096. The value 0 is reserved for untagged VLANs. This identifier is used for customer VLAN IDs and service provider VLAN IDs.
<NAME>	(Optional) Name. NAME is a string.
<IGMPROUTER>	IGMP M Router port. Indicates the type of connection between this port and the IGMP M Router.
• STATIC	A static connection is present between this port and the IGMP M Router
• NONE	No connection is present
<AISACTION>	VLAN-AIS Action. Indicates what action take place on port when VLAN-AIS alarm is raisedValues

Table 13-37 ED-L2-ETH Command - Parameter Support

Input Parameters	Description
• AIS-SQUELCH	The port is squelched
• AIS-NONE	No action after VLAN-AIS
<PROTACTION>	Indicates the action that takes place on the standby port in the protection unit when a ONEPLUSONEL2 protection is activated.
• PROT-SQUELCH	The port is squelched.
• PROT-NONE	Ethernet traffic is blocked.
<IGMPCVLAN>	Indicates the customer VLAN value for IGMP on CVLAN.
<IGMPONCVLAN>	Indicates IGMP on customer VLAN.
<DLF>	To enable or disable storm control on DLFPD packet.
<DLFTHRES>	Indicates the DLFPD packet threshold value for storm control.
<MCAST>	To enable or disable the storm control on multicast packet.
<MCASTTHRES>	Indicates the multicast packet threshold value for storm control.
<BCAST>	To enable or disable the storm control on broadcast packet.
<BCASTTHRES>	Indicates the broadcast packet threshold value for storm control.
<CLRRCALM>	Clears the DATA-CRC alarm.

13.45 ED-LM-EFM

The Edit Link Monitoring Ethernet in the First Mile (ED-LM-EFM) command edits the Ethernet in the First Mile (EFM) link monitoring parameters and the action associated with each of the parameters.

Usage Guidelines

- This command is applicable only to GE_XP and 10GE_XP cards.
- The card should be in Layer2 over DMDM mode.

Category

Ports

Security

Provisioning

Input Format

ED-LM-EFM:[<TID>]:<AID>:<CTAG>::LMPARAM=<LMPARAM>,[LOWTH=<LOWTH>],[HIGHTH=<HIGHTH>],[ACTION=<ACTION>],[WINDOW=<WINDOW>];

Input Example

ED-LM-EFM::ETH-12-1-1-1::LMPARAM=ERR-FRAME,LOWTH=20,HIGHTH=30,ACTION=DISABLE-PORT,WINDOW=40;

Table 13-38 ED-EFM Command - Parameter Support

Input Parameters	Description
<AID>	Access identifier from the “27.14 ETH” section on page 27-23.
<LMPARAM>	Name of the link monitoring parameter.
• ERR-FRAME	Error frames.
• ERR-FRAME-PRD	Error frame period.
• ERR-FRAME-SEC	Error frames second.
<LOWTH>	The lowest value of the link monitoring parameter. It is an integer.
<HIGHTH>	The highest value of the link monitoring parameter. It is an integer.
<ACTION>	Action to be taken when the link monitoring parameter crosses the HIGH value, which is set by the user. The value can be NONE or DISABLED.
<WINDOW>	This indicates the window associated with each of the link monitoring parameter (number of packets, number of frames or the timer). It is an integer.

13.46 ED-LMP

The Edit Link Management Protocol (ED-LMP) command edits the global LMP protocol attributes.

Usage Guidelines

This command is only available on platforms which support the LMP protocol.

Category

LMP

Security

Provisioning

Input Format

ED-LMP:[<TID>]::<CTAG>:::[ENABLED=<ENABLED>],[WDMEXT=<WDM>],
[ROLE=<ROLE>], [LMPNODEID-<NODEID>][:];

Input Example

ED-LMP:PETALUMA::704::ENABLED=Y,WDMEXT=Y,ROLE=PEER,
LMPNODEID=198.133.219.25;

Table 13-39 ED-LMP Command - Parameter Support

Input Parameters	Description
<ENABLED>	LMP Protocol Status.
• Y	The protocol is enabled.
• N	The protocol is disabled.
<WDM>	Determines if the LMP WDM extensions are in effect.

Table 13-39 ED-LMP Command - Parameter Support

Input Parameters	Description
• Y	The LMP WDM extensions are in effect.
• N	The LMP WDM extensions are not in effect.
<ROLE>	The role the LMP protocol is configured to play.
• OLS	The LMP protocol is configured to respond as an Optical Line System.
• PEER	The LMP protocol is configured to respond as a peer node.
<NODEID>	LMP Node ID. NODEID is a stable IP address that is always reachable if there is any connectivity to it. The default LMP node ID value is the IP address of the node.

13.47 ED-LMP-CTRL

The Edit Link Management Protocol Control Channel (ED-LMP-CTRL) command edits the LMP control channels.

Usage Guidelines

This command is only available on nodes where the LMP protocol is available and has been enabled.

Category

LMP

Security

Provisioning

Input Format

ED-LMP-CTRL:[<TID>]:<SRC>:<CTAG>:::[LOCALPORT=<LOCALPORT>],
[REMTENE=<REMTENE>],[REMOTEIP=<REMOTEIP>],[HELLO=<HELLO>],
[HELLOMIN=<HELLOMIN>],[HELLOMAX=<HELLOMAX>],[DEAD=<DEAD>],
[DEADMIN=<DEADMIN>],[DEADMAX=<DEADMAX>]:[<PST>][,<SST>];

Input Example

ED-LMP-CTRL:PETALUMA:CTRL-123:704:::LOCALPORT=FAC-1-1-1,
REMTENE=15.15.15.115,REMOTEIP=126.0.0.1,HELLO=500,HELLOMIN=300,
HELLOMAX=5000,DEAD=12000,DEADMIN=2000,DEADMAX=20000:OOS,DSBLD;

Table 13-40 ED-LMP-CTRL Command - Parameter Support

Input Parameters	Description
<SRC>	The LMP control channel AID values
• CTRL-ALL	Specifies all the control channels.
• CTRL-{ 1-4 }	Specifies an individual control channel.

Table 13-40 ED-LMP-CTRL Command - Parameter Support

Input Parameters	Description
<LOCALPORT>	Local port is the pathway that the LMP control channel will use to send and receive messages.
<REMOTENE>	Remote IP address used by the far-end LMP control channel.
<REMOTEIP>	Remote IP address with which the LMP control channel sends and receives messages.
<HELLO>	The time interval in which the LMP protocol sends HELLO messages.
<HELLOMIN>	Minimum hello time the LMP control channels can send out HELLO messages to the remote node.
<HELLOMAX>	The maximum amount of time the LMP control channel can wait between HELLO messages.
<DEAD>	Time interval an LMP control channel will wait for a HELLO message from the remote side before listing the control channel as down.
<DEADMIN>	The minimum amount of time that an LMP control channel can wait before listing the control channel status as down.
<DEADMAX>	The maximum amount of time that the LMP control channel can wait before listing the control channel as down.
<PST>	Primary State. This parameter indicates the current overall service condition of an entity.
• IS	In service
• OOS	Out of service
<SST>	Secondary State. This parameter provides additional information pertaining to PST and PSTQ.
• AINS	Automatic in service
• DSBLD	Disabled
• LPBK	Loopback
• MEA	Mismatch of equipment and attributes
• MT	Maintenance mode
• OOG	Out of group
• SWDL	Software downloading
• UAS	Unassigned
• UEQ	Unequipped

13.48 ED-LMP-TLINK

The Edit Link Management Protocol Traffic Engineering (TE) Link (ED-LMP-TLINK) command edits the LMP TE link.

Usage Guidelines

This command can only be used on nodes that have the LMP protocol available and enabled.

Category LMP

Security Provisioning

Input Format ED-LMP-TLINK:[<TID>]:<SRC>:<CTAG>:::REMOTEID=<REMOTE_ID>, REMOTETE=<REMOTE_TELINK>, [MUXCAP=<MUXCAP>]:[<PST>[,<SST>]];

Input Example ED-LMP-TLINK:PETALUMA:TLINK-123:704:::REMOTEID=15.15.15.115,REMOTETE=123, MUXCAP=LAMBDA:OOS,DSBLD;

Table 13-41 ED-LMP-TLINK Command - Parameter Support

Input Parameters	Description
<SRC>	LMP TE Link AID Values.
TLINK-ALL	Specifies all the TE links.
TLINK-{1-256}	Specifies an individual TE link.
<REMOTEID>	Remote node ID associated with the LMP TE link.
<REMOTETE>	Remote ID used by the far-end LMP TE Link.
<MUXCAP>	The muxponder capability of the LMP TE link.
PKTSWITCH1	Packet Switching 1.
PKTSWITCH2	Packet Switching 2.
PKTSWITCH3	Packet Switching 3.
PKTSWITCH4	Packet Switching 4.
LAYER2	Layer 2 switching.
TDM	TDM switching.
LAMBDA	Lambda switching.
FIBER	Fiber switching.
<PST>	Primary State. This parameter indicates the current overall service condition of an entity.
IS	In service
OOS	Out of service
<SST>	Secondary State. This parameter provides additional information pertaining to PST and PSTQ.
AINS	Automatic in service
DSBLD	Disabled
LPBK	Loopback
MEA	Mismatch of equipment and attributes
MT	Maintenance mode

<SST>	Secondary State. This parameter provides additional information pertaining to PST and PSTQ.
• AINS	Automatic in service
• DSBLD	Disabled
• LPBK	Loopback
• MEA	Mismatch of equipment and attributes
• MT	Maintenance mode

13.49 ED-LMP-DLINK

The Edit Link Management Protocol Data Link (ED-LMP-DLINK) command edits the LMP data link.

Usage Guidelines This command is only applicable on a node that supports the LMP protocol; the node must have the LMP protocol enabled.

Category LMP

Security Provisioning

Input Format ED-LMP-DLINK:[<TID>].<SRC>.<CTAG>:::[LINKTYPE=<LINKTYPE>],TELINK=<TELINK>,REMOTEID=<REMOTEID>;

Input Example ED-LMP-DLINK:PETALUMA:FAC-14-1-1:704:::LINKTYPE=PORT,TELINK=TLNK-45,REMOTEID=646631;

Table 13-42 ED-LMP-DLINK Command - Parameter Support

Input Parameters	Description
<SRC>	Access identifier from the “27.15 FACILITY” section on page 27-23.
<LINKTYPE>	The type of LMP data link.
• PORT	Port data link

Table 13-42 ED-LMP-DLINK Command - Parameter Support

Input Parameters	Description
• COMPONENT	Component data link
<TELINK>	Used to map LMP data links to LMP TE links.
<REMOTEID>	The remote LMP data link ID.

13.50 ED-LNK

The Edit Link (ED-LNK) command edits an optical link state.

Usage Guidelines

The default values for all optional parameters are NE default values. These values might not be the current value for a parameter. Use a retrieve command to obtain the current value.

Category

NCS

Security

Provisioning

Input Format

ED-LNK:[<TID>]:<FROM>,<TO>:<CTAG>:::[CMDMDE=<CMDMDE>]:[<PST>[,<SST>]];

Input Example

ED-LNK:PENNGROVE:BAND-6-1-TX,
BAND-13-1-RX:114:::CMDMDE=NORM:UNLOCKED,AUTOMATICINSERVICE;

Table 13-43 ED-LNK Command - Parameter Support

Input Parameters	Description
<FROM>	Identifier at one end of the optical link from the “27.4 BAND” section on page 27-10 .
<TO>	Identifier at the other end of the optical link from the “27.4 BAND” section on page 27-10 .
<CMDMDE>	(Optional) Command mode. Normal (NORM) mode is the default behavior for all commands but you can specify forced (FRCD) mode to force the system to override a state where the command would normally be denied. The FRCD mode of operation is applicable to delete a virtual concatenated (VCAT) member cross-connect in Unlocked-Enabled or Locked-Disabled, AutomaticInService service states.
• FRCD	Force the system to override a state in which the command would normally be denied.
• NORM	Execute the command normally. Do not override any conditions that could make the command fail.

Table 13-43 ED-LNK Command - Parameter Support

Input Parameters	Description
<FROM>	Identifier at one end of the optical link from the “27.4 BAND” section on page 27-10.
<PST>	(Optional) Primary state. The parameter type is PST, which indicates the current overall service condition of an entity. Note PST is not supported for OCH provisioning.
• Unlocked	In service
• Locked	Out of service
<SST>	(Optional) Secondary state. The parameter type is SST, which provides additional information pertaining to PST and PSTQ. Note SST is not supported for OCH provisioning.
• AutomaticInService	Automatic in service
• Disabled	Disabled
• Loopback	Loopback
• MismatchofEquipmentAlarm	Mismatch of equipment and attributes
• Maintenance	Maintenance mode
• OutOfGroup	Out of group
• SoftwareDownload	Software downloading
• Unassigned	Unassigned
• NotInstalled	Unequipped

13.51 ED-LNKTERM

The Edit Provisionable Patchcord Termination (ED-LNKTERM) command edits the attributes of a provisionable patchcord that has already been created. Only the remote end attributes (REMOTENODE, REMOTELNKTERMID) can be edited.

Usage Guidelines

- No two provisionable patchcord terminations on a node can have the same remote end link termination information. An attempt to modify an existing provisionable patchcord termination while not following the above restriction will return an error message.
- If the provisionable patchcord termination does not exist, an error message will be returned.
- This command does not accept multiple and ALL AIDs.
- REMOTENODE is a string with a maximum length of 20 characters.

Category

Provisionable Patchcords

Security

Provisioning

Input Format

ED-LNKTERM:[<TID>]:<AID>:<CTAG>:::[REMOTENODE=<REMOTENODE>],
[REMOTELNKTERMID=<REMOTELNKTERMID>];

Input Example

ED-LNKTERM::LNKTERM-1:CTAG:::REMOTENODE=172.20.208.226,
REMOTELNKTERMID=25;

Table 13-44 ED-LNKTERM Command - Parameter Support

Input Parameters	Description
<AID>	Access identifier from the “ 27.20 LNKTERM ” section on page 27-31. Indicates a link (provisionable patchcord) termination on the local node.
<REMOTENODE>	(Optional) The node where the other end of the provisionable patchcord resides. This can be an IP address or a valid TID. Defaults to the IP address of the local node/existing value. REMOTENODE is a string.
<REMOTELNKTERMID>	(Optional) The corresponding provisionable patchcord termination on the remote node (as specified by the REMOTENODE parameter). Integer value within the range of 1 to 65535. Defaults to existing value.

13.52 ED-MA-CFM

The Edit Maintenance Association Connectivity Fault Management (ED-MA-CFM) command edits the maintenance association present on the card.

Usage Guidelines

- This command is applicable only to GE_XP and 10GE_XP cards.
- The card should be in Layer2 over DMDM mode.
- The ALL AID is invalid for this command.

Category

Equipment

Security

Provision

Input Format

ED-MA-CFM:[<TID>]:<AID>:<CTAG>:::MANAME=<MANAME>,SVLANID=<SVLANID>,[NEW
MANAME=<NEWMANAME>],[NEWSVLANID=<NEWSVLNAID>],[CCENABLE=<CCENABLE
>];

Input Example

ED-MA-CFM:454-156:SLOT-1:1:::MANAME=MANAME,SVLANID=4,NEWMANAME=NEWMA,
NEWSVLANID=5;

Table 13-45 ED-MA-CFM Command - Parameter Support

Input Parameters	Description
<AID>	Access identifier from the “27.13 EQPT” section on page 27-21.
<MANAME>	Maintenance Association Name. It is a string. The MA name length should not exceed more than 43 characters.
<SVLANID>	VLAN identifier. A VLAN ID is a number between 1 and 4096. The value 0 is reserved for untagged VLANs. This identifier is used for customer VLAN IDs and service provider VLAN IDs.
<CCENABLE>	Enable or disable Continuous Check messaging
• Y	Enable
• N	Disable
<NEWMANAME>	New name for Maintenance Association. It is a string.
<NEWSVLANID>	New service Vlan ID. It is an integer.

13.53 ED-MCAST

The Edit Multicast attributes (ED-MCAST) command is used to modify the Multicast VLAN registration attributes.

Usage Guidelines

The default values for all optional parameters are NE default values. These values may not be the current value for a parameter. In order to obtain the current value use RTRV-XX command to retrieve them.

Error conditions:

- If the AID is invalid, an IIAC (Invalid AID) error message is returned.
- The "ALL" AID is invalid for this command.

Category

ETHERNET

Security

Provisioning

Input Format

ED-MCAST[:<TID>]:<AID>:<CTAG>[::MVRSTATE=<MVRSTATE>],[MVRSVLAN=<MVRSVLAN>],[MVRSTARTIP=<MVRSTARTIP>],[MVRIPRANGE=<MVRIPRANGE>],[IGMPONCVLAN=<IGMPONCVLAN>][:];

Input Example

ED-MCAST::SLOT-1-4:321::MVRSTATE=Y,MVRSVLAN=46,MVRSTARTIP=230.64.72.57,MVRIPRANGE=20;;

Input Parameters

Table 13-46 ED-MCAST Command - Parameter Support

Input Parameters	Description
<AID>	Equipment aids are used to access specific cards.
ALL	It is only used for RTRV-INV, RTRV-EQPT, RTRV-ALM/COND-EQPT commands.
SLOT-ALL	The NE equipment AIDs.
SLOT[-{1-50}]-{1-6,12-17}	Individual equipment AID of the I/O card units or slots.
<MVRSTATE>	Multicast VLAN Registration status. Default values is - N
Y	Enabled
N	Disabled
<MVRSVLAN>	Define the SVLAN used to distribute the Multicast stream inside the Network. Default values is 0
<MVRSTARTIP>	Define the first IP Address of the Multicast IP Group.
<MVRIPRANGE>	MVR IP Range. Indicates the number of IP address starting from mvrStartIp used to identified the multicast IP group. It is a number in the range 0..255. Default values is 0
<IGMPONCVLAN>	To Enable IGMP on Customer VLAN.

13.54 ED-MIP-CFM

The Edit Maintenance Intermediate Point Connectivity Fault Management (ED-MIP-CFM) command edits the maintenance intermediate points on the port.

Usage Guidelines

- This command is applicable only to GE_XP and 10GE_XP cards.
- The card should be in Layer2 over DMDM mode.

Category

Ports

Security

Provisioning

Input Format

ED-MIP-CFM:[<TID>]:<AID>:<CTAG>::VLANID=<VLANID>,LEVEL=<LEVEL>;

Input Example

ED-MIP-CFM::ETH-1-1-1:1::VLANID=2,LEVEL=3;

Input Parameters

<AID>	Access identifier from the “27.14 ETH” section on page 27-23 .
<VLANID>	VLAN identifier. A VLAN ID is a number between 1 and 4096. The value 0 is reserved for untagged VLANs. This identifier is used for customer VLAN IDs and service provider VLAN IDs.
<LEVEL>	This indicates the level of the maintenance domain. The value ranges from 0 to 7.

13.55 ED-NE-GEN

The Edit Network Element General (ED-NE-GEN) command edits the node attributes of the NE.

Usage Guidelines

- The node name can be a maximum of 20 characters. If the entered name exceeds 20 characters, an Node Name Too Long (IPNV) error message is returned.
- An existing NTP timing source can be removed by setting the address to 0.0.0.0.
- The maximum length of IPADDR and DEFRTTR is 20 characters. The default value is the local IP address and default router.
- The maximum length of IPMASK is 18 characters. The default value is the mask of local IP address.
- The default values for all optional parameters are NE default values. These values might not be the current value for a parameter. Use a retrieve command to obtain the current value.
- An existing NTP and Backup NTP timing source can be removed by setting the address to 0.0.0.0.

**Caution**

Changing the IPADDR, IPMASK, or IIOP Port will cause a reset of the TCC2/TCC2P/TCC3.

**Note**

OSI parameters are not supported in Release 9.0 and 9.1.

Category

System

Security

Superuser

Input Format

```
ED-NE-GEN[:<TID>]:<CTAG>[:NAME=<NAME>],[IPADDR=<IPADDR>],[IPMASK=<IPMASK>],
[DEFRTTR=<DEFRTTR>],[IPV6ADDR=<IPV6ADDR>],[IPV6PREFLEN=<IPV6PREFLEN>],[IPV6DEFRTTR=<IPV6DEFRTTR>],
[IPV6ENABLE=<IPV6ENABLE>],[IIOPPORT=<IIOPPORT>],[NTP=<NTP>],[SUPPRESSIP=<SUPPRESSIP>],[MODE=<MODE>],
[MSPUBVLANID=<MSPUBVLANID>],[MSINTLVLANID=<MSINTLVLANID>],[SERIALPORTECHO=<SERIALPORTECHO>],[OSIROUTINGMODE=<OSIROUTINGMODE>],
[OSIL1BUFSIZE=<OSIL1BUFSIZE>],[OSIL2BUFSIZE=<OSIL2BUFSIZE>],[BKUPNTP=<BKUPNTP>],[SYSTEMMODE=<SYSTEMMODE>],[FORCEENABLE=<FORCEENABLE>];
```

Input Example

```
ED-NE-GEN:CISCO::123:::NAME=NODENAME,IPADDR=192.168.100.52,
IPMASK=255.255.255.0,DEFRTR=192.168.100.1,IPV6ADDR="[3ffe:0501:0008:0000:0260:97ff:efab]",
IPV6PREFLEN=112,IPV6DEFRTR="[3ffe:0501:0008:0000:0260:97ff:fe40:efab]",
IPV6ENABLE=Y,IIOPPORT=57790, NTP=192.168.100.52, SUPPRESSIP=NO,
MODE=SINGLESHELF,MSPUBVLANID=1,MSINTLVLANID=5,SERIALPORTECHO=Y,OSIROU
TINGMODE=ES,OSIL1BUFSIZE=512,OSIL2BUFSIZE=512,BKUPNTP=10.1.1.2,FORCEENABLE
=YES;;
```

Table 13-47 ED-NE-GEN Command - Parameter Support

Input Parameters	Description
<NAME>	(Optional) Node name. NAME is a string. Defaults to Null.
<IPADDR>	(Optional) Node IP address. IPADDR is a string.
<IPMASK>	(Optional) Node IP mask. IPMASK is a string.
<DEFRTR>	(Optional) Node default router. DEFRTR is a string.
<IPV6ADDR>	Specifies the IPv6 address of the NE. IPV6ADDR is a string.  Note IPV6ADDR parameter can be set only if IPV6ENABLE parameter is set to Y
<IPV6PREFLEN>	Specifies the prefix length for the IPv6 address of the NE. IPV6PREFLEN is an integer
<IPV6DEFRTR>	Specifies the IPv6 default router address for the NE. IPV6DEFRTR is a string
<IPV6ENABLE>	(Optional) Specifies if the IPv6 enable mode for the NE is enabled or disabled.
• Y	Indicates that IPV6 mode is enabled.
• N	Indicates that IPV6 mode is disabled.
<IIOPPORT>	(Optional) Node IIO port. IIOPPORT is an integer. Defaults to 57790.
<NTP>	(Optional) Node Network Time Protocol (NTP) timing origin address. NTP is a string. Defaults to 0.0.0.0.
<SUPPRESSIP>	(Optional) The parameter type is YES_NO, which signifies whether the user's password is about to expire, the user is logged into the NE, or the user is locked out of the NE.
• NO	No
• YES	Yes
<MODE>	(Optional) Indicates the AID mode to access shelf identifier objects. Defaults to SINGLESHELF. This field is always set to MULTISHELF for NCS nodes with more than one shelf managed. The parameter type is SHELF_MODE, which is the NE mode.
• SINGLESHELF	The NE contains only one shelf and the AID representation does not consider the shelf identifier for command requests/response and autonomous reports.

Table 13-47 ED-NE-GEN Command - Parameter Support

Input Parameters	Description
MULTISHELF	The AID representation considers the shelf identifier for command requests/response and autonomous reports. This means the NE has more than one shelf configured or the user wants to use the new AID style.
MULTISHELFETH	The AID representation considers the shelf identifier for command requests/response and autonomous reports. This means the NE has more than one shelf configured or the user wants to use the new AID style. The shelves are connected by means of an external Ethernet switch.
<MSPUBVLANID>	Public VLAN ID used by the node controller to communicate the with external network. The VLAN ID can be in the range of 1 to 4094. But for M6 shelf, you cannot modify the MSPUBVLANID value. The MSPUBVLANID value is 1.
<MSINTLVLANID>	Internal VLAN ID used by the node controller to communicate with the Subtending shelves. The VLAN ID can be in the range of 1 to 4094. But for M6 shelf, you cannot modify the MSINTLVLANID value. The MSINTLVLANID value is 2.
<SERIALPORTECHO>	Indicates if echo is turned on for the TL1 serial port sessions.
Y	Echo is turned on.
N	Echo is turned off.
<OSIROUTINGMODE>	Indicates the routing mode of the node.
ES	Provisions the node as an OSI ES. TheNCS node performs all ES functions and relies upon an IS for communication with other IS nodes inside and outside the ES OSI area.
IS1	Provisions the node as an OSI IS. TheNCS node performs all IS functions including routing data between ISs and ESs, between networks, and between parts of a network.
IS2	TheNCS node performs all IS functions. It communicates with other IS and ES nodes within an OSI area. It also broadcasts ISHs to IS nodes in other areas to which it is connected.
<OSIL1BUFSIZE>	Level 1 Link State Protocol Data Unit (LSP) buffer size. The default is 512.
<OSIL2BUFSIZE>	Level 2 Link State Protocol Data Unit (LSP) buffer size. The default is 512.
<BKUPNTP>	Indicates that the Secondary NTP server is used as backup for primary.
<SYSTEMMODE>	Indicates the system mode
SONET	SONET
NCS	NCS
<FORCEENABLE>	(Optional) Indicates whether the command should proceed even if there are Database Out of Sync alarms.
YES	Yes
NO	No

13.56 ED-NE-PATH

The Edit Network Element Path (ED-NE-PATH) command edits the path attributes of the NE.

Usage Guidelines The default values for optional parameters are NE default values.

Category System

Security Provisioning

Input Format ED-NE-PATH:[<TID>]:::<CTAG>:::[PDIP=<PDIP>],[XCMODE=<XCMODE>];

Input Example ED-NE-PATH:::CTAG:::PDIP=Y,XCMODE=MIXED;

Table 13-48 ED-NE-PATH Command - Parameter Support

Input Parameters	Description
<PDIP>	(Optional) Flag used to indicate whether PDI-P should be generated on the outgoing VT structured VCs. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<XCMODE>	(Optional) Cross-connect mode. The parameter type is XCMODE, which is applicable only to a node with cross-connect cards (XC-VXL-10G, XC-VXL-2.5G, or XC-VXC-10G) that support cross-connect mode change.
• MIXED	Both VC11 and VC12 cross-connects can be provisioned on the node.
• VC11	Only VC11 cross-connects can be provisioned on the node.
• VC12	Only VC12 cross-connects can be provisioned on the node.

13.57 ED-NE-SYNCN

The Edit Network Element Synchronization (ED-NE-SYNCN) command edits the synchronization attributes of the NE.

- Usage Guidelines**
- The default values for all optional parameters are NE default values. These values might not be the current value for a parameter. Use a retrieve command to obtain the current value.
 - Although mixed-mode timing is supported in this release, it is not recommended.

- The NCS mode functionality is:
 - External mode: The node derives its timing from the BITS inputs.
 - Line mode: The node derives its timing from the NCS line(s).
 - Mixed mode: The node derives its timing from the BITS input or NCS lines.

**Note**

You cannot edit or retrieve the SSMGEN and QRES parameters on the NCS platform.

Category

Synchronization

Security

Provisioning

Input Format

ED-NE-SYNCN:[<TID>]:[<AID>]:<CTAG>:::[TMMD=<TMMD>],[RVRTV=<RVRTV>],[RVTM=<RVTM>]
;

Input Example

ED-NE-SYNCN:CISCO::123::TMMD=LINE,RVRTV=Y,RVTM=8.0;

Table 13-49 ED-NE-SYNCN Command - Parameter Support

Input Parameters	Description
<AID>	The node or shelf access identifier from the “ 27.26 SHELF ” section on page 27-33 . If omitted, it addresses the node or first shelf of the node. Must not be null.
<TMMD>	(Optional) Timing mode. Defaults to EXTERNAL. The parameter type is TIMING_MODE, which is the timing mode for the current node.
• EXTERNAL	The node derives its clock from the BITS input.
• LINE	The node derives its clock from the NCS lines.
• MIXED	The node derives its clock from the mixed timing mode.
<SSMGEN>	(Optional) Synchronization status message (SSM) set. Defaults to GEN1. The parameter type is SYNC_GENERATION, which is the generation of the synchronization status message set.
• GEN1	First generation SSM set
• GEN2	Second generation SSM set
<QRES>	(Optional) Quality of the RES. Defaults to DUS. The parameter type is SYNC_QUALITY_LEVEL, which is the network synchronization quality level.
• ABOVE-G811	Better than G811
• ABOVE-STU_NCS	Between STU_NCS and G811 (default setting)

Table 13-49 ED-NE-SYNCN Command - Parameter Support

Input Parameters	Description
• ABOVE-G812T	Between G812T and STU_NCS
• ABOVE-G812L	Between G812L and G812T
• ABOVE-SETS	Between SETS and G812L
• BELOW-SETS	Below SETS but still usable
• SAME-AS-DUS_NCS	Disable the RES message by equating to DUS_NCS
<RVRTV>	(Optional) Revertive mode. The value Y indicates that protection switching system reverts service to the original line after restoration. The value N indicates that protection switching system does not revert service to the original line after restoration. RVRTV is applicable only for 1+1 protection switching. Null defaults to N. A null value is equivalent to ALL. The parameter type is ON_OFF (disable or enable an attribute).
• N	Does not revert service to original line after restoration.
• Y	Reverts service to original line after restoration.
<RVTM>	(Optional) Revertive time. A null value is equivalent to ALL. The parameter type is REVERTIVE_TIME (revertive time).
• 0.5 to 12.0	Revertive time is 0.5 to 12.0 minutes.
<SYSTEMN>	(ONS only) Identifies the system timing standard used by the node.
• SONET	SONET timing standard
• NCS	NCS timing standard

13.58 ED-OCH

The Edit Optical Channel (ED-OCH) command edits the attributes (service parameters) and state of an OCH facility.

Usage Guidelines

Refer to the Provisioning Procedures chapter for specific card provisioning rules.



Note

Primary=Locked and secondary=AutomaticInService status do not apply to Ethernet mode.

The default values for all optional parameters are NE default values. These values might not be the current value for a parameter. Use a retrieve command to obtain the current value.

- Disable all the ports, before you change the card mode from LAN to WAN mode.
- The SQUELCHMODE parameter is added to OCH interfaces of 100G-LC-C, 10x10G-LC, and CFP-LC cards.
- CDLOW and CDHIGH parameters are interdependant. You must set both the parameters to edit either of them.
- CDLOW is always less than or equal CDHIGH in the range of -70000 to + 70000.

Category NCS

Security Provisioning

Input Format ED-OCH[:<TID>]:<AID>:<CTAG>[::EXPWLEN=<EXPWLEN>],[VOAATTN=<VOAATTN>],[VOAPWR=<VOAPWR>],[CALOPWR=<CALOPWR>],[NAME=<PORTNAME>],[OSDBER=<OSDBER>],[GCC=<GCC>],[GCCRATE=<GCCRATE>],[DWRAP=<DWRAP>],[FEC=<FEC>],[PAYLOADMAP=<PAYLOADMAP>],[SOAK=<SOAK>],[LOSSB=<LOSSB>],[CMDMDE=<CMDMDE>],[PEERID=<PEERID>],[REGENNAME=<REGENNAME>],[PORTMODE=<PORTMODE>],[ODUTRANSMODE=<ODUTRANSMODE>],[ERRORDECORRELATOR=<ERRORDECORRELATOR>],[FCS=<FCS>],[PPR=<PPR>],[TRIGTH=<TRIGTH>],[RVRTTH=<RVRTTH>],[TRIGWINDOW=<TRIGWINDOW>],[RVRTWINDOW=<RVRTWINDOW>],[OVRCLK=<OVRCLK>],[RXWLEN=<RXWLEN>],[SQUELCHMODE=<SQUELCHMODE>],[FECALMSUPPRESS=<FECALMSUPPRESS>],[SYNCSMSG=<SYNCSMSG>],[SENDDUS=<SENDDUS>],[ADMSSM=<ADMSSM>],[CDLOW=<CDLOW>],[CDHIGH=<CDHIGH>],[VOATXPOWER=<VOATXPOWER>],[TXLASERSHUTDN=<TXLASERSHUTDN>][:<PST>[:<SST>]];

Input Example ED-OCH:CISCO:CHAN-6-2:114::EXPWLEN=1530.32,NAME="NYLINE",GCC=Y,GCCRATE=192K,OSDBER=1E-6,DWRAP=Y,FEC=STD,PAYLOADMAP=ASYNCH,SOAK=10,CMDMDE=FRCD:IS,AINS;
ED-OCH::CHAN-2-2:1::CDLOW=-6000,CDHIGH=8000,VOATXPOWER=-9.08,TXLASERSHUTDN=Y;

Table 13-50 ED-OCH Command - Parameter Support

Input Parameters	Description
<AID>	Access identifier from the “27.7 CHANNEL” section on page 27-12.
<EXPWLEN>	(Optional) Optical wavelength for this port. Applicable only to the following types of cards: optical service channel cards, optical amplifier cards, dispersion compensation units, multiplexer and demultiplexer cards, and optical add/drop multiplexing (OADM) cards. The parameter type is OPTICAL_WLEN, which is the optical wavelength.
• 1310	Wavelength 1310
• 1470	Wavelength 1470
• 1490	Wavelength 1490
• 1510	Wavelength 1510
• 1528.77	Wavelength 1528.77
• 1529.16	Wavelength 1529.16
• 1529.55	Wavelength 1529.55
• 1529.94	Wavelength 1529.94
• 1530	Wavelength 1530
• 1530.33	Wavelength 1530.33

Table 13-50 ED-OCH Command - Parameter Support

Input Parameters	Description
• 1530.72	Wavelength 1530.72
• 1531.12	Wavelength 1531.12
• 1531.51	Wavelength 1531.51
• 1531.90	Wavelength 1531.90
• 1532.29	Wavelength 1532.29
• 1532.68	Wavelength 1532.68
• 1533.07	Wavelength 1533.07
• 1533.47	Wavelength 1533.47
• 1533.86	Wavelength 1533.86
• 1534.25	Wavelength 1534.25
• 1534.64	Wavelength 1534.64
• 1535.04	Wavelength 1535.04
• 1535.43	Wavelength 1535.43
• 1535.82	Wavelength 1535.82
• 1536.22	Wavelength 1536.22
• 1536.61	Wavelength 1536.61
• 1537	Wavelength 1537
• 1537.40	Wavelength 1537.40
• 1537.79	Wavelength 1537.79
• 1538.19	Wavelength 1538.19
• 1538.58	Wavelength 1538.58
• 1538.98	Wavelength 1538.98
• 1539.37	Wavelength 1539.37
• 1539.77	Wavelength 1539.77
• 1540.16	Wavelength 1540.16
• 1540.56	Wavelength 1540.56
• 1540.95	Wavelength 1540.95
• 1541.35	Wavelength 1541.35
• 1541.75	Wavelength 1541.75
• 1542.14	Wavelength 1542.14
• 1542.35	Wavelength 1542.35
• 1542.54	Wavelength 1542.54
• 1542.94	Wavelength 1542.94
• 1543.33	Wavelength 1543.33
• 1543.73	Wavelength 1543.73
• 1544.13	Wavelength 1544.13

Table 13-50 ED-OCH Command - Parameter Support

Input Parameters	Description
• 1544.53	Wavelength 1544.53
• 1544.92	Wavelength 1544.92
• 1545.32	Wavelength 1545.32
• 1545.72	Wavelength 1545.72
• 1546.12	Wavelength 1546.12
• 1546.52	Wavelength 1546.52
• 1546.92	Wavelength 1546.92
• 1547.32	Wavelength 1547.32
• 1547.72	Wavelength 1547.72
• 1548.11	Wavelength 1548.11
• 1548.51	Wavelength 1548.51
• 1548.91	Wavelength 1548.91
• 1549.32	Wavelength 1549.32
• 1549.72	Wavelength 1549.72
• 1550	Wavelength 1500
• 1550.12	Wavelength 1550.12
• 1550.52	Wavelength 1550.52
• 1550.92	Wavelength 1550.92
• 1551.32	Wavelength 1551.32
• 1551.72	Wavelength 1551.72
• 1552.12	Wavelength 1552.12
• 1552.52	Wavelength 1552.52
• 1552.93	Wavelength 1552.93
• 1553.33	Wavelength 1553.33
• 1553.73	Wavelength 1553.73
• 1554.13	Wavelength 1554.13
• 1554.13	Wavelength 1554.13
• 1554.94	Wavelength 1554.94
• 1555.34	Wavelength 1555.34
• 1555.75	Wavelength 1555.75
• 1556.15	Wavelength 1556.15
• 1556.55	Wavelength 1556.55
• 1556.96	Wavelength 1556.96
• 1557.36	Wavelength 1557.36
• 1557.77	Wavelength 1557.77
• 1558.17	Wavelength 1558.17

Table 13-50 ED-OCH Command - Parameter Support

Input Parameters	Description
• 1558.58	Wavelength 1558.58
• 1558.98	Wavelength 1558.98
• 1559.39	Wavelength 1559.39
• 1559.79	Wavelength 1559.79
• 1560.20	Wavelength 1560.20
• 1560.61	Wavelength 1560.61
• 1561.01	Wavelength 1561.01
• 1561.42	Wavelength 1561.42
• 1561.83	Wavelength 1561.83
• 1562.23	Wavelength 1562.23
• 1562.64	Wavelength 1562.64
• 1563.05	Wavelength 1563.05
• 1563.45	Wavelength 1563.45
• 1563.86	Wavelength 1563.86
• 1564.27	Wavelength 1564.27
• 1564.68	Wavelength 1564.68
• 1565.09	Wavelength 1565.09
• 1565.50	Wavelength 1565.50
• 1565.90	Wavelength 1565.90
• 1566.31	Wavelength 1566.31
• 1566.72	Wavelength 1566.72
• 1570	Wavelength 1570
• 1570.83	Wavelength 1570.83
• 1571.24	Wavelength 1571.24
• 1571.65	Wavelength 1571.65
• 1572.06	Wavelength 1572.06
• 1572.48	Wavelength 1572.48
• 1572.89	Wavelength 1572.89
• 1573.30	Wavelength 1573.30
• 1573.71	Wavelength 1573.71
• 1574.13	Wavelength 1574.13
• 1574.54	Wavelength 1574.54
• 1574.95	Wavelength 1574.95
• 1575.37	Wavelength 1575.37
• 1575.78	Wavelength 1575.78
• 1576.20	Wavelength 1576.20

Table 13-50 ED-OCH Command - Parameter Support

Input Parameters	Description
• 1576.61	Wavelength 1576.61
• 1577.03	Wavelength 1577.03
• 1577.44	Wavelength 1577.44
• 1577.86	Wavelength 1577.86
• 1578.27	Wavelength 1578.27
• 1578.69	Wavelength 1578.69
• 1579.10	Wavelength 1579.10
• 1579.52	Wavelength 1579.52
• 1579.93	Wavelength 1579.93
• 1580.35	Wavelength 1580.35
• 1580.77	Wavelength 1580.77
• 1581.18	Wavelength 1581.18
• 1581.60	Wavelength 1581.60
• 1582.02	Wavelength 1582.02
• 1582.44	Wavelength 1582.44
• 1582.85	Wavelength 1582.85
• 1583.27	Wavelength 1583.27
• 1583.69	Wavelength 1583.69
• 1584.11	Wavelength 1584.11
• 1584.53	Wavelength 1584.53
• 1584.95	Wavelength 1584.95
• 1585.36	Wavelength 1585.36
• 1585.78	Wavelength 1585.78
• 1586.20	Wavelength 1586.20
• 1586.62	Wavelength 1586.62
• 1587.04	Wavelength 1587.04
• 1587.46	Wavelength 1587.46
• 1587.88	Wavelength 1587.88
• 1588.30	Wavelength 1588.30
• 1588.73	Wavelength 1588.73
• 1589.15	Wavelength 1589.15
• 1589.57	Wavelength 1589.57
• 1589.99	Wavelength 1589.99
• 1590	Wavelength 1590
• 1590.41	Wavelength 1590.41
• 1590.83	Wavelength 1590.83

Table 13-50 ED-OCH Command - Parameter Support

Input Parameters	Description
• 1591.26	Wavelength 1591.26
• 1591.68	Wavelength 1591.68
• 1592.10	Wavelength 1592.10
• 1592.52	Wavelength 1592.52
• 1592.95	Wavelength 1592.95
• 1593.37	Wavelength 1593.37
• 1593.79	Wavelength 1593.79
• 1594.22	Wavelength 1594.22
• 1594.64	Wavelength 1594.64
• 1595.06	Wavelength 1595.06
• 1595.49	Wavelength 1595.49
• 1596.34	Wavelength 1596.34
• 1596.76	Wavelength 1596.76
• 1597.19	Wavelength 1597.19
• 1597.62	Wavelength 1597.62
• 1598.04	Wavelength 1598.04
• 1598.47	Wavelength 1598.47
• 1598.89	Wavelength 1598.89
• 1599.32	Wavelength 1599.32
• 1599.75	Wavelength 1599.75
• 1600.06	Wavelength 1600.06
• 1601.03	Wavelength 1601.03
• 1601.46	Wavelength 1601.46
• 1601.88	Wavelength 1601.88
• 1602.31	Wavelength 1602.31
• 1602.74	Wavelength 1602.74
• 1603.17	Wavelength 1603.17
• 1603.60	Wavelength 1603.60
• 1604.03	Wavelength 1604.03
• 1610	Wavelength 1610
• USE-TWL1	Use Tunable Wavelength 1
<VOAATTN>	(Optional) The value of calibrated attenuation for the VOA expressed in dBm. The range is 0.0 to +30.0. VOAATTN is a float.
<FCS>	(Optional) First Circuit Startup. An automatic channel startup that operates the VOA when the light is detected on the ingress port.
• Y	Automatic Channel startup enabled.
• N	Automatic Channel startup disabled.

Table 13-50 ED-OCH Command - Parameter Support

Input Parameters	Description
<VOAPWR>	(Optional) The value of calibrated output power that the VOA is going to set as a result of its attenuation. VOAPWR is a float.
<CALOPWR>	(Optional) The value of the calibrated optical power expected for the line added to the calculated value, which equals the total expected output power. Expressed in dBm. Defaults to 0 dBm. CALOPWR is a float.
<NAME>	(Optional) Port name. PORTNAME is a string.
<OSDBER>	OTN SDBER. Can only be provisioned on the working port. Defaults to 1E-7 Parameter type is SD_BER—the threshold for declaring signal degrade on a facility or path
• 1E-5	SDBER is 1E-5
• 1E-6	SDBER is 1E-6
• 1E-7	SDBER is 1E-7
• 1E-8	SDBER is 1E-8
• 1E-9	SDBER is 1E-9
<GCC>	Identifies the Generic communication channel (GCC) connection of the port.
• Y	GCC can be utilized
• N	GCC cannot be utilized
<GCCRATE>	(Optional) The data rate of the GCC traffic. The default is 192 Kbps. For MXP_2.5G_10G and TXP_MR_10G cards, this applies only to the NCS port. The parameter type is GCCRATE, which is the data rate of the GCC traffic.
• 192K	192 Kbps
• 400K	400 Kbps
• 576K	576 Kbps
• 1200K	1200 Kbps
<DWRAP>	(Optional) The ITU-T G.709 monitoring digital wrapper. It is either on or off. The system default is ON. For MXP_2.5G_10G and TXP_MR_10G cards, this applies only to the NCS port. The parameter type is ON_OFF (disable or enable an attribute). To enable ITU-T G.709 monitoring, there should be no GCC on the NCS port and the payload (in which the card is configured) should not be UNFRAMED. To disable ITU-T G.709 monitoring, there should be no GCC on the NCS port, the FEC should be turned to off, there should be no overhead circuit created on the NCS port, and none of the client ports on the card should be part of a Y-cable protection group (muxponder only).
• N	Disable an attribute.
• Y	Enable an attribute.
<FEC>	(Optional) Forward error correction. It can be enabled only if ITU-T G.709 monitoring is turned ON. It is either off or enabled in standard or enhanced mode. The system default is standard FEC enabled. The FEC level PM and thresholds apply if the FEC is turned ON. The parameter type is FEC_MODE, which specifies the type of forward error correction.
• ENH	Enhanced FEC is enabled.

Table 13-50 ED-OCH Command - Parameter Support

Input Parameters	Description
• ENH-20	20 % Enhanced FEC supported on fixed trunk port of 100G-LC-C card.
• ENH-I4	Enhanced FEC 1.4 is enabled.
• ENH-I7	Enhanced FEC 1.7 is enabled.
• HG-7	High Gain 7% FEC.
• OFF	FEC is disabled.
• STD	Standard FEC is enabled.
<PRE-FEC-PSM>	The parameter type is PROACTIVE_PROT.
• N	Proactive protection is disabled.
• Y	Proactive protection is enabled.
<PAYLOADMAP>	(Optional) The type of payload mapping. It can be enabled only if ITU-T G.709 monitoring is turned ON and FEC is enabled. The parameter type is PAYLOAD_MAPPING, which is the payload mapping mode.
• ASYNCH	Asynchronous mapping mode
• ODU	ODU multiplex structure mode
• SYNCH	Synchronous mapping mode
• N	Disable an attribute.
• Y	Enable an attribute.
• NOOPU2FIXEDS TUFF	Mapping with no FIXEDSTUFF
<SOAK>	(Optional) Locked-AutomaticInService to Unlocked transition soak time as measured in 15-minute intervals. A value of 4 equals a soak time of 1 hour. The allowable range is 0 to 192 intervals (maximum of 48 hours). SOAK is an integer.
<LOSSB>	The parameter type is REACH which indicates the reach values.
• 100GBASE-LR4	100GBASE-LR4
• 100GBASE-SR10	100GBASE-SR10
• 40GBASE-FR	40GBASE-FR
• 40GBASE-LR4	40GBASE-LR4
• 40GBASE-SR4	Reach supported on 40GIGE payload on CFP-LC card.
• 4I1-9D1F	4I1-9D1F
• AUTOPROV	Autoprovisioning
• C4S1-2D1	C4S1-2D1
• CWDM-40KM	CWDM 40 kilometers.
• CX	Reach CX
• CX1	Reach CX1
• DX	Reach DX
• FE-BX	FE-BX
• FX	FX

Table 13-50 ED-OCH Command - Parameter Support

Input Parameters	Description
• GE-BX	GE-BX
• GE-EX	GE-EX
• HX	Reach HX
• I1	Reach I1
• IR-1	Reach IR-1
• IR-2	Reach IR-2
• L1	Reach L1
• L2	Reach L2
• L3	Reach L3
• LR-1	Reach LR-1
• LR-2	Reach LR-2
• LR-3	Reach LR-3
• LX	Reach LX
• LX-10	LX-10
• P1I1-2D1	Long haul 10G Ethernet with 1310 nm wavelength
• P1L1-1D2	Longhaul 2.5G Ethernet with 1550 nm wavelength
• P1L1-2D2	Long haul 10G Ethernet with 1550 nm wavelength
• P1S1-1D1	Shorthaul 2.5G Ethernet with 1310 nm wavelength
• P1S1-2D1	Short haul 10G Ethernet in 1310 nm wavelength
• SC	Reach SC
• S1	Reach S1
• S2	Reach S2
• SR	Reach SR
• SR-1	Reach SR-1
• SX	Reach SX
• T	Reach T
• TEN-GE-ER	10 GE extended range
• TEN-GE-LR	10 GE long range
• TEN-GE-LRM	TEN-GE-LRM
• TEN-GE-SR	10 GE short range
• TEN-GE-ZR	TEN-GE-ZR
• ULH	Reach ULH
• VSR	Reach VSR
• VSR2000-3R2	VSR2000-3R2
• VX	Reach VX
• ZX	Reach ZX

Table 13-50 ED-OCH Command - Parameter Support

Input Parameters	Description
<CMDMDE>	(Optional) Command mode. Normal (NORM) mode is the default behavior for all commands but you can specify forced (FRCD) mode to force the system to override a state where the command would normally be denied. The FRCD mode of operation is applicable to delete a virtual concatenated (VCAT) member cross-connect in Unlocked-Enabled or Locked-Disabled, AutomaticInService service states.
• FRCD	Force the system to override a state in which the command would normally be denied.
• NORM	Execute the command normally. Do not override any conditions that could make the command fail.
<PEERID>	Indicates the peer trunk facility of the regeneration group on the OTU2-XP card. Accessed using the CHAN AID.
<REGENNAME>	Indicates the name of a regeneration group. Applicable only to NCS flavored cards, which support regeneration group. Regenname is a string. The default value is "NULL".
<PORTMODE>	Describes the termination mode of each interface on the OTU2-XP card.
• NCS-LINE	Line terminating mode.
• NCS-SECTION	Section terminating mode.
• NCS-TRANS-AIS	Transparent mode AIS.
• NCS-TRANS-SQUELCH	Transparent mode squelch.
• 10GLANWAN-SQUELCH	10G LAN to WAN Squelch.
<ODUTRANSMODE>	To configure the "ODUk OH" transparency on the OTU2-XP card.
• CISCO-EXT	Cisco Extended. When the Cisco Extended configuration is selected, two bytes of the ODU layer is terminated to guarantee the interoperability with the older Transponder/Muxponder cards.
• TRANS-STD	Transparent Standard Use. The transponder, behaving as a regenerator, terminates the OUT layer and is transparent to the ODU layer. Also in this case the FEC-MISM (FEC Mismatch) alarm is not generated.
<ERRORDECORRELATOR>	To enable or disable the MLSE module on the card. This applies only to TXP_MR_10EX_C, MXP_2.5G_10EX_C, and MXP_MR_10DMEX_C cards
• Y	To enable the MLSE module on the card.
• N	To disable the MLSE module on the card.
<PPR>	(Optional) To enable or disable the Proactive Protection Regen (PPR) in the OTU2 Card in Regen Mode.
• Y	PPR enabled.
• N	PPR disabled.
<TRIGTH>	Specifies the trigger threshold value for Proactive Protection Regen. The parameter type is TRIGGER_THRESHOLD.
• 1E-2	Trigger threshold is 1E-2.

Table 13-50 ED-OCH Command - Parameter Support

Input Parameters	Description
• 1E-3	Trigger threshold is 1E-3.
• 1E-4	Trigger threshold is 1E-4.
• 1E-5	Trigger threshold is 1E-5.
• 1E-6	Trigger threshold is 1E-6.
• 1E-7	Trigger threshold is 1E-7.
• 2E-2	Trigger threshold is 2E-2.
• 2E-3	Trigger threshold is 2E-3.
• 2E-4	Trigger threshold is 2E-4.
• 2E-5	Trigger threshold is 2E-5.
• 2E-6	Trigger threshold is 2E-6.
• 2E-7	Trigger threshold is 2E-7.
• 3E-2	Trigger threshold is 3E-2.
• 3E-3	Trigger threshold is 3E-3.
• 3E-4	Trigger threshold is 3E-4.
• 3E-5	Trigger threshold is 3E-5.
• 3E-6	Trigger threshold is 3E-6.
• 3E-7	Trigger threshold is 4E-7.
• 4E-2	Trigger threshold is 4E-2.
• 4E-3	Trigger threshold is 4E-3.
• 4E-4	Trigger threshold is 4E-4.
• 4E-5	Trigger threshold is 4E-5.
• 4E-6	Trigger threshold is 4E-6.
• 4E-7	Trigger threshold is 4E-7.
• 5E-2	Trigger threshold is 5E-2.
• 5E-3	Trigger threshold is 5E-3.
• 5E-4	Trigger threshold is 5E-4.
• 5E-5	Trigger threshold is 5E-5.
• 5E-6	Trigger threshold is 5E-6.
• 5E-7	Trigger threshold is 5E-7.
• 6E-2	Trigger threshold is 6E-2.
• 6E-3	Trigger threshold is 6E-3.
• 6E-4	Trigger threshold is 6E-4.
• 6E-5	Trigger threshold is 6E-5.
• 6E-6	Trigger threshold is 6E-6.
• 6E-7	Trigger threshold is 6E-7.
• 7E-2	Trigger threshold is 7E-2.

Table 13-50 ED-OCH Command - Parameter Support

Input Parameters	Description
• 7E-3	Trigger threshold is 7E-3.
• 7E-4	Trigger threshold is 7E-4.
• 7E-5	Trigger threshold is 7E-5.
• 7E-6	Trigger threshold is 7E-6.
• 7E-7	Trigger threshold is 7E-7.
• 8E-2	Trigger threshold is 8E-2.
• 8E-3	Trigger threshold is 8E-3.
• 8E-4	Trigger threshold is 8E-4.
• 8E-5	Trigger threshold is 8E-5.
• 8E-6	Trigger threshold is 8E-6.
• 8E-7	Trigger threshold is 8E-7.
• 9E-2	Trigger threshold is 9E-2.
• 9E-3	Trigger threshold is 9E-3.
• 9E-4	Trigger threshold is 9E-4.
• 9E-5	Trigger threshold is 9E-5.
• 9E-6	Trigger threshold is 9E-6.
• 9E-7	Trigger threshold is 9E-7.
<RVRTTH>	Specifies the revert threshold for Proactive Protection Regen. The parameter type is RVRTTH.
• 1E-3	Revert threshold is 1E-3.
• 1E-4	Revert threshold is 1E-4.
• 1E-5	Revert threshold is 1E-5.
• 1E-6	Revert threshold is 1E-6.
• 1E-7	Revert threshold is 1E-7.
• 2E-3	Revert threshold is 2E-3.
• 2E-4	Revert threshold is 2E-4.
• 2E-5	Revert threshold is 2E-5.
• 2E-6	Revert threshold is 2E-6.
• 2E-7	Revert threshold is 2E-7.
• 3E-3	Revert threshold is 3E-3.
• 3E-4	Revert threshold is 3E-4.
• 3E-6	Revert threshold is 3E-6.
• 4E-3	Revert threshold is 4E-4.
• 4E-4	Revert threshold is 4E-4.
• 4E-5	Revert threshold is 4E-5.
• 4E-6	Revert threshold is 4E-6.

Table 13-50 ED-OCH Command - Parameter Support

Input Parameters	Description
• 4E-7	Revert threshold is 4E-7.
• 5E-3	Revert threshold is 5E-3.
• 5E-4	Revert threshold is 5E-4.
• 5E-5	Revert threshold is 5E-5.
• 5E-6	Revert threshold is 5E-6.
• 5E-7	Revert threshold is 5E-7.
• 5E-8	Revert threshold is 5E-8.
• 6E-3	Revert threshold is 6E-3.
• 6E-4	Revert threshold is 6E-4.
• 6E-5	Revert threshold is 6E-5.
• 6E-6	Revert threshold is 6E-6.
• 6E-7	Revert threshold is 6E-7.
• 6E-8	Revert threshold is 6E-8.
• 7E-3	Revert threshold is 7E-3.
• 7E-4	Revert threshold is 7E-4.
• 7E-5	Revert threshold is 7E-5.
• 7E-6	Revert threshold is 7E-6.
• 7E-7	Revert threshold is 7E-7.
• 7E-8	Revert threshold is 7E-8.
• 8E-3	Revert threshold is 8E-3.
• 8E-4	Revert threshold is 8E-4.
• 8E-5	Revert threshold is 8E-5.
• 8E-6	Revert threshold is 8E-6.
• 8E-7	Revert threshold is 8E-7.
• 8E-8	Revert threshold is 8E-8.
• 9E-3	Revert threshold is 9E-3.
• 9E-4	Revert threshold is 9E-4.
• 9E-5	Revert threshold is 9E-5.
• 9E-6	Revert threshold is 9E-6.
• 9E-7	Revert threshold is 9E-7.
• 9E-8	Revert threshold is 9E-8.
<TRIGWINDOW>	Specifies the trigger window value for Proactive Protection Regen in milli seconds. It should always be a multiple of the sample slot value, derived from the trigger threshold value. The maximum TRIGWINDOW value is 10000.

Table 13-50 ED-OCH Command - Parameter Support

Input Parameters	Description
<RVRTWINDOW>	Specifies the revert window value for Proactive Protection Regen in milli seconds. It should always be a multiple of the sample slot value, derived from the revert threshold value. The maximum RVRTWINDOW value is 10000 and minimum value is 2000.
<OVRCLK>	Indicates whether the optical trunk is over-clocked or not. It can be Y or N. The default is N.
• Y	Yes
• N	No
<RXWLEN>	The RX wavelength. It is applicable in unidirectional regeneration mode of a muxponder card. In this case the RX wavelength can be different from the nominal TX wavelength (EXPWLEN). It can be any valid NCS wavelength value. The default value is USE-TWL1.
<CDLOW>	(Optional) Lower limit of CD working range.
<CDHIGH>	(Optional) Upper limit of CD working range.
<VOATXPOWER>	(Optional) VOA Transmit Power. The parameter type is VOATXPOWER, indicates the VOA transmit power on a fixed trunk.
<TXLASERSHUTDOWN>	(Optional) Transmit Laser Shut down. The parameter type is TXLASERSHUTDOWN indicates the transmit laser shut down status as Y or N.
<PST>	(Optional) Primary state. The parameter type is PST, which indicates the current overall service condition of an entity.
• Unlocked	In service
• Locked	Out of service
<SST>	(Optional) Secondary state. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AutomaticInService	Automatic in service
• Disabled	Disabled
• Loopback	Loopback
• MismatchofEquipmentAlarm	Mismatch of equipment and attributes
• Maintenance	Maintenance mode
• OutOfGroup	Out of group
• SoftwareDownload	Software downloading
• Unassigned	Unassigned
• NotInstalled	Unequipped

13.59 ED-OCHCC

The Edit Optical Channel Client Connection (ED-OCHCC) command edits the OCH client connection.

Usage Guidelines

- The fields after CTAG (trailing colons) are optional.
- This command does not support multiple editing of OCH client connection provisioning.
- The default values for all optional parameters are NE default values. These values might not be the current value for a parameter. Use a retrieve command to obtain the current value.

Category

NCS

Security

Provisioning

Input Format

ED-OCHCC:[<TID>]:<AID>:<CTAG>[:::CKTID=<CKTID>],
[CMDMDE=<CMDMDE>]:[<PST>[,<SST>]];

Input Example

ED-OCHCC:VA454-22:FAC-2-1-1:116:::CKTID=OCHCC,CMDMDE=FRCD:LOCKED,DISABLED;

Table 13-51 ED-OCHCC Command - Parameter Support

Input Parameters	Description
<AID>	Access identifier from the “27.15 FACILITY” section on page 27-23 .
<CKTID>	(Optional) Circuit identification that contains the common language Circuit ID or other alias of the circuit being provisioned. Cannot contain blank spaces. CKTID is a string of ASCII characters. The maximum length of CKTID can be 48.
<CMDMDE>	(Optional) Command mode. Normal (NORM) mode is the default behavior for all commands but you can specify forced (FRCD) mode to force the system to override a state where the command would normally be denied. The FRCD mode of operation is applicable to delete a virtual concatenated (VCAT) member cross-connect in Unlocked-Enabled or Locked-Disabled, AutomaticInService service states.
• FRCD	Force the system to override a state in which the command would normally be denied.
• NORM	Execute the command normally. Do not override any conditions that might make the command fail.
<PST>	(Optional) Primary state. The parameter type is PST, which indicates the current overall service condition of an entity.
• Unlocked	In service
• Locked	Out of service
<SST>	(Optional) Secondary state. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.

Table 13-51 ED-OCHCC Command - Parameter Support

Input Parameters	Description
• AutomaticInService	Automatic in service
• Disabled	Disabled
• Loopback	Loopback
• MismatchofEquipmentAlarm	Mismatch of equipment and attributes
• Maintenance	Maintenance mode
• OutOfGroup	Out of group
• SoftwareDownload	Software downloading
• Unassigned	Unassigned
• NotInstalled	Unequipped

13.60 ED-OCHNC

The Edit Optical Channel Network Connection (ED-OCHNC) command edits the OCH network connection.

Usage Guidelines

- The fields after CTAG (trailing colons) are optional.
- This command does not support multiple editing of wavelength connection provisioning.
- The default values for all optional parameters are NE default values. These values might not be the current value for a parameter. Use a retrieve command to obtain the current value.

Category

NCS

Security

Provisioning

Input Format

(For legacy package)

```
ED-OCHNC:[<TID>]:<SRC>,<DST>:<CTAG>:::[CKTID=<CKTID>],[CMDMDE=<CMDMDE>],[WLOPWR=<WLOPWR>],[VOAATTN=<VOAATTN>]:[<PST>[,<SST>]];
```

(For flex package)

```
ED-OCHNC:[<TID>]:<SRC>,<DST>:<CTAG>:::[CKTID=<CKTID>],[CMDMDE=<CMDMDE>],[WLOPWR=<WLOPWR>],[VOAATTN=<VOAATTN>],[FREQ=<FREQ>],[WIDTH=<WIDTH>],[DSPWROFS=<DSPWROFS>],[USPWROFS=<USPWROFS>]:[<PST>][,<SST>];
```

Input Example

ED-OCHNC:VA454-22:CHANWL-1-3-TX-1530.33,
LINEWL-4-1-RX-1530.33:116:::CKTID=CIRCUIT,CMDMDE=FRCD:LOCKED,DISABLED;

Input Parameters

<SRC>	Source access identifier from the “ 27.7 CHANNEL ” section on page 27-12 . In two-way wavelength connection sources, both directions need to be indicated.
<DST>	Destination access identifier from the “ 27.19 LINEWL ” section on page 27-29 . In two-way wavelength connection sources, both directions need to be indicated.
<CKTID>	(Optional) Circuit identification that contains the common language Circuit ID or other alias of the circuit being provisioned. Cannot contain blank spaces. CKTID is a string of ASCII characters. The maximum length of CKTID can be 48.
<CMDMDE>	(Optional) Command mode. Normal (NORM) mode is the default behavior for all commands but you can specify forced (FRCD) mode to force the system to override a state where the command would normally be denied. The FRCD mode of operation is applicable to delete a virtual concatenated (VCAT) member cross-connect in Unlocked-Enabled or Locked-Disabled, AutomaticInService service states.
• FRCD	Force the system to override a state in which the command would normally be denied.
• NORM	Execute the command normally. Do not override any conditions that might make the command fail.
<WLOPWR>	The value of calibrated output power that the VOA is going to set as a result of its attenuation. WLOPWR is a float.
<VOAATTN>	The value of calibrated attenuation for the VOA expressed in dBm. The range is 0.0 to +30.0. VOAATTN is a float.
<FREQ>	Optical wavelength
<WIDTH>	Width
<DSPWROFS>	Down stream power offset.
<USPWROFS>	Up stream power offset.
<PST>	(Optional) Primary state. The parameter type is PST, which indicates the current overall service condition of an entity.
• Unlocked	In service
• Locked	Out of service
<SST>	(Optional) Secondary state. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AutomaticInService	Automatic in service
• Disabled	Disabled
• Loopback	Loopback
• MismatchofEquipmentAlarm	Mismatch of equipment and attributes
• Maintenance	Maintenance mode
• OutOfGroup	Out of group
• SoftwareDownload	Software downloading

• Unassigned	Unassigned
• NotInstalled	Unequipped

13.61 ED-OMS

The Edit Optical Multiplex Section (ED-OMS) command edits the attributes (service parameters) and state of an OMS facility.

Usage Guidelines

The default values for all optional parameters are NE default values. These values might not be the current value for a parameter. Use a retrieve command to obtain the current value.

Category

NCS

Security

Provisioning

Input Format

ED-OMS[:<TID>]:<AID>:<CTAG>[::EXPBAND=<EXPBAND>],[VOAATTN=<VOAATTN>],[VOAPWR=<VOAPWR>],[CALOPWR=<CALOPWR>],[NAME=<NAME>],[SOAK=<SOAK>],[CMDMDE=<CMDMDE>][:<PST>[,<SST>]];

Input Example

ED-OMS:PENNGROVE:BAND-6-1:114::,EXPBAND=1530.32-1532.68,VOAATTN=2.5,VOAPWR=7.5,CALOPWR=0.0,NAME="OMSPORT",SOAK=8,CMDMDE=NORM:UNLOCKED,AUTOMATICINSERVICE;

Input Parameters

<AID>	Access identifier from the “27.4 BAND” section on page 27-10 .
<EXPBAND>	(Optional) The expected value of band for this port. The parameter type is OPTICAL_BAND (optical band).
• 1530.33 to 1532.68	Band 1
• 1534.25 to 1536.61	Band 2
• 1538.19 to 1540.56	Band 3
• 1542.14 to 1544.53	Band 4
• 1546.12 to 1548.51	Band 5
• 1550.12 to 1552.52	Band 6
• 1554.13 to 1556.55	Band 7
• 1558.17 to 1560.61	Band 8
• USE-DEFAULT	This band has not yet been configured or retrieved from unit.
<VOAATTN>	(Optional) The value of calibrated attenuation for the VOA expressed in dBm. The range is 0.0 to +30.0. VOAATTN is a float.

<VOAPWR>	(Optional) The value of calibrated output power that the VOA is going to set as a result of its attenuation. VOAPWR is a float.
<CALOPWR>	(Optional) The value of the calibrated optical power expected for the line added to the calculated value, which equals the total expected output power. Expressed in dBm. Defaults to 0 dBm. CALOPWR is a float.
<NAME>	(Optional) Port name. NAME is a string.
<SOAK>	(Optional) Locked-AutomaticInService to Unlocked transition soak time as measured in 15-minute intervals. Defaults to 32. SOAK is an integer.
<CMDMDE>	(Optional) Command mode. Normal (NORM) mode is the default behavior for all commands but you can specify forced (FRCD) mode to force the system to override a state where the command would normally be denied. The FRCD mode of operation is applicable to delete a virtual concatenated (VCAT) member cross-connect in Unlocked-Enabled or Locked-Disabled, AutomaticInService service states.
• FRCD	Force the system to override a state in which the command would normally be denied.
• NORM	Execute the command normally. Do not override any conditions that could make the command fail.
<PST>	(Optional) Primary state. The parameter type is PST, which indicates the current overall service condition of an entity.
• Unlocked	In service
• Locked	Out of service
<SST>	(Optional) Secondary state. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AutomaticInService	Automatic in service
• Disabled	Disabled
• Loopback	Loopback
• MismatchofEquipmentAlarm	Mismatch of equipment and attributes
• Maintenance	Maintenance mode
• OutOfGroup	Out of group
• SoftwareDownload	Software downloading
• Unassigned	Unassigned
• NotInstalled	Unequipped

13.62 ED-OPMODE

The Edit Operating Mode (ED-OPMODE) command adds or deletes the client ports from MXP-MR and MXPP-MR modes on the AR_MXP or AR_XP card, and adds or deletes a client-peer pair from the CFP-TXP mode on the CFP-LC card.

Usage Guidelines

- CLIENTPORTS, PEERSLOTS, ACTION, and OPMODE are the mandatory parameters for the ED-OPMODE command on the CFP-LC card.
- ED-OPMODE command can be executed only on the CFP-LC card, which is part of the CFP-TXP mode.
- ED-OPMODE command adds or deletes a client-peer pair from the CFP-TXP mode.
- On an existing client1-peer1 pair mode, if a client2-peer2 pair is added using the ED-OPMODE command, either client1-peer1 or client2-peer2 can be deleted using the ED-OPMODE command. However, the same does not work for client1-peer2 or client2-peer1 pair.
- ACTION, CLIENTPORTS, and TRUNKPORT are mandatory parameters for the AR-MXP, AR-XP, and AR-XPE cards.
- OPMODE, CLIENTPORTS, PEERSLOTS, and ACTION are mandatory parameters for the 100G-LC-C, 10x10G-LC, and CFP-LC cards.
- The TRUNKPORT parameter is not used in the ED-OPMODE command on the CFP-LC card.

Category

NCS

Security

Provisioning

Input Format

ED-OPMODE:[<TID>]:<AID>:<CTAG>:::[TRUNKPORT=<TRUNKPORT>],CLIENTPORTS=<CLIENTPORTS>,[PEERSLOTS=<PEERSLOTS>],[ACTION=<ACTION>],[OPMODE=<OPMODE>];

Input Example

ED-OPMODE::SLOT-1-3:21:::OPMODE=CFP-TXP,CLIENTPORTS=2,PEERSLOTS=SLOT-1-2,ACTION=ADD.

Input Parameters

<AID>	SLOT Access Identifier
<OPMODE>	Existing operating mode which is being edited.
• CFP-TXP	Transponder mode between one CFP-LC and one or two 100G-LC-C cards.
• MXPP-MR-S	Operating mode on AR-MXP, AR-XP, or AR-XPE card.
• MXP-MR-S	Operating mode on AR-MXP, AR-XP, or AR-XPE card.
• MXP-2x40G	Operating mode on AR-MXP, AR-XP, or AR-XPE card.
<ACTION>	The ADD or DELETE action required while editing the operating mode.
• ADD	Add client ports to the existing MXP-MR mode or add client-peer pair on 100G-LC-C, 10x10G-LC, and CFP-LC cards.
• DELETE	Delete client ports from the existing MXP-MR mode or Delete client-peer pair on 100G-LC-C, 10x10G-LC, and CFP-LC cards.
• LOW-LATENCY	Low latency opmode is supported only on 10x10G-LC card.

<TRUNKPORT>	The trunk port number in MXP-MR mode on which the edit operation is being performed
<CLIENTPORTS>	The client port numbers that are being added or deleted to the operating mode.
<PEERSLOTS>	The slot number of the peer card (100G-LC-C) of the CFP-LC card, which is part of the CFP-TXP and CFP-MXP modes, specified by the SLOT<SLOTNO>.

13.63 ED-OTS

The Edit Optical Transport Section (ED-OTS) command edits the attributes (service parameters) and state of an OTS facility.

Usage Guidelines

The default values for all optional parameters are NE default values. These values might not be the current value for a parameter. Use a retrieve command to obtain the current value.

Category

NCS

Security

Provisioning

Input Format

ED-OTS[:<TID>]:<AID>:<CTAG>[::<VOAATTN>=<VOAATTN>],[<VOAPWR>=<VOAPWR>],[<OFFSET>=<OFFSET>],[<CALTILT>=<CALTILT>],[<OSRI>=<OSRI>],[<NAME>=<NAME>],[<SOAK>=<SOAK>],[<FG>],[<CG>],[<CMDMDE>=<CMDMDE>],[<SWSTATE>=<SWSTATE>][:<PST>[:<SST>]];

Input Example

ED-OTS:PENNGROVE:LINE-6-1:114:::RDIRN=W-E,VOAATTN=5.0,VOAPWR=10.0,OFFSET=0.0,CALTILT=0.0,OSRI=N,NAME="OTSPORT",SOAK=8,CMDMDE=NORM,SWSTATE=AUTO:UNLOCKED,AUTOMATICINSERVICE;

Input Parameters.

<AID>	Access identifier from the "27.18 LINE" section on page 27-26 .
<RDIRN>	(Optional) Ring directionality of the optical line. The parameter type is RDIRN_MODE, which is the optical ring directionality.
• E-W	The direction of the signal is from east to west (clockwise).
• W-E	The direction of the signal is from west to east (counterclockwise).
<VOAATTN>	(Optional) The value of calibrated attenuation for the VOA expressed in dBm. The range is 0.0 to +30.0. VOAATTN is a float.
<VOAPWR>	(Optional) The value of calibrated output power that the VOA is going to set as a result of its attenuation. VOAPWR is a float.
<OFFSET>	(Optional) The calibration value of the optical power added to the calculated reference value. Defaults to 0 dBm. OFFSET is a float.

<CALTILT>	(Optional) The amplifier calibration tilt offset to be added to the calculated reference value. Defaults to 0 dBm. CALTILT is a float.
<OSRI>	(Optional) OSRI enabled or disabled. Present only on a port where the safety is supported. The parameter type is ON_OFF (disable or enable an attribute)
• N	Disable an attribute.
• Y	Enable an attribute.
<CG>	TDCU coarse grain value
• 0	TDCU coarse grain value
• -110	TDCU coarse grain value
• -1100	TDCU coarse grain value
• -1210	TDCU coarse grain value
• -1320	TDCU coarse grain value
• -1430	TDCU coarse grain value
• -1540	TDCU coarse grain value
• -1650	TDCU coarse grain value
• -220	TDCU coarse grain value
• -330	TDCU coarse grain value
• -440	TDCU coarse grain value
• -550	TDCU coarse grain value
• -660	TDCU coarse grain value
• -770	TDCU coarse grain value
• -880	TDCU coarse grain value
• -990	TDCU coarse grain value
<FG>	TDCU fine grain value
• 0	TDCU fine grain value
• -45	TDCU fine grain value
• -450	TDCU fine grain value
• -495	TDCU fine grain value
• -540	TDCU fine grain value
• -585	TDCU fine grain value
• -630	TDCU fine grain value
• -675	TDCU fine grain value
• -90	TDCU fine grain value
• -135	TDCU fine grain value
• -180	TDCU fine grain value
• -225	TDCU fine grain value
• -270	TDCU fine grain value
• -315	TDCU fine grain value
• -360	TDCU fine grain value
• -405	TDCU fine grain value

<CMDMDE>	(Optional) Command mode. Normal (NORM) mode is the default behavior for all commands but you can specify forced (FRCD) mode to force the system to override a state where the command would normally be denied. The FRCD mode of operation is applicable to delete a virtual concatenated (VCAT) member cross-connect in Unlocked-Enabled or Locked-Disabled, AutomaticInService service states.
• FRCD	Force the system to override a state in which the command would normally be denied.
• NORM	Execute the command normally. Do not override any conditions that could make the command fail.
<SWSTATE>	Software switch state.
• AUTO	Auto
• LOGO	Logo
<PST>	(Optional) Primary state. The parameter type is PST, which indicates the current overall service condition of an entity.
• Unlocked	In service
• Locked	Out of service
<SST>	(Optional) Secondary state. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AutomaticInService	Automatic in service
• Disabled	Disabled
• Loopback	Loopback
• MismatchofEquipmentAlarm	Mismatch of equipment and attributes
• Maintenance	Maintenance mode
• OutOfGroup	Out of group
• SoftwareDownload	Software downloading
• Unassigned	Unassigned
• NotInstalled	Unequipped

13.64 ED-OTU

The Edit Optical Transport Unit Level 1/2/3 command edits the attributes (service parameters) and state of an OTU1, OTU2, OTU3, and OTU4 facilities respectively. The default values for all optional parameters are NE default values. These values might not be the current value for a parameter. Use a retrieve command to obtain the current value.

Usage Guidelines

- Squelchmode is applicable for OTU1, OTU2, OTU3, and OTU4 modifiers.
- Squelchmode for OTU1 clients are NONE or ODU-AIS.
- Squelchmode for OTU1/OTU2 trunk in RGN and TXP modes is ODU-AIS.
- Squelchmode for OTU1/OTU2 trunk in non-TXP mode is NONE.
- OVRCLK parameter is supported on OTU2 on SFP+ ports on 10x10G-LC.

- In the CFP-TXP mode, the ED-OTU is applicable for **FREQ**, **LOSSB**, **SOAK**, and **SQUELCHMODE** parameters on the CFP-LC card on the VFAC AID.
- In the CFP-TXP mode, the ED-OTU is applicable for **FEC**, **OSFBER**, and **OSDBER** parameters on the 100G-LC-C virtual ports on the VCFAC AID.

Category

NCS

Security

Provisioning

Input Format

ED-<OTU>[:<TID>]:<AID>:<CTAG>[:<OSDBER=<SDBER>],[GCC=<GCC>],[DWRAP=<DWRAP>],[FEC=<FEC>],[PAYLOADMAP=<PAYLOADMAP>],[PMMODE=<PMMODE>],[FREQ=<FREQ>],[LOSSB=<LOSSB>],[NAME=<PORTNAME>],[SOAK=<SOAK>],[GCCRATE=<GCCRATE>],[SQUELCHMODE=<SQUELCHMODE>],[OTNTRMAP=<OTNTRMAP>],[SYNCSMSG=<SYNCSMSG>],[SENDDUS=<SENDDUS>],[ADMSSM=<ADMSSM>],[ODUTRANSMODE=<ODUTRANSMODE>],[PORTMODE=<PORTMODE>],[CMDMDE=<CMDMDE>],[PPR=<PPR>],[TRIGTH=<TRIGTH>],[RVRTTH=<RVRTTH>],[TRIGWINDOW=<TRIGWINDOW>],[RVRTWINDOW=<RVRTWINDOW>],[OVRCLK=<OVRCLK>],[EGRESSFRR=<EGRESSFRR>][:<PST>[:<SST>]];

Input Example

ED-OTU1::VFAC-3-5-1:1::GCC=Y,GCCRATE=400K,SENDDUS=N;

ED-OTU2::VFAC-6-9-1:1::PPR=Y,TRIGTH=6E-4,TRIGWINDOW=1000,RVRTTH=1E-5,RVRTWINDOW=2000,EGRESSFRR=Y;

Input Parameters

AID>	The AR-MXP, AR-XP, and AR-XPE cards use the VFAC Access Identifier. OTU2 uses VFAC and VLINE AID on 10x10G-LC card. OTU3 and OTU4 use VFAC on CFP-LC cards.
<OSDBER>	OTN SDBER. Can only be provisioned on the working port. Defaults to 1E-7. Parameter type is SD_BER—the threshold for declaring signal degrade on a facility or path.
• 1E-5	SDBER is 1E-5
• 1E-6	SDBER is 1E-6
• 1E-7	SDBER is 1E-7
• 1E-8	SDBER is 1E-8
• 1E-9	SDBER is 1E-9
<GCC>	Identifies the Generic communication channel (GCC) connection of the port.
• Y	GCC can be utilized
• N	GCC cannot be utilized

<DWRAP>	(Optional) The ITU-T G.709 monitoring digital wrapper. It is either on or off. The system default is ON. For MXP_2.5G_10G and TXP_MR_10G cards, this applies only to the NCS port. The parameter type is ON_OFF (disable or enable an attribute). To enable ITU-T G.709 monitoring, there should be no GCC on the NCS port and the payload (in which the card is configured) should not be UNFRAMED. To disable ITU-T G.709 monitoring, there should be no GCC on the NCS port, the FEC should be turned off, there should be no overhead circuit created on the NCS port, and none of the client ports on the card should be part of a Y-cable protection group (muxponder only).
• N	Disable an attribute.
• Y	Enable an attribute.
<FEC>	(Optional) Forward error correction. It can be enabled only if ITU-T G.709 monitoring is turned ON. It is either off or enabled in standard or enhanced mode. The system default is standard FEC enabled. The FEC level PM and thresholds apply if the FEC is turned ON. The parameter type is FEC_MODE, which specifies the type of forward error correction.
• ENH	Enhanced FEC is enabled.
• ENH-I4	Enhanced FEC 1.4 is enabled
• ENH-I7	Enhanced FEC 1.7 is enabled
• HG-20	20% High Gain FEC.
• HG-7	High Gain 7% FEC.
• OFF	FEC is disabled.
• STD	Standard FEC is enabled.
<GCCRATE>	(Optional) The data rate of the GCC traffic. The default is 192 Kbps. For MXP_2.5G_10G and TXP_MR_10G cards, this applies only to the NCS port. The parameter type is GCCRATE, which is the data rate of the GCC traffic.
• 192K	192 Kbps
• 400K	400 Kbps (only on M2 and M6 chassis)
• 1200K	1200 Kbps
<PAYLOADMAP>	(Optional) The type of payload mapping. It can be enabled only if ITU-T G.709 monitoring is turned ON and FEC is enabled. The parameter type is PAYLOAD_MAPPING, which is the payload mapping mode.
• ASYNCH	Asynchronous mapping mode
• ODU	ODU multiplex structure mode
• SYNCH	Synchronous mapping mode
• N	Disable an attribute.
• Y	Enable an attribute.
• NOOPU2FIXEDSTUFF	Mapping with no FIXEDSTUFF
<FREQ>	The parameter type is OPTICAL_WLEN (optical wavelength).
• 850 nm	Wavelength 850 nm
• 1310 nm	Wavelength 1310 nm

• 1550 nm	Wavelength 1550 nm
• 1470 nm	Wavelength 1470 nm
• 1490 nm	Wavelength 1490 nm
• 1510 nm	Wavelength 1510 nm
• 1530 nm	Wavelength 1530 nm
• 1570 nm	Wavelength 1570 nm
• 1590 nm	Wavelength 1590 nm
• 1610 nm	Wavelength 1610 nm
• 1528.77 nm	Wavelength 1528.77 nm
• 1529.16	Wavelength 1529.16
• 1529.55 nm	Wavelength 1529.55 nm
• 1529.94 nm	Wavelength 1529.94 nm
• 1530.33 nm	Wavelength 1530.33 nm
• 1530.72 nm	Wavelength 1530.72 nm
• 1531.12 nm	Wavelength 1531.12 nm
• 1531.51 nm	Wavelength 1531.51 nm
• 1531.90 nm	Wavelength 1531.90 nm
• 1532.29 nm	Wavelength 1532.29 nm
• 1532.68 nm	Wavelength 1532.68 nm
• 1533.07 nm	Wavelength 1533.07 nm
• 1533.47 nm	Wavelength 1533.47 nm
• 1533.86 nm	Wavelength 1533.86 nm
• 1534.25 nm	Wavelength 1534.25 nm
• 1534.64 nm	Wavelength 1534.64 nm
• 1535.04 nm	Wavelength 1535.04 nm
• 1535.43 nm	Wavelength 1535.43 nm
• 1535.82 nm	Wavelength 1535.82 nm
• 1536.22 nm	Wavelength 1536.22 nm
• 1536.61 nm	Wavelength 1536.61 nm
• 1537.00 nm	Wavelength 1537.00 nm
• 1537.40 nm	Wavelength 1537.40 nm
• 1537.79 nm	Wavelength 1537.79 nm
• 1538.19 nm	Wavelength 1538.19 nm
• 1538.58 nm	Wavelength 1538.58 nm
• 1538.98 nm	Wavelength 1538.98 nm
• 1539.37 nm	Wavelength 1539.37 nm
• 1539.77 nm	Wavelength 1539.77 nm
• 1540.16 nm	Wavelength 1540.16 nm
• 1540.56 nm	Wavelength 1540.56 nm
• 1540.95 nm	Wavelength 1540.95 nm
• 1541.35 nm	Wavelength 1541.35 nm

• 1541.75 nm	Wavelength 1541.75 nm
• 1542.14 nm	Wavelength 1542.14 nm
• 1542.54 nm	Wavelength 1542.54 nm
• 1542.94 nm	Wavelength 1542.94 nm
• 1543.33 nm	Wavelength 1543.33 nm
• 1543.73 nm	Wavelength 1543.73 nm
• 1544.13 nm	Wavelength 1544.13 nm
• 1544.53 nm	Wavelength 1544.53 nm
• 1544.92 nm	Wavelength 1544.92 nm
• 1545.32 nm	Wavelength 1545.32 nm
• 1545.72 nm	Wavelength 1545.72 nm
• 1546.12 nm	Wavelength 1546.12 nm
• 1546.52 nm	Wavelength 1546.52 nm
• 1546.92 nm	Wavelength 1546.92 nm
• 1547.32 nm	Wavelength 1547.32 nm
• 1547.72 nm	Wavelength 1547.72 nm
• 1548.11 nm	Wavelength 1548.11 nm
• 1548.51 nm	Wavelength 1548.51 nm
• 1548.91 nm	Wavelength 1548.91 nm
• 1549.32 nm	Wavelength 1549.32 nm
• 1549.72 nm	Wavelength 1549.72 nm
• 1550.12 nm	Wavelength 1550.12 nm
• 1550.52 nm	Wavelength 1550.52 nm
• 1550.92 nm	Wavelength 1550.92 nm
• 1551.32 nm	Wavelength 1551.32 nm
• 1551.72 nm	Wavelength 1551.72 nm
• 1552.12 nm	Wavelength 1552.12 nm
• 1552.52 nm	Wavelength 1552.52 nm
• 1552.92 nm	Wavelength 1552.92 nm
• 1553.33 nm	Wavelength 1553.33 nm
• 1553.73 nm	Wavelength 1553.73 nm
• 1554.13 nm	Wavelength 1554.13 nm
• 1554.54 nm	Wavelength 1554.54 nm
• 1554.94 nm	Wavelength 1554.94 nm
• 1555.34 nm	Wavelength 1555.34 nm
• 1555.75 nm	Wavelength 1555.75 nm
• 1556.15 nm	Wavelength 1556.15 nm
• 1556.55 nm	Wavelength 1556.55 nm
• 1556.96 nm	Wavelength 1556.96 nm
• 1557.36 nm	Wavelength 1557.36 nm
• 1557.77 nm	Wavelength 1557.77 nm

• 1558.17 nm	Wavelength 1558.17 nm
• 1558.58 nm	Wavelength 1558.58 nm
• 1558.98 nm	Wavelength 1558.98 nm
• 1559.39 nm	Wavelength 1559.39 nm
• 1559.79 nm	Wavelength 1559.79 nm
• 1560.20 nm	Wavelength 1560.20 nm
• 1560.61 nm	Wavelength 1560.61 nm
• 1561.01 nm	Wavelength 1561.01 nm
• 1561.42 nm	Wavelength 1561.42 nm
• 1561.83 nm	Wavelength 1561.83 nm
• 1562.23	Wavelength 1562.23
• 1562.64	Wavelength 1562.64
• 1563.05	Wavelength 1563.05
• 1563.45	Wavelength 1563.45
• 1563.86	Wavelength 1563.86
• 1564.27	Wavelength 1564.27
• 1564.68	Wavelength 1564.68
• 1565.09	Wavelength 1565.09
• 1565.50	Wavelength 1565.50
• 1565.90	Wavelength 1565.90
• 1566.31	Wavelength 1566.31
• 1566.72	Wavelength 1566.72
• 1570	Wavelength 1570
• 1570.83	Wavelength 1570.83
• 1571.24	Wavelength 1571.24
• 1571.65	Wavelength 1571.65
• 1572.06	Wavelength 1572.06
• 1572.48	Wavelength 1572.48
• 1572.89	Wavelength 1572.89
• 1573.30	Wavelength 1573.30
• 1573.71	Wavelength 1573.71
• 1574.13	Wavelength 1574.13
• 1574.54	Wavelength 1574.54
• 1574.95	Wavelength 1574.95
• 1575.37	Wavelength 1575.37
• 1575.78	Wavelength 1575.78
• 1576.20	Wavelength 1576.20
• 1576.61	Wavelength 1576.61
• 1577.03	Wavelength 1577.03
• 1577.44	Wavelength 1577.44
• 1577.86	Wavelength 1577.86

• 1578.27	Wavelength 1578.27
• 1578.69	Wavelength 1578.69
• 1579.10	Wavelength 1579.10
• 1579.52	Wavelength 1579.52
• 1579.93	Wavelength 1579.93
• 1580.35	Wavelength 1580.35
• 1580.77	Wavelength 1580.77
• 1581.18	Wavelength 1581.18
• 1581.60	Wavelength 1581.60
• 1582.02	Wavelength 1582.02
• 1582.44	Wavelength 1582.44
• 1582.85	Wavelength 1582.85
• 1583.27	Wavelength 1583.27
• 1583.69	Wavelength 1583.69
• 1584.11	Wavelength 1584.11
• 1584.53	Wavelength 1584.53
• 1584.95	Wavelength 1584.95
• 1585.36	Wavelength 1585.36
• 1585.78	Wavelength 1585.78
• 1586.20	Wavelength 1586.20
• 1586.62	Wavelength 1586.62
• 1587.04	Wavelength 1587.04
• 1587.46	Wavelength 1587.46
• 1587.88	Wavelength 1587.88
• 1588.30	Wavelength 1588.30
• 1588.73	Wavelength 1588.73
• 1589.15	Wavelength 1589.15
• 1589.57	Wavelength 1589.57
• 1589.99	Wavelength 1589.99
• 1590	Wavelength 1590
• 1590.41	Wavelength 1590.41
• 1590.83	Wavelength 1590.83
• 1591.26	Wavelength 1591.26
• 1591.68	Wavelength 1591.68
• 1592.10	Wavelength 1592.10
• 1592.52	Wavelength 1592.52
• 1592.95	Wavelength 1592.95
• 1593.37	Wavelength 1593.37
• 1593.79	Wavelength 1593.79
• 1594.22	Wavelength 1594.22
• 1594.64	Wavelength 1594.64

• 1595.06	Wavelength 1595.06
• 1595.49	Wavelength 1595.49
• 1596.34	Wavelength 1596.34
• 1596.76	Wavelength 1596.76
• 1597.19	Wavelength 1597.19
• 1597.62	Wavelength 1597.62
• 1598.04	Wavelength 1598.04
• 1598.47	Wavelength 1598.47
• 1598.89	Wavelength 1598.89
• 1599.32	Wavelength 1599.32
• 1599.75	Wavelength 1599.75
• 1600.06	Wavelength 1600.06
• 1601.03	Wavelength 1601.03
• 1601.46	Wavelength 1601.46
• 1601.88	Wavelength 1601.88
• 1602.31	Wavelength 1602.31
• 1602.74	Wavelength 1602.74
• 1603.17	Wavelength 1603.17
• 1603.60	Wavelength 1603.60
• 1604.03	Wavelength 1604.03
• 1610	Wavelength 1610
• USE-TWL1	Use Tunable Wavelength 1
<LOSSB>	(Optional) The parameter type is REACH, which indicates the reach values.
• 100GBASE-LR4	100GBASE-LR4
• 100GBASE-SR10	100GBASE-SR10
• 40GBASE-FR	40GBASE-FR
• 40GBASE-LR4	40GBASE-LR4
• 40GBASE-SR4	Reach supported on 40GIGE payload on CFP-LC card.
• 4I1-9D1F	4I1-9D1F
• AUTOPROV	Autoprovisioning
• C4S1-2D1	C4S1-2D1
• CX	Reach CX
• CX1	Reach CX1
• DX	Reach DX
• FE-BX	FE-BX
• FX	FX
• GE-BX	GE-BX
• GE-EX	GE-EX
• HX	Reach HX
• I1	Reach I1
• IR-1	Reach IR-1

• IR-2	Reach IR-2
• L1	Reach L1
• L2	Reach L2
• L3	Reach L3
• LR-1	Reach LR-1
• LR-2	Reach LR-2
• LR-3	Reach LR-3
• LX	Reach LX
• LX-10	LX-10
• P1L1-2D1	10G Ethernet with 850 nm wavelength
• P1S1-2D1	Short haul 10G Ethernet in 1310 nm wavelength
• P1L1-2D2	Long haul 10G Ethernet with 1550 nm wavelength
• S1	Reach S1
• S2	Reach S2
• SR	Reach SR
• SR-1	Reach SR-1
• SX	Reach SX
• T	Reach T
• TEN-GE-ER	10 GE extended range
• TEN-GE-LR	10 GE long range
• TEN-GE-LRM	TEN-GE-LRM
• TEN-GE-SR	10 GE short range
• TEN-GE-ZR	TEN-GE-ZR
• VSR2000-3R2	VSR2000-3R2
• VX	Reach VX
• ZX	Reach ZX
• P1S1-1D1	Shorthaul 2.5G Ethernet with 1310 nm wavelength
• P1L1-1D2	Longhaul 2.5G Ethernet with 1550 nm wavelength
• CWDM	Coarse Wavelength Division Multiplexing with
• NCS	Dense Wavelength Division Multiplexing with wavelength between 1525–1565 nm
<PORTNAME>	(Optional) Port name. PORTNAME is a string.
<SOAK>	(Optional) Locked-AutomaticInService to Unlocked transition soak time as measured in 15-minute intervals. A value of 4 equals a soak time of 1 hour. The allowable range is 0 to 192 intervals (maximum of 48 hours). SOAK is an integer.
<OTNTRMAP>	OTN Traffic Mapping
• TRMAP-NONE	No traffic mapping
• CBR10G	Constant Bit Rate 10G
• ODU2E	10.399 Gbit/s
• ODU1MUX	ODU1 Multiplexer
• ODU1	2.498 Gbits/s

<NAME>	(Optional) Port name. NAME is a string. Defaults to NULL. Maximum length is 32 characters.
<SYNCSMSG>	Synchronization status messaging is enabled or disabled on the facility. The parameter type is YES_NO, which indicates whether the user's password is about to expire, the user is logged into the NE, or the user is locked out of the NE.
• NO	No
• YES	Yes
<PPR>	(Optional) To enable or disable the Proactive Protection Regen (PPR) in the OTU2 Card in Regen Mode.
• Y	PPR enabled.
• N	PPR disabled.
<TRIGTH>	Specifies the trigger threshold value for Proactive Protection Regen. The parameter type is TRIGGER_THRESHOLD.
• 1E-2	Trigger threshold is 1E-2.
• 1E-3	Trigger threshold is 1E-3.
• 1E-4	Trigger threshold is 1E-4.
• 1E-5	Trigger threshold is 1E-5.
• 1E-6	Trigger threshold is 1E-6.
• 1E-7	Trigger threshold is 1E-7.
• 2E-2	Trigger threshold is 2E-2.
• 2E-3	Trigger threshold is 2E-3.
• 2E-4	Trigger threshold is 2E-4.
• 2E-5	Trigger threshold is 2E-5.
• 2E-6	Trigger threshold is 2E-6.
• 2E-7	Trigger threshold is 2E-7.
• 3E-2	Trigger threshold is 3E-2.
• 3E-3	Trigger threshold is 3E-3.
• 3E-4	Trigger threshold is 3E-4.
• 3E-5	Trigger threshold is 3E-5.
• 3E-6	Trigger threshold is 3E-6.
• 3E-7	Trigger threshold is 4E-7.
• 4E-2	Trigger threshold is 4E-2.
• 4E-3	Trigger threshold is 4E-3.
• 4E-4	Trigger threshold is 4E-4.
• 4E-5	Trigger threshold is 4E-5.
• 4E-6	Trigger threshold is 4E-6.
• 4E-7	Trigger threshold is 4E-7.
• 5E-2	Trigger threshold is 5E-2.
• 5E-3	Trigger threshold is 5E-3.
• 5E-4	Trigger threshold is 5E-4.
• 5E-5	Trigger threshold is 5E-5.

• 5E-6	Trigger threshold is 5E-6.
• 5E-7	Trigger threshold is 5E-7.
• 6E-2	Trigger threshold is 6E-2.
• 6E-3	Trigger threshold is 6E-3.
• 6E-4	Trigger threshold is 6E-4.
• 6E-5	Trigger threshold is 6E-5.
• 6E-6	Trigger threshold is 6E-6.
• 6E-7	Trigger threshold is 6E-7.
• 7E-2	Trigger threshold is 7E-2.
• 7E-3	Trigger threshold is 7E-3.
• 7E-4	Trigger threshold is 7E-4.
• 7E-5	Trigger threshold is 7E-5.
• 7E-6	Trigger threshold is 7E-6.
• 7E-7	Trigger threshold is 7E-7.
• 8E-2	Trigger threshold is 8E-2.
• 8E-3	Trigger threshold is 8E-3.
• 8E-4	Trigger threshold is 8E-4.
• 8E-5	Trigger threshold is 8E-5.
• 8E-6	Trigger threshold is 8E-6.
• 8E-7	Trigger threshold is 8E-7.
• 9E-2	Trigger threshold is 9E-2.
• 9E-3	Trigger threshold is 9E-3.
• 9E-4	Trigger threshold is 9E-4.
• 9E-5	Trigger threshold is 9E-5.
• 9E-6	Trigger threshold is 9E-6.
• 9E-7	Trigger threshold is 9E-7.

<RVRTTH>

Specifies the revert threshold for Proactive Protection Regen. The parameter type is RVRTTH.

• 1E-3	Revert threshold is 1E-3.
• 1E-4	Revert threshold is 1E-4.
• 1E-5	Revert threshold is 1E-5.
• 1E-6	Revert threshold is 1E-6.
• 1E-7	Revert threshold is 1E-7.
• 2E-3	Revert threshold is 2E-3.
• 2E-4	Revert threshold is 2E-4.
• 2E-5	Revert threshold is 2E-5.
• 2E-6	Revert threshold is 2E-6.
• 2E-7	Revert threshold is 2E-7.
• 3E-3	Revert threshold is 3E-3.
• 3E-4	Revert threshold is 3E-4.
• 3E-6	Revert threshold is 3E-6.
• 4E-3	Revert threshold is 4E-4.

• 4E-4	Revert threshold is 4E-4.
• 4E-5	Revert threshold is 4E-5
• 4E-6	Revert threshold is 4E-6.
• 4E-7	Revert threshold is 4E-7.
• 5E-3	Revert threshold is 5E-3.
• 5E-4	Revert threshold is 5E-4.
• 5E-5	Revert threshold is 5E-5
• 5E-6	Revert threshold is 5E-6.
• 5E-7	Revert threshold is 5E-7.
• 5E-8	Revert threshold is 5E-8.
• 6E-3	Revert threshold is 6E-3.
• 6E-4	Revert threshold is 6E-4.
• 6E-5	Revert threshold is 6E-5
• 6E-6	Revert threshold is 6E-6.
• 6E-7	Revert threshold is 6E-7.
• 6E-8	Revert threshold is 6E-8.
• 7E-3	Revert threshold is 7E-3.
• 7E-4	Revert threshold is 7E-4.
• 7E-5	Revert threshold is 7E-5
• 7E-6	Revert threshold is 7E-6.
• 7E-7	Revert threshold is 7E-7.
• 7E-8	Revert threshold is 7E-8.
• 8E-3	Revert threshold is 8E-3.
• 8E-4	Revert threshold is 8E-4.
• 8E-5	Revert threshold is 8E-5
• 8E-6	Revert threshold is 8E-6.
• 8E-7	Revert threshold is 8E-7.
• 8E-8	Revert threshold is 8E-8.
• 9E-3	Revert threshold is 9E-3.
• 9E-4	Revert threshold is 9E-4.
• 9E-5	Revert threshold is 9E-5
• 9E-6	Revert threshold is 9E-6.
• 9E-7	Revert threshold is 9E-7.
• 9E-8	Revert threshold is 9E-8.

<TRIGWINDOW>

Specifies the trigger window value for Proactive Protection Regen in milli seconds. It should always be a multiple of the sample slot value, derived from the trigger threshold value. The maximum TRIGWINDOW value is 10000.

<RVRTWINDOW>

Specifies the revert window value for Proactive Protection Regen in milli seconds. It should always be a multiple of the sample slot value, derived from the revert threshold value. The maximum RVRTWINDOW value is 10000 and minimum value is 2000.

<SENDDUS>	The facility will send the DUS value as the SSM for that facility. The parameter type is YES_NO, which indicates whether the user's password is about to expire, the user is logged into the NE, or the user is locked out of the NE.
• NO	No
• YES	Yes
<ADMSSM>	The administrative synchronization status message. . Defaults to STU. The parameter type is SYNC_CLOCK_REF_QUALITY_LEVEL, which is the clock source quality level.
• DUS	DoNot Use
• PRS	Primary Reference Source, Stratum 1 Traceable
• RES	Reserved For Network Synchronization Use
• SMC	SONET Minimum Clock Traceable
• ST2	Stratum 2 Traceable
• ST3	Stratum 3 Traceable
• ST3E	Stratum 3E Traceable
• ST4	Stratum 4 Traceable
• STU	Synchronized, Traceability Unknown
• TNC	Transit Node Clock (2nd Generation Only)
<ODUTRANSMODE>	To configure the "ODUk OH" transparency on the OTU2-XP card.
• TRANS-STD	Transparent Standard Use. The transponder, behaving as a regenerator, terminates the OUT layer and is transparent to the ODU layer. Also in this case the FEC-MISM (FEC Mismatch) alarm is not generated.
• CISCO-EXT	Cisco Extended. When the Cisco Extended configuration is selected, two bytes of the ODU layer is terminated to guarantee the interoperability with the older Transponder/Muxponder cards.
<CMDMDE>	(Optional) Command mode. Normal (NORM) mode is the default behavior for all commands but you can specify forced (FRCD) mode to force the system to override a state where the command would normally be denied. The FRCD mode of operation is applicable to delete a virtual concatenated (VCAT) member cross-connect in Unlocked-Enabled or Locked-Disabled, AutomaticInService service states.
• FRCD	Force the system to override a state where the command would normally be denied.
• NORM	Execute the command normally. Do not override any conditions that might make the command fail.
<PORTMODE>	Describes the termination mode of each interface on the card.
• NCS-LINE	Line terminating mode.
• NCS-SECTION	Section terminating mode.
• NCS-TRANS-AIS	Transparent mode AIS.
• NCS-TRANS-SQUELCH	Transparent mode Squelch
• 10GLANWAN-SQUELCH	10G LAN to WAN Squelch.

<ODUTRANSMODE>	To configure the "ODUk OH" transparency on the OTU2-XP card.
• CISCO-EXT	Cisco Extended. When the Cisco Extended configuration is selected, two bytes of the ODU layer is terminated to guarantee the interoperability with the older Transponder/Muxponder cards.
• TRANS-STD	Transparent Standard Use. The transponder, behaving as a regenerator, terminates the OUT layer and is transparent to the ODU layer. Also in this case the FEC-MISM (FEC Mismatch) alarm is not generated.
<SQUELCHMODE>	Shuts down the far-end laser in response to certain defects.
• ODU-AIS	ODU AIS
• AIS	Generis AIS
• NONE	Transparent
• SQUELCH	Squelch is enabled
• DISABLE	Squelch is disabled
<OVRCLK>	Indicates whether the optical trunk is over-clocked or not. It can be Y or N. The default is N.
• Y	Yes
• N	No
<PRE-FEC-PSM>	The parameter type is PROACTIVE_PROT.
• N	Proactive protection is disabled.
• Y	Proactive protection is enabled.
<EGRESSFRR>	Egress FRR protection.
• Y	Egress FRR protection is enabled.
• N	Egress FRR protection is disabled.
<PST>	(Optional) Primary state. The parameter type is PST, which indicates the current overall service condition of an entity.
• IS	In Service
• OOS	Out Of Service
• Unlocked	In service
• Locked	Out of service
<SST>	(Optional) Secondary state. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• DSBLD	Disabled
• MT	Maintenance mode
• AINS	Automatically IN Service

13.65 ED-PID

The Edit Password (ED-PID) command allows a user to change his or her own password.

Usage Guidelines

- The password must be null.

- Passwords are masked for the following security commands: ACT-USER, ED-PID, ENT-USER-SECU and ED-USER-SECU. Access to a TL1 session by any means will have the password masked. The CTC Request History and Message Log will also show the masked commands. When a password-masked command is reissued by double-clicking the command from CTC Request History, the password will still be masked in the CTC Request History and Message Log. The actual password that was previously issued will be sent to the NE. To use a former command as a template only, single-click the command in CTC Request History. The command will be placed in the Command Request text box, where you can edit the appropriate fields prior to reissuing it.
- The password will not appear in the TL1 log on the NE.
- For the ED-PID command:
ED-PID:[TID]:<UID>:[CTAG]::<OLDPID>,<NEWPID>;

The syntax of OLDPID is not checked. The NEWPID should follow Telcordia standards set by SET-ATTR-SECUDFLT command for minimum password length, maximum password length, and password character rule.
- You must use the ED-USER-SECU command to change the default password (empty) for the CISCO15 Superuser.
- The ED-PID command cannot be used to change the empty password to a valid password.

Category Security

Security Retrieve

Input Format ED-PID:[<TID>]:<UID>:<CTAG>::<OLDPID>,<NEWPID>;

Input Example ED-PID:CISCO:UID:123::OLDPWD,NEWPWD;

Table 13-52 ED-PID Command - Parameter Support

Input Parameter	Description
<UID>	User Identifier. Any combination of up to 20 alphanumeric characters. The minimum UID size is 2. UID is a string.

Table 13-52 ED-PID Command - Parameter Support

Input Parameter	Description
<OLDPID>	The user's old password. Minimum length of the PID depends on the PWDMINLEN, the type of characters to be entered depends on the PWDCHRULE, and maximum length depends on PWDMAXLEN set by SET-ATTR-SECUDFLT command. Passwords are encrypted and appear as asterisks (*). OLDPID is a string.
<NEWPID>	The user's new password. Minimum length of the PID depends on the PWDMINLEN, the type of characters to be entered depends on the PWDCHRULE, and maximum length depends on PWDMAXLEN set by SET-ATTR-SECUDFLT command. Passwords are encrypted and appear as asterisks (*). NEWPID is a string.

13.66 ED-POS

The Edit Packet Over NCS (ED-POS) command edits the back-end port information for the Ethernet card when the back-end port is working in packet-over-NCS (POS) mode.

Usage Guidelines

The default values for all optional parameters are NE default values. These values might not be the current value for a parameter. Use a retrieve command to obtain the current value. ED-POS cannot set ENCAP and PST/SST.

Category

Ports

Security

Provisioning

Input Format

ED-POS:[<TID>]:<AID>:<CTAG>:::[ENCAP=<ENCAP>],[NAME=<NAME>],[CMDMDE=<CMDMDE>],[SOAK=<SOAK>]:[<PST>,<SST>];

Input Example

ED-POS:CISCO:VFAC-2-0:123:::ENCAP=HDLC,NAME=NAME,CMDMDE=NORM,SOAK=32:UNLOCKED,AUTOMATICINSERVICE;

Table 13-53 ED-POS Command - Parameter Support

Input Parameters	Description
<AID>	Access identifier from the “27.15 FACILITY” section on page 27-23.
• FRCD	Force the system to override a state in which the command would normally be denied.
• NORM	Execute the command normally. Do not override any conditions that could make the command fail.

Table 13-53 ED-POS Command - Parameter Support

Input Parameters	Description
<SOAK>	(Optional) Locked-AutomaticInService to Unlocked transition soak time as measured in 15-minute intervals. A value of 4 equals a soak time of 1 hour. The allowable range is 0 to 192 intervals (maximum of 48 hours). SOAK is an integer.
<ENCAP>	Specifies the mapping mode on the port provisioned. Parameter Type is ENCAP.
• CBR	CBR mapping mode.
• GFP	GFP mapping mode.
• GMP	GMP mapping mode is supported only on 8GFC on 10x10G-LC card.
• TRP	Transparent mapping mode.
<PST>	(Optional) Primary state. Defaults to Unlocked. The parameter type is PST, which indicates the current overall service condition of an entity.
• Unlocked	In service
• Locked	Out of service
<SST>	(Optional) Secondary state. Defaults to AutomaticInService. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AutomaticInService	Automatic in service
• Disabled	Disabled
• Loopback	Loopback
• MismatchofEquipmentAlarm	Mismatch of equipment and attributes
• Maintenance	Maintenance mode
• OutOfGroup	Out of group
• SoftwareDownload	Software downloading
• Unassigned	Unassigned
• NotInstalled	Unequipped

13.67 ED-PROTOCOL

The Edit Protocol (ED-PROTOCOL) command is used to enable/disable a protocol/service that is supported in the NE. Valid protocols include shell/file system access (SHELL), element management system (EMS), TL1, and SNMP.

Usage Guidelines

- If the PROTOCOLAID is TL1, the command will be denied because TL1 users are not allowed to change the setting for TL1 protocol.
- If the POTOCOLAID is SNMP, the SECURE PROTOCOLSTAT is supported. To enable SNMP, set PROTOCOLSTAT to either SECURE or UNSECURE.

Category Security

Security Superuser

Input Format ED-PROTOCOL:[<TID>]:<AID>:<CTAG>::<PROTSTAT>;

Input Example ED-PROTOCOL:CISCONODE:EMS:123::SECURE;

Table 13-54 ED-PROTOCOL Command - Parameter Support

Input Parameters	Description
<AID>	The protocol/service to which the command pertains. The parameter type is PROTOCOLAID, which is the AID for protocol/service.
• EMS	CTC/CTM protocol/service
• SHELL	Shell/file system access protocol
• SNMP	SNMP protocol/service
• TL1	TL1 protocol service
<PROTSTAT>	Identifies the status of the protocol/service. The parameter type is PROTOCOLSTAT, which is the status of the protocol.
• DISABLED	The protocol cannot be used.
• SECURE	The protocol is enabled and communications using the protocol are secure, for example, through SSH.
• UNSECURE	The protocol is enabled but communication is not secure, for example, through Telnet.

13.68 ED-PRBS

(Cisco NCS 2002 and Cisco NCS 2006) The Edit PseudoRandom Binary Sequence (ED-PRBS) is used to edit the PRBS Generator sequence.

- Usage Guidelines
- 100G-LC-C and 100G-CK-C trunk supports the PRBS generation.
 - PRBS can be configured at the port level.
 - PRBS is not dependent on the card operating mode.
 - Enabling or disabling PRBS is possible when the port is in OOS-DSBLD state.
 - After the PRBS is set to ON or OFF, the port states can be moved to other states without any issues.

Category Ports

Security Maintenance

Input Format ED-PRBS:[<TID>]:<aid>:<CTAG>:::[PRBSGENPATTERN=<prbsgenpattern>],[:];

Input Example ED-PRBS::CHAN-7-2-1:1::PRBSGENPATTERN=PRBS-31;

Table 13-55 ED-PRBS Command - Parameter Support

Input Parameters	Description
<AID>	PRBSGENPATTERN. The PRBS generator pattern. It can be any of the following: • NONE • PRBS-11 • PRBS-23 • PRBS-31

13.69 ED-QNQ-CHGRP

The Edit Channel Group QinQ (ED-QNQ-CHGRP) command edits the IEEE 802.1Q tunneling (QinQ) relationship between the CE-VLAN and the S-VLAN for Gigabit Ethernet uniport provisioning associated to a channel group.

- Usage Guidelines**
- The default values for all optional parameters are NE default values, but these values might not be the current value for a parameter. Use the RTRV-ETH command to obtain the current value.
 - If the AID is invalid, an IIAC (Invalid AID) error message is returned.
 - The ALL AID is invalid for this command.

Category Channel Group

Security Provisioning

Input Format ED-QNQ-CHGRP:[<TID>]:<AID>:<CTAG>::<FIRST_CE_VLAN_ID>,<LAST_CE_VLAN_ID>,<S_VLAN_ID>:[RULE=<RULE>],[INTERNALVLAN=<INTERNAL_VLAN_ID>],[INGRESSCOS=<INGRESSCOS>][:];

Input Example ED-QNQ-CHGRP:CISCO:CHGRP-1-1:1::10,11,100:RULE=ADD;

Table 13-56 ED-QNQ-CHGRP Command - Parameter Support

Parameter	Description
<AID>	Access identifier from the “27.8 CHGRP” section on page 27-14.
<FIRSTCEVLANID>	VLAN identifier. A VLAN ID is a number between 1 and 4096. The value 0 is reserved for untagged VLANs. This identifier is used for customer VLAN IDs and service provider VLAN IDs.
<LASTCEVLANID>	VLAN identifier. A VLAN ID is a number between 1 and 4096. The value 0 is reserved for untagged VLANs. This identifier is used for customer VLAN IDs and service provider VLAN IDs.
<SVLANID>	VLAN identifier. A VLAN ID is a number between 1 and 4096. The value 0 is reserved for untagged VLANs. This identifier is used for customer VLAN IDs and service provider VLAN IDs.
<RULE>	Used to represent the rules allowed for the VLAN tagging operations. The default value is ADD.
• ADD	The S-VLAN tag is added to the CE-VLAN tag.
• XLTE	The S-VLAN tag replaces the CE-VLAN tag (single Q).
• XLTE-ADD	XLTE and ADD rule applied together. This rule request to supply an internal S-VLAN. First the Internal VLAN substitutes the Customer VLAN, then Service Provider VLAN TAG (S-VLAN) is added
• DOUBLE-ADD	ADD rule applied two times. This rule request to supply an internal S-VLAN. First the Internal VLAN is added, then Service Provider VLAN TAG (S-VLAN) is added to have a double tag
<INTERNAL_VLAN_ID>	Internal VLAN ID.
<INGRESSCOS>	Identifies the COS value set in the S-VLAN tag.
• 0 to 7	Set a Cos value
• DSCP	The COS is set according to DSCP to COS mapping table.
• TRUST	Use the Customer COS
• VLAN	The COS provisioned on CVLAN basis (QinQ selective mode)

13.70 ED-QNQ-ETH

Use a retrieve command to obtain the current value.

- If the AID is invalid, an IIAC (Invalid AID) error message is returned.
- The ALL AID is invalid for this command.

Category Ethernet

Security Provisioning

Input Format

```
ED-QNQ-ETH:[<TID>]:<AID>:<CTAG>::<FIRSTCEVLANID>,<LASTCEVLANID>,<S_VLAN_ID>[:RULE=<RULE>],[INTERNALVLAN=<INTERNAL_VLAN_ID>],[INGRESSCOS=<INGRESSCOS>][:];
```

Input Example

```
ED-QNQ-ETH:PETALUMA:ETH-1-1-1:1:10,11,100:RULE=ADD;
```

Table 13-57 ED-QNQ-ETH Command - Parameter Support

Parameter	Description
<AID>	Ethernet AIDs are used to access the L2 Ethernet ports. Access identifier from the “27.14 ETH” section on page 27-23 .
<FIRSTCEVLANID>	VLAN identifier. A VLAN ID is a number between 1 and 4096. The value 0 is reserved for untagged VLANs. This identifier is used for customer VLAN IDs and service provider VLAN IDs.
<LASTCEVLANID>	VLAN identifier. A VLAN ID is a number between 1 and 4096. The value 0 is reserved for untagged VLANs. This identifier is used for customer VLAN IDs and service provider VLAN IDs.
<SVLANID>	VLAN identifier. A VLAN ID is a number between 1 and 4096. The value 0 is reserved for untagged VLANs. This identifier is used for customer VLAN IDs and service provider VLAN IDs.
<RULE>	Used to represent the rules allowed for the VLAN tagging operations. The default value is ADD.
• ADD	The S-VLAN tag is added to the CE-VLAN tag.
• XLTE	The S-VLAN tag replaces the CE-VLAN tag (single Q).
• XLTE-ADD	XLTE and ADD rule applied together. This rule request to supply an internal S-VLAN. First the Internal VLAN substitutes the Customer VLAN, then Service Provider VLAN TAG (S-VLAN) is added
• DOUBLE-ADD	ADD rule applied two times. This rule request to supply an internal S-VLAN. First the Internal VLAN is added, then Service Provider VLAN TAG (S-VLAN) is added to have a double tag
<INTERNAL_VLAN_ID>	Internal VLAN ID.
<INGRESSCOS>	Identifies the COS value set in the S-VLAN tag.
• 0 to 7	Set a Cos value
• DSCP	The COS is set according to DSCP to COS mapping table.
• TRUST	Use the Customer COS
• VLAN	The COS provisioned on CVLAN basis (QinQ selective mode)

13.71 ED-REP

The Edit Resilient Ethernet Protocol (ED-REP) command edits the Resilient Ethernet Protocol (REP) configuration on the ethernet port.

Usage Guidelines

- The PREEMPTDELAY parameter value “0” indicates the automatic VLB is disabled on the Edge Ports.

- The NE generates a REPT-DBCHG notification when the preempt delay timer is changed.
- This command is applicable only to GE_XP and 10GE_XP cards.

Category	Ethernet				
Security	Provisioning				
Input Format	ED-REP:[<TID>]:<AID>:<CTAG>::<PREEMPTDELAY>;				
Input Example	ED-REP:CISCO:ETH-12-1-1:1::20;				
Input Parameters	<table> <tr> <td><AID></td><td>Ethernet AIDs are used to access L2 Ethernet ports. Access identifier from the “27.14 ETH” section on page 27-23.</td></tr> <tr> <td><PREEMPTDELAY></td><td>Specifies the time in minutes after which the VLAN load balancing is triggered automatically. The valid range is from 15 to 300 minutes. The default value is 0.</td></tr> </table>	<AID>	Ethernet AIDs are used to access L2 Ethernet ports. Access identifier from the “27.14 ETH” section on page 27-23 .	<PREEMPTDELAY>	Specifies the time in minutes after which the VLAN load balancing is triggered automatically. The valid range is from 15 to 300 minutes. The default value is 0.
<AID>	Ethernet AIDs are used to access L2 Ethernet ports. Access identifier from the “27.14 ETH” section on page 27-23 .				
<PREEMPTDELAY>	Specifies the time in minutes after which the VLAN load balancing is triggered automatically. The valid range is from 15 to 300 minutes. The default value is 0.				

13.72 ED-ROLL-<MOD_PATH>

The Edit Roll for VC3, VC44C, VC464C, VC48C, VC4, VC416C, VC42C, VC43C, VC11, or VC12 (ED-ROLL-<MOS_PATH>) command forces a rolling operation. Force attempts to force a valid signal to complete the rolling operation.

Usage Guidelines	None
Category	Bridge and Roll
Security	Provisioning
Input Format	ED-ROLL-<MOD_PATH>:[<TID>]:<FROM>,<TO>:<CTAG>:::[CMDMDE=<CMDMDE>];
Input Example	ED-ROLL-VC4:CISCO:VC4-1-1-1,VC4-2-1-1:1:::CMDMDE=FRCD;

Table 13-58 ED-ROLL-<MOS_PATH> - Parameter Support

Input Parameters	Description
<FROM>	Source access identifier from the “ 27.32 VC ” section on page 27-35. It is one of the termination points (legs) of the existing cross-connection. If the existing cross-connection is one-way, the termination point (leg) should be the FROM-AID termination point. Otherwise, FROM is not significant. FROM and TO should be entered as they are entered in the ENT-CRS command. You can issue the RTRV-CRS command, and use the response for FROM and TO parameters.
<TO>	Destination access identifier from the “ 27.32 VC ” section on page 27-35. It is one of the termination points (legs) of the existing cross-connection. If the existing cross-connection is one-way, the termination point (leg) should be the TO-AID termination point. Otherwise, the TO is not significant. FROM and TO should be entered as they are entered in the ENT-CRS command. You can issue the RTRV-CRS command, and use the response for FROM and TO parameters.
<CMDMDE>	(Optional) Command mode. Normal (NORM) mode is the default behavior for all commands but you can specify forced (FRCD) mode to force the system to override a state where the command would normally be denied. The FRCD mode of operation is applicable to delete a virtual concatenated (VCAT) member cross-connect in Unlocked-Enabled or Locked-Disabled, AutomaticInService service states. Note CMDMDE can only go from NORM to FRCD. (It cannot go from FRCD to NORM.)
• FRCD	Force the system to override a state in which the command would normally be denied.
• NORM	Execute the command normally. Do not override any conditions that could make the command fail.

13.73 ED-SLV-WDMANS

The Edit Span Loss Verification Wavelength Division Multiplexing Automatic Node Set Up (ED-SLV-WDMANS) command edits the expected span loss verification.

Usage Guidelines None

Category NCS

Security Provisioning

Input Format ED-SLV-WDMANS:[<TID>]:<AID>:<CTAG>[:<ROLE>][:];

Input Example ED-SLV-WDMANS:VA454-22:WDMANS-E:116;

Input Parameters	<AID>	Access identifier from the “27.33 WDMANS” section on page 27-37.
	<ROLE>	The role the unit is playing in the protection group.
	• PROT	The entity is the protection unit in the protection group.
	• WORK	The entity is the working unit in the protection group.

13.74 ED-STCN-REP

The Edit Segment Topology Change Notification Resilient Ethernet Protocol (ED-STCN-REP) command edits the Segment Topology Change Notification (STCN) for REP Segment on the ethernet ports.

- Usage Guidelines**
- STCN can be enabled only on the EDGE ports of the REP Segment.
 - If the STCN is not enabled, you cannot edit any other parameters related to STCN.
 - Only one Segment range can be added or removed at a time
 - A maximum of 2 Segment range can be configured on the ethernet edge port.
 - This command is applicable only to GE_XP and 10GE_XP cards.

Category Ethernet

Security Provisioning

Input Format ED-STCN-REP:[<TID>]:<AID>:<CTAG>:::[STCNENABLED=<STCNENABLED>],[STCNOPERATION=<STCNOPERATION>],[SEGRANGESTART=<SEGRANGESTART>],[SEGRANGEEND=<SEGRANGEEND>],[STCNPORT=<STCNPORT>];

Input Example ED-STCN-REP::ETH-16-1-1:1:::STCNENABLED=Y,STCNOPERATION=ADD,SEGRANGESTART=1000,SEGRANGEEND=1004,STCNPORT=ETH-16-2-1;

Table 13-59 ED-STCN-REP Command - Parameter Support

Input Parameters	Description
<AID>	Access identifier from the “27.15 FACILITY” section on page 27-23.
<STCNENABLED>	To enable or disable the Segment Topology Notification on ethernet entity for REP.
• Y	Enables STCN on the ethernet port.
• N	Disables STCN on the ethernet port.

Table 13-59 ED-STCN-REP Command - Parameter Support

Input Parameters	Description
<STCNOOPERATION>	Adds or removes the range for STCN notification.
• ADD	Adds the range to a list of segment ranges for STCN notification.
• REMOVE	Removes the range from the list of ranges for STCN notification.
<SEGRANGESTART>	Indicates the segment range start value for the STCN. The valid range is from 0 to 1024.
<SEGRANGEEND>	Indicates the segment range end value for the STCN. The valid range is from 0 to 1024.
<STCNPORT>	Determines on which ethernet port the STCN should be sent. STCNPORT is an AID, it takes ETH AID value. The default is NULL.

13.75 ED-STM1E

The Edit STM1E (ED-STM1E) command edits the attributes and the state of the STM1E port facility.

Usage Guidelines

The default values for all optional parameters are NE default values. These values might not be the current value for a parameter. Use a retrieve command to obtain the current value.

Category

Ports

Security

Provisioning

Input Format

ED-STM1E:[<TID>]:<SRC>:<CTAG>:::[SYNCMSG=<SYNCMSG>],[SENDDUS=<SENDDUS>],[PJMON=<PJMON>],[SFBER=<SFBER>],[SDBER=<SDBER>],[SOAK=<SOAK>],[NAME=<NAME>],[CMDMDE=<CMDMDE>]:[<PST>[,<SST>]];

Input Example

ED-STM1E:CISCO1:FAC-6-1:114:::SYNCMSG=Y,SENDDUS=N,PJMON=48,SFBER=1E-4,SDBER=1E-6,SOAK=10,NAME="STM1EPORT",CMDMDE=NORM:UNLOCKED,AUTOMATICINSERVICE;

Input Parameters

<SRC>	Source access identifier from the “27.15 FACILITY” section on page 27-23 .
<SYNCMSG>	Indicates if Synchronization messaging is enabled or disabled on the facility. Defaults to N. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.

<SENDDUS>	The facility sends out a Do not Use (DUS) for Synchronization message. Defaults to N. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<PJMON>	(Optional) Identifies an STM port PJMON. PJMON is an integer. Set a valid VC4 number of the optical port. Note The PJMON number displayed in TL1 interface does not correspond to the PJVC4MON number in CTC, but instead corresponds to the VC4 number of the optical port.
<SFBER>	The port signal failure threshold. Defaults to 1E-4. The parameter type is SF_BER, which is the threshold for declaring signal failure on a facility or path.
• 1E-3	SFBER is 1E-3.
• 1E-4	SFBER is 1E-4.
• 1E-5	SFBER is 1E-5.
<SDBER>	Port signal degrade threshold. Defaults on 1E-7. The parameter type is SD_BER, which is the threshold for declaring signal degrade on a facility or path.
• 1E-5	SDBER is 1E-5.
• 1E-6	SDBER is 1E-6.
• 1E-7	SDBER is 1E-7.
• 1E-8	SDBER is 1E-8.
• 1E-9	SDBER is 1E-9.
<SOAK>	Locked-AutomaticInService to Unlocked transition soak time as measured in 15-minute intervals. Defaults to 32.
<NAME>	NAME is a string. Defaults to NULL. Maximum length is 32 characters.
<CMDMDE>	(Optional) Command mode. Normal (NORM) mode is the default behavior for all commands but you can specify forced (FRCD) mode to force the system to override a state where the command would normally be denied. The FRCD mode of operation is applicable to delete a virtual concatenated (VCAT) member cross-connect in Unlocked-Enabled or Locked-Disabled, AutomaticInService service states.
• FRCD	Force the system to override a state in which the command would normally be denied.
• NORM	Execute the command normally. Do not override any conditions that could make the command fail.
<PST>	Primary state. Defaults to Unlocked. The parameter type is PST, which indicates the current overall service condition of an entity.
• Unlocked	In service
• Locked	Out of service

<SST>	Secondary state. Defaults to AutomaticInService. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AutomaticInService	Automatic in service
• Disabled	Disabled
• Loopback	Loopback
• MismatchofEquipmentAlarm	Mismatch of equipment and attributes
• Maintenance	Maintenance mode
• OutOfGroup	Out of group
• SoftwareDownload	Software downloading
• Unassigned	Unassigned
• NotInstalled	Unequipped

13.76 ED-SYCN

The Edit Synchronization (ED-SYCN) command edits the synchronization reference list used to determine the sources for the NE's reference clock and the BITS output clock. For each clock, up to three synchronization sources can be specified (such as PRIMARY, SECOND, and THIRD). To view or edit the system timing mode, use the RTRV-NE-SYCN or ED-NE-SYCN commands.

Usage Guidelines

The default values for all optional parameters are NE default values. These values might not be the current value for a parameter. Use a retrieve command to obtain the current value.



Note

To retrieve/set the timing mode, SSM message Set or Quality of RES information, use the RTRV-NE-SYCN and ED-NE-SYCN commands.

Category

Synchronization

Security

Provisioning

Input Format

ED-SYCN:[<TID>]:<AID>:<CTAG>:::[PRI=<PRI>],[SEC=<SEC>],[THIRD=<THIRD>][:];

Input Example

ED-SYCN:BOYES:SYNC-NE:112:::PRI=INTERNAL,SEC=INTERNAL,THIRD=INTERNAL;

Table 13-60 **Parameter Support**

Parameter	Description
<AID>	Access identifier from the “27.29 SYNC_REF” section on page 27-34.
<PRI>	(Optional) Primary reference of the synchronization from the “27.28 SYN_SRC” section on page 27-34.
<SEC>	(Optional) Secondary reference of the synchronization from the “27.28 SYN_SRC” section on page 27-34.
<THIRD>	(Optional) Third reference of the synchronization from the “27.28 SYN_SRC” section on page 27-34.

13.77 ED-TRAPTABLE

The Edit Trap Table (ED-TRAPTABLE) command edits a trap destination entry identified by a specific trap destination address.

Usage Guidelines

The default values for all optional parameters are NE default values. These values might not be the current value for a parameter. Use a retrieve command to obtain the current value.

Category

System

Security

Provisioning

Input Format

ED-TRAPTABLE:[<TID>]:<AID>:<CTAG>::COMMUNITY=<COMMUNITY>,
[TRAPPORT=<TRAPPORT>],[TRAPVER=<TRAPVER>];

Input Examples

1. ED-TRAPTABLE::1.2.3.4:1::COMMUNITY="PUBLIC",TRAPPORT=162,TRAPVER=SNMPV1;
2. ED-TRAPTABLE: "[3ffe:0501:0008:0000:0260:97ff:fe40:efab]":1::COMMUNITY="PUBLIC",TRAPPORT=162,TRAPVER=SNMPV1;

Table 13-61 **ED-TRAPTABLE Command - Parameter Support**

Input Parameters	Description
<AID>	Access identifier from the “27.17 IPADDR” section on page 27-26. IP address identifying the trap destination.
<COMMUNITY>	Community name associated to the trap destination. Maximum of 32 characters. COMMUNITY is a string.
<TRAPPORT>	(Optional) UDP port number associated with the trap destination. Default to 162. TRAPPORT is an integer.

Table 13-61 ED-TRAPTABLE Command - Parameter Support

Input Parameters	Description
<TRAPVER>	(Optional) SNMP version number. Defaults to SNMPv1. The parameter type is SNMP_VERSION (SNMP version).
• SNMPV1	SNMP version 1 (default)
• SNMPV2	SNMP version 2

13.78 ED-TRC-OCH

The Edit Trace (ED-TRC-OCH) command edits trace-related optical channel facilities.

Usage Guidelines

The default values for all optional parameters are NE default values. These values might not be the current value for a parameter. Use a retrieve command to obtain the current value.

Category

NCS

Security

Provisioning

Input Format

ED-TRC-OCH:[<TID>]:<SRC>:<CTAG>:::[EXPTRC=<EXPTRC>],[TRC=<TRC>],[TRCMODE=<TRCMODE>],[TRCLEVEL=<TRCLEVEL>],[TRCFORMAT=<TRCFORMAT>][:];

Input Example

ED-TRC-OCH:CISCO:CHAN-6-2:10::EXPTRC="AAA",TRC="AAA",TRCMODE=MAN,TRCLEVEL=TTI-PM,TRCFORMAT=64-BYTE;

Input Parameters

<SRC>	Source access identifier from the “27.7 CHANNEL” section on page 27-12 .
<EXPTRC>	(Optional) Expected path trace content. Indicates the expected path trace message (J1) contents. EXPTRC is any 64-character ASCII string, including the terminating CR (carriage return) and LF (line feed). A null value is equivalent to ALL. EXPTRC is a string.
<TRC>	(Optional) The path trace message to be transmitted. The trace byte continuously transmits a 64 byte, fixed length ASCII string, one byte at a time. A null value defaults to the NE transmitting 62 null characters (Hex 00) and CR and LF. A null value is equivalent to ALL.
<TRCMODE>	(Optional) Trace mode. Defaults to the OFF mode. A null value is equivalent to ALL. The parameter type is TRCMODE (trace mode).
• AUTO	Use the previously received path trace string as the expected string. Not applicable to MXP/TXP cards.

• AUTO-NO-AIS	Use the previously received path trace string as the expected string and do not turn on AIS and RDI if TIM-P is detected.
• MAN	Use the provisioned expected string as the expected string.
• MAN-NO-AIS	Use the provisioned expected string as the expected string and do not turn on AIS and RDI if TIM-P is detected.
• OFF	Turn off path trace capability. Nothing will be reported.
<TRCLEVEL>	The trace level to be managed. TRCLEVEL is a string. Note This command is mandatory when editing the TRC parameters.
• J0	Identifies the NCS J0 section trace level.
• TTI-PM	Identifies the TTI path monitoring point.
• TTI-SM	Identifies the TTI section monitoring point.
<TRCFORMAT>	(Optional) Trace message size. A null value is equivalent to ALL. The parameter type is TRCFORMAT (trace format).
• 1-BYTE	1-byte trace message
• 16-BYTE	16-byte trace message
• 64-BYTE	64-byte trace message

13.79 ED-TRC-OTU

The Edit Trace Optical Transport Unit Level 1, Level 2, Level 3, and Level 4 (ED-TRC-OTU1, ED-TRC-OTU2, ED-TRC-OTU3, and ED-TRC-OTU4) command edits trace-related attributes of an OTU1, OTU2, OTU3, OTU4 facility respectively.

Usage Guidelines

- The default values for all optional parameters are NE default values. These values might not be the current value for a parameter. Use a retrieve command to obtain the current value.
- In the CFP-TXP mode, trace is supported on the 100G-LC-C virtual ports (VCFAC) and not on the CFP-LC card.

Category

NCS

Security

Provisioning

Input Format

ED-TRC-<OTU>[:<TID>]:<SRC>:<CTAG>:::[EXPTRC=<EXPTRC>],[TRC=<TRC>],[TRCMODE=<TRCMODE>],[TRCLEVEL=<TRCLEVEL>],[TRCFORMAT=<TRCFORMAT>][:];

Input Example

ED-TRC-OTU1:CISCO:VFAC-1-6-1:10:::EXPTRC="AAA",TRC="AAA",TRCMODE=MAN,TRCLEVEL=TTI-PM,TRCFORMAT=64-BYTE;

Input Parameters	<SRC>	Source access identifier from the “ 27.15 FACILITY ” section on page 27-23.
	<EXPTRC>	(Optional) Expected path trace content. Indicates the expected path trace message (J1) contents. EXPTRC is any 64-character ASCII string, including the terminating CR (carriage return) and LF (line feed). A null value is equivalent to ALL. EXPTRC is a string.
	<TRC>	(Optional) The path trace message to be transmitted. The trace byte continuously transmits a 64 byte, fixed length ASCII string, one byte at a time. A null value defaults to the NE transmitting 62 null characters (Hex 00) and CR and LF. A null value is equivalent to ALL.
	<TRCMODE>	(Optional) Trace mode. Defaults to the OFF mode. A null value is equivalent to ALL. The parameter type is TRCMODE (trace mode).
	• AUTO	Use the previously received path trace string as the expected string. Not applicable to MXP/TXP cards.
	• AUTO-NO-AIS	Use the previously received path trace string as the expected string and do not turn on AIS and RDI if TIM-P is detected.
	• MAN	Use the provisioned expected string as the expected string.
	• MAN-NO-AIS	Use the provisioned expected string as the expected string and do not turn on AIS and RDI if TIM-P is detected.
	• OFF	Turn off path trace capability. Nothing will be reported.
	<TRCLEVEL>	The trace level to be managed. TRCLEVEL is a string.
		Note This command is mandatory when editing the TRC parameters.
	• J0	Identifies the NCS J0 section trace level.
	• TTI-PM	Identifies the TTI path monitoring point.
	• TTI-SM	Identifies the TTI section monitoring point.
	<TRCFORMAT>	(Optional) Trace message size. A null value is equivalent to ALL. The parameter type is TRCFORMAT (trace format).
	• 1-BYTE	1-byte trace message
	• 16-BYTE	16-byte trace message
	• 64-BYTE	64-byte trace message

13.80 ED-T3

The Edit DS3 Facility (ED-T3) command edits the attributes related to a DS3/T3 port.

Usage Guidelines

The default values for all optional parameters are NE default values. These values might not be the current value for a parameter. Use a retrieve command to obtain the current value.

Category

Ports

Security

Provisioning

Input Format

ED-T3[:<TID>]:<AID>:<CTAG>[::<CLKSRC>=<CLKSRC>],[FMT=<FMT>],[LINECDE=<LINECDE>],[LBO=<LBO>],[INHFELPBK=<INHFELPBK>],[TACC=<TACC>],[TAPTYPE=<TAPTYPE>],[SOAK=<SOAK>],[SFBER=<SFBER>],[SDBER=<SDBER>],[NAME=<NAME>],[AISONLPBK=<AISONLPBK>],[CMDMDE=<CMDMDE>],[BERTMODE=<BERTMODE>],[BERTPATTERN=<BERTPATTERN>],[BERTERRCOUNT=<BERTERRCOUNT>][:<PST>[:<SST>]]];

Input Example

ED-T3:CISCO:T3-1-2:123:::FMT=C-BIT,LINECDE=B3ZS,LBO=0-225,TACC=8,TAPTYPE=SINGLE,SOAK=10,SFBER=1E-4,SDBER=1E-6,NAME="T3 PORT",AISONLPBK=ALL,CMDMDE=CMDMDE,AINS;

Table 13-62 Parameter Support

Input Parameters	Description
<AID>	Access identifier from the “27.15 FACILITY” section on page 27-23.
<CLKSRC>	<CLKSRC>
• INTERNAL	INTERNAL
• LOOPBACK TIMING	LOOPBACK TIMING
• SYNCE	SYNCE
• ADAPTIVE	ADAPTIVE
<FMT>	(Optional) Digital signal frame format. Defaults to E1-MF. The parameter type is FRAME_FORMAT, which is the frame format for an E1 port.
• AUTOPROV	AUTOPROV
• CBIT	C-BIT line type applies to the DS3XM and DS3E cards.
• DS2 FRAMED	DS2 FRAMED
• E2 FRAMED	E2 FRAMED
• E3-FRAME	E3-FRAME
• E3-PLCP	E3-PLCP
• FRAMENA	FRAMENA
• G-751	G-751
• G-832	G-832
• M13	M13 line type applies to the DS3XM and DS3E cards.
• M23	M23
• SYNTRAN	SYNTRAN
• UNFRAMED	Line type is unframed. The old DS3 (L3M) and DS3CR cards can only run in unframed mode.
<LINECDE>	(Optional) Line code. The parameter type is DS_LINE_CODE, which is the DS123 line code.
• B3ZS	Binary three-zero substitution.
• B6ZS	B6ZS
• JBZS	JBZS
• ZBTISI	ZBTISI

Table 13-62 Parameter Support

Input Parameters	Description
<LBO>	Line build-out settings. LBO is an integer. The parameter type is E_LBO, which is the electrical signal line build-out.
• 0–225	Electrical signal line build-out range is 1–225.
• 226–450	Electrical signal line build-out range is 226–450.
<INHFELPBK>	(Optional) Far-end loopback inhibition attribute of the port. If it is Y, the automatic far-end loopbacks are inhibited. It is either on or off. The system default is N. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<TAP>	(Optional) Defines the STS as a test access port with a selected unique TAP number. The TAP number is within a range of 0, 1 to 999. When TACC is 0 (zero), the TAP is deleted. Default is N.
<TAPTYPE>	(Optional) TAP type. The parameter type is TAPTYPE, which is the test access point type.
• DUAL	Dual FAD
• SINGLE	Single FAD
<SOAK>	(Optional) OOS-AINS to IS transition soak time as measured in 15-minute intervals. SOAK is an integer.
<SOAKLEFT>	(Optional) Time remaining for the transition from OOS-AINS to IS measured in 1 minute intervals. The format is HH-MM where HH ranges from 00 to 48 and MM ranges from 00 to 59. SOAKLEFT is a string. Rules for <SOAKLEFT> are as follows: - When the port is in OOS, OOS_MT, or IS state, the parameter will not appear. - When the port is in OOS_AINS but the countdown has not started due to fault signal, the value will be SOAKLEFT=NOT-STARTED. - When the port is in OOS_AINS state and the countdown has started, the value will be shown in HH-MM format.
<SFBER>	(Optional) The port signal failure threshold. Defaults to 1E-4. The parameter type is SF_BER, which is the threshold for declaring signal failure on a facility or path.
• 1E-3	SFBER is 1E-3.
• 1E-4	SFBER is 1E-4.
• 1E-5	SFBER is 1E-5.
<SDBER>	(Optional) Port signal degrade threshold. Defaults to 1E-7. The parameter type is SD_BER, which is the threshold for declaring signal degrade on a facility or path.
• 1E-5	SDBER is 1E-5.
• 1E-6	SDBER is 1E-6.
• 1E-7	SDBER is 1E-7.
• 1E-8	SDBER is 1E-8.
• 1E-9	SDBER is 1E-9.
<NAME>	(Optional) Port name. NAME is a string.
<AISONLPBK>	(Optional) AutomaticInService (AIS) on loopback. The parameter type is AIS_ON_LPBK, which indicates if AIS is sent on a loopback.

Table 13-62 **Parameter Support**

Input Parameters	Description
AIS_ONLPBK_FACILITY	AutomaticInService is sent on facility loopbacks.
AIS_ON_LPBK_ALL	AutomaticInService is sent on all loopbacks.
AIS_ON_LPBK_OFF	AutomaticInService is not sent on loopbacks.
AIS_ON_LPBK_TERMINAL	AutomaticInService is sent on terminal loopbacks.
Y	BERT synchronization status is up.
N	BERT synchronization status is down.
<PST>	(Optional) Primary state. Defaults to Unlocked. The parameter type is PST, which indicates the current overall service condition of an entity.
Unlocked	In service
Locked	Out of service
<SST>	(Optional) Secondary state. Defaults to AutomaticInService. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
AutomaticInService	Automatic in service
Disabled	Disabled
Loopback	Loopback
MismatchofEquipmentAlarm	Mismatch of equipment and attributes
Maintenance	Maintenance mode
OutOfGroup	Out of group
SoftwareDownload	Software downloading
Unassigned	Unassigned
NotInstalled	Unequipped

13.81 ED-UNICFG

The Edit User Network Interface Configuration command edits the attributes and service parameters of UNI configuration created.

Usage Guidelines

- With the VALMODE parameter value as NONE, the VALZONE parameter is not applicable.
- RESTTYPE as REVERT is not applicable for UNICFG.

Category

NCS

Security

Provisioning

Input Format

ED-UNICFG:[<TID>]:<SRC>:<CTAG>:::[VALMODE=<OPTVAL>],[VALZONE=<OPRZONE>],[DESCR=<DESCR>],[ADMINSTATE=<ADMINSTATE>],[RESTTYPE=<RESTTYPE>],[CKTPRIORITY=<CKTPRIORITY>],[DSPWROFS=<DSPWROFS>],[USPWROFS=<USPWROFS>];

Input Example

ED-UNICFG::LINE-2-3:1::DESCR="CISCO",ADMINSTATE=DOWN;

Table 13-63 **Parameter Support**

Parameter	Description
<SRC>	Source AID from the “27.1 ALL” section on page 27-1 .
<VALMODE>	Identifies the validation mode.
• NONE	No optical validation is performed.
• FULL	The optical validation is performed as indicated in VALZONE parameter.
<VALZONE>	Identifies the validation operate zone.
• UNKNOWN	Not evaluated.
• GREEN	Margin > 3 sigma.
• YELLOW	1 < margin < 3 sigma.
• ORANGE	0 < margin < 1 sigma.
• RED	-3 < margin < 0 sigma.
• OUT	Margin < -3 sigma.
<DESC>	Description parameter. DECSR is a STRING.
<ADMINSTATE>	Identifies the adminstate is UP or DOWN.
• UP	Indicates Adminstate is UP and UNI Services can be activated.
• DOWN	Indicates Adminstate is DOWN and UNI Services cannot be activated.
<RESTTYPE>	Identifies the restoration type on UNI configuration.
• NONE	None restoration type for UNICFG.
• RESTORE	Restore restoration type for UNICFG.
<CKTLABEL>	Circuit label.
<CKTPRIORITY>	Circuit Priority.
<DSPWROFS>	Down stream power offset.
<USPWROFS>	Up stream power offset.

13.82 ED-USER-SECU

The Edit User Security (ED-USER-SECU) command edits a user's privileges, password, or ID. Only a Superuser can perform this operation. Privilege levels are described in the ENT-USER-SECU command.

Usage Guidelines

- Passwords are masked for the following security commands: ACT-USER, ED-PID, ENT-USER-SECU and ED-USER-SECU. Access to a TL1 session by any means will have the password masked. The CTC Request History and Message Log will also show the masked

commands. When a password-masked command is reissued by double-clicking the command from CTC Request History, the password will still be masked in the CTC Request History and Message Log. The actual password that was previously issued will be sent to the NE. To use a former command as a template only, single-click the command in CTC Request History. The command will be placed in the Command Request text box, where you can edit the appropriate fields prior to reissuing it.

- <NEWUID> can be set to a minimum length of 2 characters up to 20 characters long.
- <NEWPID> depends on the minimum password length, maximum password length, and password character rule that is set by SET-ATTR-SECUDFLT command.
- For the ED-USER-SECU command:

ED-USER-SECU:[TID]:<UID>:[CTAG]:[<NEWUID>],[<NEWPID>],[<UAP>];;

- If the <NEWPID> is specified, the syntax is checked.
- The syntax of <UID> is not checked.
- Old users can change their password without changing their user ID, but the new password must meet the new requirements.
- The <NEWPID> is required when changing the <USERID>.
- When <NEWUID> is specified, the <NEWPID> (and the <UAP>) become mandatory.
- In this release, when <NEWUID> is specified, <NEWPID> (and the <UAP>) become mandatory, but it is possible to change a USERID without changing the password by providing the same password. A user cannot keep his old password if the old password does not meet the new syntax requirements. For example:
 - <USERID> = CISCO2345
 <PASSWORD>=CISCO#234 /*PASSWORD ALREADY MEETS REQUIREMENTS*/
 ED-USER-SECU::CISCO2345:1::CISCO3456,CISCO#234,PROV;
 TCCP 1970-01-02 13:15:35 M 1 COMPLD;
 - <NEWUSERID> = CISCO60
 <USERID> = CISCO40 <PASSWORD>=CISCO40 /*PASSWORD DOES NOT MEET REQUIREMENTS*/
 ED-USER-SECU::CISCO40:1::CISCO60,CISCO40,PROV;
 BRONCOS4 1970-01-02 13:14:24 M 1 DENY IIFM /* INVALID PASSWORD */;
- The ED-USER-SECU command should be used to change the default password (empty) for the CISCO15 default Superuser.
- The ED-PID command cannot be used to change the empty password to a valid password.

Category

Security

Security

Superuser

Input Format

ED-USER-SECU:[<TID>]:<UID>:<CTAG>:[<NEWUID>],[<NEWPID>],[<UAP>][:];;

Input Example ED-USER-SECU:PETALUMA:CISCO15:123::NEWUID,NEWPID,MAINT;

Table 13-64 ED-USER-SECU Command - Parameter Support

Input Parameters	Description
<UID>	User's identifier. Minimum UID is 6 characters. Maximum UID is 10 characters. UID is a string.
<NEWUID>	(Optional) User's new Identifier. Minimum UID is 2 characters . Maximum UID is 20 characters. NEWUID is a string.
<NEWPID>	(Optional) User's new password. Minimum length depends on PWDMINLEN, maximum length depends on PWDMAXLEN, and password character rule depends on PWDCHRULE set by command SET-ATTR-SECUDFLT.
<UAP>	(Optional) User's access privilege. The parameter type is PRIVILEGE, which is the security level.
• MAINT	Maintenance security level. 60 minutes of idle time.
• PROV	Provision security level. 30 minutes of idle time.
• RTRV	Retrieve security level. Unlimited idle time.
• SUPER	Superuser security level. 15 minutes of idle time.
• ROOT_USER	Root user.
• SEC_SUPER	Security super user.
• SEC_USER	Security user.

13.83 ED-VCG

The Edit Virtual Concatenated Group (ED-VCG) command edits the attributes of a VCG.

Usage Guidelines None

Category VCAT

Security Provisioning

Input Format ED-VCG:[<TID>]:<SRC>:<CTAG>:::[TXCOUNT=<TXCOUNT>],[NAME=<NAME>];

Input Example ED-VCG:NODE1:FAC-1-1:1234:::TXCOUNT=7,NAME="VCG2";

Input Parameters

<SRC>	Source access identifier from the “27.15 FACILITY” section on page 27-23 .
<TXCOUNT>	(Optional) Number of members in the transmit direction. For ML1000-2 and ML100T-12 cards, the only valid value is 2. For the FC_MR-4 card, the only valid value is 8. TXCOUNT is an integer.
<NAME>	(Optional) Name of the VCAT group. Maximum length is 64 characters. NAME is a string.

13.84 ED-VLAN

The Edit VLAN (ED-VLAN) command modifies a VLAN entry in the VLAN database. The VLAN database is a collection of VLANs used in an NE.

Usage Guidelines

A VLAN having the specified AID should be present in the node.

Category

Ethernet

Security

Provisioning

Input Format

ED-VLAN:[<TID>]:<AID>:<CTAG>[:NAME=<NAME>],[PROTN=<PROTN>],[MACLEARNING=<MACLEARNING>],[IGMPENABLE=<IGMPENABLE>],[IGMPFASTLEAVE=<IGMPFASTLEAVE>],[IGMPSUPP=<IGMPSUPP>][:];

Input Example

ED-VLAN:PETALUMA:VLAN-4096:1::NAME="MYVLAN",PROTN=N,MACLEARNING=Y,IGMPENABLE=Y,IGMPFASTLEAVE=Y,IGMPSUPP=Y;

Input Parameters

<AID>	AID is used to access the VLAN.
VLAN-ALL	All AIDs for the VLAN.
VLAN-{0-4096}	Single AID for the VLAN. The value 0 is reserved for untagged VLANs. This identifier is used for customer VLAN IDs and service provider VLAN IDs.
<NAME>	Indicates the name of the VLAN.
<PROTN>	Indicates the VLAN protection, enable or disable feature
<MACLEARNING>	MAC Address Learning Mode. This activates the MAC address learning on interface to avoid packet broadcasting. Default value is - “N”
• Y	Activate the MAC learning.
• N	Disable MAC learning.
<IGMPENABLE>	Internet Group Management Protocol status.
• Y	Enabled

• N	Disabled
<IGMPFASTLEAVE>	Internet Group Management Protocol FastLeave status. When enabled, decreases the delay between receiving a Leave Group packet and disabling forwarding of multicast
• Y	Enabled
• N	Disabled
<IGMPSUPP>	IGMP Report suppression. Indicates multicast registered client hiding. When enabled (default) it prevents duplicate reports from being sent to the multicast devices.
• Y	Enabled
• N	Disabled

13.85 ED-VLAN-ETH

The Edit VLAN Ethernet attributes (ED_VLAN_ETH) command is used to modify the VLAN Profile associated to the L2 Ethernet port - VLAN.

Usage Guidelines

The default values for all optional parameters are NE default values. These values may not be the current value for a parameter. In order to obtain the current value use RTRV-XX command to retrieve them.

If the AID is invalid, an IIAC (Invalid AID) error message is returned.

The "ALL" AID is invalid for this command.

The L2 ethernet port must be present when this command is sent. The S-VLAN-ID must be present.

If BWP is omitted the first time this command is performed, the default BWP-0 is assume.

Use BWP=0 to restore the Default VLAN Profile.

Category

ETHERNET

Security

Provisioning

Input Format

ED-VLAN-ETH[:<TID>]:<AID>:<CTAG>::[VLAN_ID=<VLAN_ID>],[VLAN_TYPE=<VLAN_TYPE>],[BWP=<BWP>][:];

Input Example

ED-VLAN-ETH::ETH-1-1-1:1:1010:BWP=34;

Input Parameters

Table 13-65 ED-VLAN-ETH Command - Parameter Support

Input Parameters	Description
<AID>	Ethernet aids are used to access L2 Ethernet ports.
ALL	The ALL aid is applicable for RTRV-only commands, basically the RTRV-rr type of commands.
ETH[-{1-50}]-{1-5,12-16}-{1-22}-1	Facility aid for GE-XP card.
ETH[-{1-50}]-{1-6,12-17}-{1-42}-1	Facility aid for 10GE-XP card.
<VLAN_ID>	The VLAN identifier. A VLAN ID is a number in the range 1..4096. The value of 0 is reserved to UNTAGged VLAN.
VLAN_TYPE	Specifies the type of VLAN.
SVLAN	Service provider VLAN.
CVLAN	Customer VLAN.
<BWP>	The BWP identifier. A BWP ID is a number in the range 0..10000. The value of 0 is reserved for the default profile that cannot be edited or delete. Default value is 0.

13.86 ED-VLB-REP

The Edit VLAN Load Balancing Resilient Ethernet Protocol (ED-VLB-REP) command edits the VLAN Load Balancing (VLB) for REP Segment on the ethernet ports.

Usage Guidelines

- VLB can be enabled only on the EDGE Primary ports of the REP Segment.
- If the VLB is not enabled, you cannot edit any other parameters related to STCN.
- Only one VLAN range can be added or removed at a time
- A maximum of 10 VLAN range can be configured on the ethernet edge port.
- This command is applicable only to GE_XP and 10GE_XP cards.

Category

Ethernet

Security

Provisioning

Input Format ED-VLB-REP:[<TID>]:<AID>:<CTAG>:::[VLBENABLED=<VLBENABLED>],[VLBOPERATION=<VLBOPERATION>],[VLANRANGESTART=<VLANRANGESTART>],[VLANRANGEEND=<VLANRANGEEND>],[PREFERRED=<PREFERRED>],[REPPORTID=<REPPORTID>];

Input Example ED-VLB-REP::ETH-16-2-1:1::VLBENABLED=Y,VLBOPERATION=ADD,VLANRANGESTART=1000,VLANRANGEEND=1001,PREFERRED=N,REPPORTID=0X0134454345678598;

Table 13-66 ED-VLB-REP Command - Parameter Support

Input Parameters	Description
<AID>	Access identifier from the “27.15 FACILITY” section on page 27-23 .
<VLBENABLED>	Enables or disables the segment topology notification on ethernet entity for REP.
• Y	Enables STCN on the ethernet port.
• N	Disables STCN on the ethernet port.
<VLBOPERATION>	Adds or removes the range for STCN notification.
• ADD	Adds the range to a list of segment ranges for STCN notification.
• REMOVE	Removes the range from a list of segment ranges for STCN notification.
<VLANRANGESTART>	Indicates the VLAN range start value for VLB on REP. The valid range is 0 to 1024.
<VLANRANGEEND>	Indicates the VLAN range end value for VLB on REP. The valid range is from 0 to 1024.
<PREFERRED>	Indicates that the port is the preferred alternate port. Or the preferred port for VLAN load balancing.
• Y	Yes
• N	No
<REPPORTID>	Determines the REP port to trigger VLB.

13.87 ED-WDMANS

The Edit Wavelength Division Multiplexing Automatic Node Set Up (ED-WDMANS) command edits the optical node setup application (ANS) attributes.

Usage Guidelines None

Category NCS

Security

Provisioning

Input Format

(For legacy package)

```
ED-WDMANS:[<TID>]:<AID>:<CTAG>::<WLEN>:[VOAATTN=<VOAATTN>],[POWEROSC=<POWEROSC>],[NTWTYPE=<NTWTYPE>],[CHLOSS=<CHLOSS>],[GAIN=<GAIN>],[TILT=<TILT>],[CHPWR=<CHPWR>],[AMPLMODE=<AMPLMODE>],[RATIO=<RATIO>],[OSCLOSS=<OSCLOSS>],[DITHER=<DITHER>],[TOTALPWR=<TOTALPWR>],>],[TOTALPWRMILLIW=<TOTALPWRMILLIW>],[HIGHSLVEXP=<HIGHSLVEXP>],[LOWSLVEXP=<LOWSLVEXP>],>],[TOTALPWRDBM=<TOTALPWRDBM>][:];
```

(For flex package)

```
ED-WDMANS:[<TID>]:<AID>:<CTAG>::<WLEN>:[VOAATTN=<VOAATTN>],[POWEROSC=<POWEROSC>],[NTWTYPE=<NTWTYPE>],[CHLOSS=<CHLOSS>],[GAIN=<GAIN>],[TILT=<TILT>],[CHPWR=<CHPWR>],[AMPLMODE=<AMPLMODE>],[RATIO=<RATIO>],[OSCLOSS=<OSCLOSS>],[DITHER=<DITHER>],[TOTALPWRMILLIW=<TOTALPWRMILLIW>],[HIGHSLVEXP=<HIGHSLVEXP>],[LOWSLVEXP=<LOWSLVEXP>],[TOTALPWRDBM=<TOTALPWRDBM>],[ENABLELOGO=<ENABLELOGO>][:];
```

Input Example

```
ED-WDMANS:PENNGROVE:WDMSIDE-A:114::POWERIN=10.0,POWEROUT=10.0,POWEREXP=10.0;
```

```
ED-WDMANS:PENNGROVE:WDMSIDE-A:114::POWERIN=10.0,POWEROUT=10.0,POWEREXP=10.0,POWEROSC=5.0;
```

```
ED-WDMANS::LINE-1-3-1-RX:77::CHLOSS=-11.00;
```

```
ED-WDMANS::LINE-1-6-5-TX:5::TOTALPWRMILLIW=100,TOTALPWRDBM=450.1;
```

Input Parameters

<AID>	The AID is used to access the WDM node or a single port of the NCS node.
• WDMNODE	Indicates the WDM node of an MSTP and accesses the NTWTYPE and DITHERWDMANS node parameters.
• LINE	The optical transport section port.
• BAND	The optical multiplex section port.
• CHAN	The optical channel port.
<WLEN>	(Optional) The parameter type is OPTICAL_WLEN, which indicates the optical wavelength.
• 1310	Wavelength 1310
• 1470	Wavelength 1470
• 1490	Wavelength 1490
• 1510	Wavelength 1510
• 1528.77	Wavelength 1528.77
• 1529.16	Wavelength 1529.16
• 1529.55	Wavelength 1529.55
• 1529.94	Wavelength 1529.94

• 1530	Wavelength 1530
• 1530.33	Wavelength 1530.33
• 1530.73	Wavelength 1530.73
• 1531.12	Wavelength 1531.12
• 1531.51	Wavelength 1531.51
• 1531.90	Wavelength 1531.90
• 1532.29	Wavelength 1532.29
• 1532.68	Wavelength 1532.68
• 1533.07	Wavelength 1533.07
• 1533.47	Wavelength 1533.47
• 1533.86	Wavelength 1533.86
• 1534.25	Wavelength 1534.25
• 1534.64	Wavelength 1534.64
• 1535.04	Wavelength 1535.04
• 1535.43	Wavelength 1535.43
• 1535.82	Wavelength 1535.82
• 1536.22	Wavelength 1536.22
• 1536.61	Wavelength 1536.61
• 1537	Wavelength 1537
• 1537.40	Wavelength 1537.40
• 1537.79	Wavelength 1537.79
• 1538.19	Wavelength 1538.19
• 1538.58	Wavelength 1538.58
• 1538.98	Wavelength 1538.98
• 1539.37	Wavelength 1539.37
• 1539.77	Wavelength 1539.77
• 1540.16	Wavelength 1540.16
• 1540.56	Wavelength 1540.56
• 1540.95	Wavelength 1540.95
• 1541.35	Wavelength 1541.35
• 1541.75	Wavelength 1541.75
• 1542.14	Wavelength 1542.14
• 1542.35	Wavelength 1542.35
• 1542.54	Wavelength 1542.54
• 1542.94	Wavelength 1542.94
• 1543.33	Wavelength 1543.33
• 1543.73	Wavelength 1543.73
• 1544.13	Wavelength 1544.13
• 1544.53	Wavelength 1544.53
• 1544.92	Wavelength 1544.92
• 1545.32	Wavelength 1545.32

• 1545.72	Wavelength 1545.72
• 1546.12	Wavelength 1546.12
• 1546.52	Wavelength 1546.52
• 1546.92	Wavelength 1546.92
• 1547.32	Wavelength 1547.32
• 1547.72	Wavelength 1547.72
• 1548.12	Wavelength 1548.12
• 1548.51	Wavelength 1548.51
• 1548.92	Wavelength 1548.92
• 1549.32	Wavelength 1549.32
• 1549.71	Wavelength 1549.71
• 1550	Wavelength 1500
• 1550.12	Wavelength 1550.12
• 1550.52	Wavelength 1550.52
• 1550.92	Wavelength 1550.92
• 1551.32	Wavelength 1551.32
• 1551.72	Wavelength 1551.72
• 1552.12	Wavelength 1552.12
• 1552.52	Wavelength 1552.52
• 1552.93	Wavelength 1552.93
• 1553.33	Wavelength 1553.33
• 1553.73	Wavelength 1553.73
• 1554.13	Wavelength 1554.13
• 1554.13	Wavelength 1554.13
• 1554.94	Wavelength 1554.94
• 1555.34	Wavelength 1555.34
• 1555.75	Wavelength 1555.75
• 1556.15	Wavelength 1556.15
• 1556.55	Wavelength 1556.55
• 1556.96	Wavelength 1556.96
• 1557.36	Wavelength 1557.36
• 1557.77	Wavelength 1557.77
• 1558.17	Wavelength 1558.17
• 1558.58	Wavelength 1558.58
• 1558.98	Wavelength 1558.98
• 1559.39	Wavelength 1559.39
• 1559.79	Wavelength 1559.79
• 1560.20	Wavelength 1560.20
• 1560.61	Wavelength 1560.61
• 1561.01	Wavelength 1561.01
• 1561.42	Wavelength 1561.42

• 1561.83	Wavelength 1561.83
• 1562.23	Wavelength 1562.23
• 1562.64	Wavelength 1562.64
• 1563.05	Wavelength 1563.05
• 1563.45	Wavelength 1563.45
• 1563.86	Wavelength 1563.86
• 1564.27	Wavelength 1564.27
• 1564.68	Wavelength 1564.68
• 1565.09	Wavelength 1565.09
• 1565.50	Wavelength 1565.50
• 1565.90	Wavelength 1565.90
• 1566.31	Wavelength 1566.31
• 1566.72	Wavelength 1566.72
• 1570	Wavelength 1570
• 1570.83	Wavelength 1570.83
• 1571.24	Wavelength 1571.24
• 1571.65	Wavelength 1571.65
• 1572.06	Wavelength 1572.06
• 1572.48	Wavelength 1572.48
• 1572.89	Wavelength 1572.89
• 1573.30	Wavelength 1573.30
• 1573.71	Wavelength 1573.71
• 1574.13	Wavelength 1574.13
• 1574.54	Wavelength 1574.54
• 1574.95	Wavelength 1574.95
• 1575.37	Wavelength 1575.37
• 1575.78	Wavelength 1575.78
• 1576.20	Wavelength 1576.20
• 1576.61	Wavelength 1576.61
• 1577.03	Wavelength 1577.03
• 1577.44	Wavelength 1577.44
• 1577.86	Wavelength 1577.86
• 1578.27	Wavelength 1578.27
• 1578.69	Wavelength 1578.69
• 1579.10	Wavelength 1579.10
• 1579.52	Wavelength 1579.52
• 1579.93	Wavelength 1579.93
• 1580.35	Wavelength 1580.35
• 1580.77	Wavelength 1580.77
• 1581.18	Wavelength 1581.18
• 1581.60	Wavelength 1581.60

• 1582.02	Wavelength 1582.02
• 1582.44	Wavelength 1582.44
• 1582.85	Wavelength 1582.85
• 1583.27	Wavelength 1583.27
• 1583.69	Wavelength 1583.69
• 1584.11	Wavelength 1584.11
• 1584.53	Wavelength 1584.53
• 1584.95	Wavelength 1584.95
• 1585.36	Wavelength 1585.36
• 1585.78	Wavelength 1585.78
• 1586.20	Wavelength 1586.20
• 1586.62	Wavelength 1586.62
• 1587.04	Wavelength 1587.04
• 1587.46	Wavelength 1587.46
• 1587.88	Wavelength 1587.88
• 1588.30	Wavelength 1588.30
• 1588.73	Wavelength 1588.73
• 1589.15	Wavelength 1589.15
• 1589.57	Wavelength 1589.57
• 1589.99	Wavelength 1589.99
• 1590	Wavelength 1590
• 1590.41	Wavelength 1590.41
• 1590.83	Wavelength 1590.83
• 1591.26	Wavelength 1591.26
• 1591.68	Wavelength 1591.68
• 1592.10	Wavelength 1592.10
• 1592.52	Wavelength 1592.52
• 1592.95	Wavelength 1592.95
• 1593.37	Wavelength 1593.37
• 1593.79	Wavelength 1593.79
• 1594.22	Wavelength 1594.22
• 1594.64	Wavelength 1594.64
• 1595.06	Wavelength 1595.06
• 1595.49	Wavelength 1595.49
• 1596.34	Wavelength 1596.34
• 1596.76	Wavelength 1596.76
• 1597.19	Wavelength 1597.19
• 1597.62	Wavelength 1597.62
• 1598.04	Wavelength 1598.04
• 1598.47	Wavelength 1598.47
• 1598.89	Wavelength 1598.89

• 1599.32	Wavelength 1599.32
• 1599.75	Wavelength 1599.75
• 1600.06	Wavelength 1600.06
• 1601.03	Wavelength 1601.03
• 1601.46	Wavelength 1601.46
• 1601.88	Wavelength 1601.88
• 1602.31	Wavelength 1602.31
• 1602.74	Wavelength 1602.74
• 1603.17	Wavelength 1603.17
• 1603.60	Wavelength 1603.60
• 1604.03	Wavelength 1604.03
• 1610	Wavelength 1610
<VOAATTN>	The value of calibrated attenuation for the VOA expressed in dBm. The range is 0.0 to +30.0. VOAATTN is a float.
<POWEROSC>	WDM-ANS OSC power parameter.
<NTWTYPE>	WDM-ANS network type parameter.
<CHLOSS>	WDM-ANS channel loss parameter.
<GAIN>	WDM-ANS amplifier gain parameter.
<TILT>	WDM-ANS amplifier tilt parameter.
<CHPWR>	WDM-ANS channel power parameter.
<AMPLMODE>	(Optional) The optical amplification control mode. The parameter type is AMPL_MODE, which defines amplifier control mode.
• GAIN	The amplifier always maintain a fixed gain.
• POWER	The amplifier maintains the output power to a fixed value.
<RATIO>	WDM-ANS Raman amplifier pump ratio parameter.
<OSCLOSE>	WDM-ANS OSC channel loss parameter.
<DITHER>	WDM-ANS WXC dithering parameter.
<TOTALPWR>	WDM-ANS Raman amplifier total power in mW.
<TOTALPWRMILLIW>	Optical power setting in mW.
<HIGHSLVEXP>	Span loss verification—high value.
<LOWSLVEXP>	Span loss verification—low value.
<TOTALPWRDBM>	Optical power setting in dBm.
<ENABLELOGO>	Enable logo.

13.88 ED-WDMSIDE

The Edit Wavelength Division Multiplexing Side (ED-WDMSIDE) command modifies the WDM node side attribute.

Usage Guidelines

- If the AID is invalid, an IIAC (Invalid AID) error message is returned.
- The ALL AID is invalid for this command.

Category NCS

Security Maintenance

Input Format ED-WDMSIDE:[<TID>]:<AID>:<CTAG>:::[NEWSIDE=<NEWSIDE>][:];

Input Example ED-WDMSIDE:PENNGROVE:WDMSIDE-A:114:::NEWSIDE=WDMSIDE-B;

Input Parameters	<AID>	The AID is used to access the WDM side of an MSTP node.
	• WDMSIDE-{ A,B,C,D,E,F,G,H}	MSTP side identifier.
	<NEWSIDE>	The AID is used to access the WDM side of an MSTP node.
	• WDMSIDE-{ A,B,C,D,E,F,G,H}	MSTP side identifier.



ENT Commands

This chapter provides enter (ENT) commands for the Cisco NCS 2002 and Cisco NCS 2006.

14.1 ENT-<MOD1PAYLOAD>

The Enter 10GFC, 10GIGE, 40GIGE, 100GIGE, 1GFC, 1GFICON, 2GFC, 4GFC, 2GFICON, 5GIB, 8GFC, CHGRP, D1VIDEO, DV6000, DVBASI, ESCON, ETRCLO, FSTE, GIGE, HDTV, ILK, ISC1, ISCCOMPAT, ISC3PEER2R, ISC3PEER1G, ISC3PEER2G, OTU1, OTU2, OTU3, OTU4, STM-4, STM-64, STM-1, STM-16, STM-256, or T3 (ENT-<MOD1PAYLOAD>) command creates a specified port.

Usage Guidelines

- Supports 3GVIDEO, SDSDI , HSDSI, ISC3STP1G, ISC3STP2G modifiers.
- When 1GFICON and 2GFICON payloads are provisioned, distance extension=B2B is the default and only valid setting. Setting distance extension (using ED-1GFICON or ED-2GFICON) to any other setting will be denied with the error message "Provisioning Rules Failed."
- Support is limited to ports with pluggable port modules (PPMs) and any operating mode.
- When creating an operating mode for payloads, the trunk ports are auto provisioned.
- See [Table 29-1 on page 29-1](#) for supported modifiers by platform.
- NUMOFLANES is the new parameter added for ENT-<MOD1PAYLOAD> command. This parameter is applicable for payload provisioning on CFP-LC card only. The possible values are 1 and 4. Depending on the values mentioned, the card provisions 1 or 4 number of sublanes for CFP ports.
- No payloads can be provisioned in RGN-100G opmode between two 100G-LC-C Cards.

Category

Ports

Security

Provisioning

Input Format

ENT-<MOD1PAYLOAD>[:<TID>]:<AID>:<CTAG>[:::NUMOFLANES=<NUMOFLANES>:];

Input Example

```
ENT-GIGE:TID:FAC-5-1:1;
```

```
ENT-HDSDI:ROCCIANERA:VFAC-1-3-2-1:1;
```

```
ENT-100GIGE::VFAC-5-1-1:1::NUMOFLANES=4;
```

Input Parameters

<AID>	Access identifier from the “27.15 FACILITY” section on page 27-23 . AR-MXP, AR-XP, and AR-XPE cards use the VFAC AID.
<NUMOFLANES>	Identifies the type of pluggable provisioned on the CFP-LC card based on number of lanes provisioned. The value can be 1 or 4.

14.2 ENT-<MOD_RING>

The Enter MS-SPRing (ENT-<MOD_RING>) command creates either a two-fiber or four-fiber multiplex section-shared protection ring (MS-SPRing).

Usage Guidelines

The following actions will return error messages:

- If RINGID is different from the string presented in the AID format, a RingId Does Not Match With AID (IIAC) error message is returned.
- Sending this command to create a MS-SPRing with an out-of-range node ID or ring ID will return an Invalid NodeId (IIAC) or Invalid RingId (IIAC) error message.
- Sending this command to create a four-fiber MS-SPRing on STM-4 cards, or a two-fiber MS-SPRing on STM-1 cards will return an Input, Invalid work/prot port (IIAC) error message.
- Sending this command to create a MS-SPRing on a network element (NE) that already has five MS-SPRings will return an MSSPR Creation Failed (SRQN) error message because only one NE can support up to five MS-SPRings.
- Sending this command to create a MS-SPRing on a port with 1+1 protection will return an SRQN error message.
- If the system fails while accessing the Information Object Repository (IOR), a Get IOR Failed (SROF) error message is returned.
- If the AID is invalid, an Invalid AID (IIAC) error message is returned.
- If any facility requested in this command is in use, a Facility is Busy (SPLD) error message is returned.
- An invalid creation query will return the SRQN error message.
- Sending this command to provision the mode with an invalid MS-SPRing mode will return an Invalid MSSPR Mode (IIDT) error message.
- Sending this command to modify SRVRTV or SRVTM on the two-fiber MS-SPRing will return an Invalid Data for 2F-MSSPR (IDNV) error message.
- Sending this command to provision the node ID with invalid data will return an IIAC error message.
- Sending this command to provision the ring ID with invalid data will return an IIAC error message.
- Sending this command with an invalid working AID will return an Invalid MSSPR Working Facility (IIDT) error message.

- Sending this command with an invalid protection AID will return an Invalid MSSPR Protect Facility (IIDT) error message.
- Changing the MS-SPRing node ID with a duplicated ID will return a Cannot Set NodeId (SROF) error message.

**Note**

Both <EASTPROT> and <WESTPROT> are optional, but required for four-fiber MS-SPRing creation.

**Note**

The ALL AID is invalid for this command.

Category

MS-SPRing

Security

Provisioning

Input Format

ENT-<MOD_RING>:[<TID>]:<AID>:<CTAG>:::[RINGID=<RINGID>],NODEID=<NODEID>,
MODE=<MODE>,[RVRTV=<RVRTV>],[RVTM=<RVTM>],[SRVRTV=<SRVRTV>],
[SRVTM=<SRVTM>],EASTWORK=<EASTWORK>,WESTWORK=<WESTWORK>,
[EASTPROT=<EASTPROT>],[WESTPROT=<WESTPROT>];

Input Example

Four-fiber MS-SPRing:

```
ENT-MSSPR:TID:MSSPR-N02ABC:CTAG::RINGID=N02ABC,NODEID=3,MODE=4F,  
RVRTV=Y,RVTM=5.0,SRVRTV=Y,SRVTM=5.0,EASTWORK=FAC-5-1,WESTWORK=FAC-6-1,  
EASTPROT=FAC-12-1,WESTPROT=FAC-13-1;
```

Two-fiber MS-SPRing:

```
ENT-MSSPR:TID:MSSPR-N04EFG:CTAG::RINGID=N04EFG,NODEID=6,MODE=2F,RVRTV=Y,  
RVTM=5.0,EASTWORK=FAC-5-1,WESTWORK=FAC-6-1;
```

Table 14-1 **Input Parameter Support**

Parameter	Description
<AID>	Access identifier from the “27.3 AidUnionId1” section on page 27-10 . Identifies the MS-SPRing of the NE. ALL or MSSPR-ALL AIDs are not allowed for editing MS-SPRing. This command only supports a single MS-SPRing AID.
<RINGID>	(Optional) The MS-SPRing ID of the NE up to six characters. Valid characters are A-Z and 0-9. RINGID is a string. This parameter defaults to the text in the AID that follows “MSSPR”.
<NODEID>	(Optional) The MS-SPRing node ID of the NE. NODEID ranges from 0 to 31. NODEID is an integer.
<MODE>	(Optional) Mode with which the command is to be implemented. Identifies the MS-SPRing mode. The parameter type is MSSPR_MODE, which is the MS-SPRing mode.
• 2F	Two-fiber MS-SPRing
• 4F	Four-fiber MS-SPRing

Table 14-1 Input Parameter Support

Parameter	Description
<RVRTV>	(Optional) Revertive mode. The value Y indicates that protection switching system reverts service to the original line after restoration. The value N indicates that protection switching system does not revert service to the original line after restoration. RVRTV is applicable only for 1+1 protection switching. Null defaults to N. The parameter type is ON_OFF (disable or enable an attribute).
• N	Does not revert service to original line after restoration.
• Y	Reverts service to original line after restoration.
<RVTM>	(Optional) Revertive time. Defaults to 5.0. The parameter type is REVERTIVE_TIME (revertive time).
• 0.5 to 12.0	Revertive time is 0.5 to 12.0 minutes.
<SRVRTV>	(Optional) The span revertive mode for four-fiber MS-SPRing only. Defaults to Y. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<SRVTM>	(Optional) The span revertive time for four-fiber MS-SPRing only. Defaults to 5.0. The parameter type is REVERTIVE_TIME (revertive time).
• 0.5 to 12.0	Revertive time is 0.5 to 12.0 minutes.
<EASTWORK>	(Optional) East working facility. AID from the “27.15 FACILITY” section on page 27-23 .
<WESTWORK>	(Optional) West working facility. AID from the “27.15 FACILITY” section on page 27-23 .
<EASTPROT>	(Optional) East protecting facility. AID from the “27.15 FACILITY” section on page 27-23 .
<WESTPROT>	(Optional) West protecting facility. AID from the “27.15 FACILITY” section on page 27-23 .

14.3 ENT-ALMTYPE

The Enter Alarm Type (ENT-ALMTYPE) command enters user-defined alarm types on the fly for environmental inputs. In addition to the system-defined alarm types, this command supports up to 50 new user-defined alarm types.

Usage Guidelines

ALMTYPE must not contain blank spaces or special characters other than hyphen (-). The maximum ALMTYPE length allowed is 20 characters.

Entering of duplicate alarm types is not allowed. System-defined alarm types cannot be replicated as user-defined alarm type.

Category

System

Security

Provisioning

Input Format

ENT-ALMTYPE:[<TID>]::<CTAG>::<ALMTYPE>;

Input Example ENT-ALMTYPE:::1::USERDEFINEDALARM;

Input Parameters <ALMTYPE> Specifies user-defined alarm types associated with virtual wires in environmental alarm inputs.

14.4 ENT-AUTO

This command creates an AUTO port.

Usage Guidelines Requires ports with PPMs and any operating mode on that port.
Supports OC3, OC12, OC48, and 1GE line rates based on incoming traffic when auto sense is enabled.
Default line rate is OC48.

Category Ports

Security Provisioning

Input Format ENT-AUTO:[<TID>]:<AID>:<CTAG>;

Input Example ENT-AUTO::VFAC-1-3-2-1:1;

Input Parameters <AID> AR-MXP, AR-XP, and AR-XPE cards use the VFAC AID.

14.5 ENT-AWCFG

The Enter Alien Wavelength Configuration (ENT-AWCFG) creates alien wavelength configuration.

Usage Guidelines None

Category NCS

Security Provisioning

14.6 ENT-BULKROLL-<STM_TYPE>

Input Format ENT-AWCFG:[<TID>]:<SRC>:<CTAG>:::<ALIENID=ALIENID>,[FECMODE=<FECMOD>],[.];

Input Example ENT-AWCFG::PCHAN-1-35-TX:1:::ALIENID=CRS-1 40G-DPSK-ITU-T LC,FECMODE=OFF;

Table 14-2 Parameter Support

Parameter	Description
<AID>	AID from the “27.1 ALL” section on page 27-1.
<ALIENID>	Indicates the operating mode for alien wavelength. ALIENID is a STRING.
<FECMODE>	Specifies the FEC mode for alien wavelength.
• ENH	Enhanced FEC is enabled.
• ENH-I4	Enhanced FEC 1.4 is enabled.
• ENH-I7	Enhanced FEC 1.7 is enabled.
• HG-7	7% High Gain FEC is enabled.
• HG-20	20% High Gain FEC is enabled.
• OFF	FEC is disabled.
• STD	Standard FEC is enabled.

14.6 ENT-BULKROLL-<STM_TYPE>

The Enter Bulkroll for STM-4, STM-64, STM-1, or STM-16 (ENT-BULKROLL-<STM_TYPE>) command enters information about rolling traffic from one endpoint to another without interrupting service. This command supports line-level rolling and bulk rolling and cannot be used for single-path-level rolling. See [Table 29-1 on page 29-1](#) for supported modifiers by platform.

Usage Guidelines None

Category Bridge and Roll

Security Provisioning

Input Format ENT-BULKROLL-<STM_TYPE>:[<TID>]:<FROM>:<CTAG>:::RTOSTART=<RTOSTART>,[RFROMSTART=<RFROMSTART>],[RFROMEND=<RFROMEND>],[RMODE=<RMODE>],[CMDMDE=<CMDMDE>;

Input Example ENT-BULKROLL-STM64:CISCO:FAC-6-1:123:::RTOSTART=VC3-13-1-1-1,RFROMSTART=VC3-6-1-1-1,RFROMEND=VC3-6-1-1-3,RMODE=AUTO,CMDMDE=FRCD;

Table 14-3 **Parameter Support**

Parameter	Description
<FROM>	One of the endpoints. Access identifier from the “27.15 FACILITY” section on page 27-23 for line-level rolling and bulk rolling.
<RTOSTART>	The starting time slot in the destination roll port. For bulk rolling only. The parameter type is PATH, which is the modifier for path commands.
<RFROMSTART>	(Optional) The starting time slot in the source roll port. For bulk rolling only. The AID is from the “27.11 CrossConnectId1” section on page 27-16 (VC or VC11).
<RFROMEND>	(Optional) The ending time slot in the source roll port. For bulk rolling only. The AID is from the “27.11 CrossConnectId1” section on page 27-16 (VC or VC11).
<RMODE>	(Optional) The mode of the rolling operation. The parameter type is RMODE, which is the roll mode.
• AUTO	Automatic. When a valid signal is available, the roll with an AUTO mode will automatically delete the previous endpoint.
• MAN	Manual. Enter the corresponding delete roll/bulkroll command to delete the previous endpoint.
<CMDMDE>	(Optional) Command mode. Normal (NORM) mode is the default behavior for all commands but you can specify forced (FRCD) mode to force the system to override a state where the command would normally be denied. The FRCD mode of operation is applicable to delete a virtual concatenated (VCAT) member cross-connect in Unlocked-Enabled or Locked-Disabled, AutomaticInService service states.
• FRCD	Force the system to override a state in which the command would normally be denied.
• NORM	Execute the command normally. Do not override any conditions that could make the command fail.

14.7 ENT-BULKROLL-<OCN_TYPE>

The Enter Bulk Roll for OC-12, OC-192, OC-3, OC-48, or OC768 (ENT-BULKROLL-<OCN_TYPE>) command enters information about rolling traffic from one end point to another without interrupting service. This command can be used for line-level rolling and bulk rolling and cannot be used for single-path-level rolling.

Usage Guidelines None

Category Bridge and Roll

Security Provisioning

Input Format ENT-BULKROLL-<MOD_PATH>[:<TID>]:<FROM>:<CTAG>:::RTOSTART=<RTOSTART>,
[RFROMSTART=<RFROMSTART>],[RFROMEND=<RFROMEND>],[RMODE=<RMODE>],
[CMDMDE=<CMDMDE>];

Input Example

```
ENT-BULKROLL-OC-48:CISCO:FAC-5-1:123:::RTOSTART=STS-6-1-1,
RFROMSTART=STS-5-1-1,RFROMEND=STS-5-1-4,RMODE=AUTO,CMDMDE=FRCD;
```

Input Parameters

<FROM>	One of the endpoints. Access identifier from the “27.15 FACILITY” section on page 27-23 for line-level rolling and bulk rolling.
<RTOSTART>	The starting time slot in the destination roll port. Access identifier from the “27.15 FACILITY” section on page 27-23 (synchronous transport signal [STS] or Virtual Tributary [VT]). Note For bulk rolling only
<RFROMSTART>	The starting time slot in the source roll port. Access identifier from the “27.15 FACILITY” section on page 27-23 (STS or VT). Defaults to STS-<FROMSLOT>-<FROMPORT>-1, where <FROMSLOT> and <FROMPORT> are the slot and port of the <FROM> AID. Note For bulk rolling only
<RFROMEND>	The ending time slot in the source roll port. Access identifier from the “27.15 FACILITY” section on page 27-23 (STS and VT). Defaults to STS-<FROMSLOT>-<FROMPORT>-N, where <FROMSLOT> and <FROMPORT> are the slot and port of the <FROM> AID and N is the value of OCn (for example, with OC-48, n=48). Note For bulk rolling only
<RMODE>	Indicates the mode of the rolling operation. The parameter type is RMODE (roll mode).
• AUTO	Automatic. When a valid signal is available, the roll with an AUTO mode will automatically delete the previous end-point.
• MAN	Manual. Enter the corresponding delete roll/bulkroll command to delete the previous end-point.
<CMDMDE>	Command execution mode. Defaults to NORM. The parameter type is CMDMDE, which forces the system to execute a given command regardless of any standing conditions. Normal mode is the default behavior for all commands but you can specify FRCD to force the system to override a state where the command would normally be denied.
• FRCD	Force the system to override a state where the command would normally be denied.
• NORM	Execute the command normally. Do not override any conditions that could make the command fail.

14.8 ENT-BWP-ETH

Enter Bandwidth Profile for ethernet (ENT-BWP-ETH) command is used to enter a new Bandwidth Profile entry in BWP DB. The BWP DB is a collection of Bandwidth Profiles used in a Network Element.

Usage Guidelines

Error conditions are:

- If the AID is invalid, an IIAC (Invalid AID) error message is returned
- The “ALL” AID is invalid for this command.
- The BWP having the specified AID should not be present in the node, otherwise the command is denied.

Category

ETHERNET

Security

Provisioning

Input Format

ENT-BWP-ETH:[<TID>]:<AID>:<CTAG>:::[NAME=<NAME>],[CIR=<CIR>],[CBS=<CBS>],[PBS=<PBS>],[PIR=<PIR>],[CFMSTATE=<CFM_STATE>][:];

Input Example

ENT-BWP-ETH:ROCKS:BWP-10000:1:::NAME="MyBWP",CIR=10,CBS=1M,PBS=1M,PIR=20,CFMSTATE=Y;

Input Parameters

Table 14-4 Parameter Support

Parameter	Description
<AID>	This AID is used to access BWP.
• BWP-ALL	All aid for BWP.
• BWP-{1-10000}	Single AID for BWP. The valid identifiers ranges from 1 to 10000.
<NAME>	The BWP name. BWP name is a String.
<CIR>	Ingress committed information rate. This is a value between 0.0 and 100.0. Default value is 100.0.
<CBS>	Ingress committed burst bucket size.
• 4K	4 Kbit bucket size
• 8K	16 Kbit bucket size
• 16K	32 Kbit bucket size
• 32K	64 Kbit bucket size
• 64K	128 Kbit bucket size
• 128K	256 Kbit bucket size
• 256K	512 Kbit bucket size
• 512K	1 Mbit bucket size
• 1M	2 Mbit bucket size
• 2M	4 Mbit bucket size

Table 14-4 Parameter Support

Parameter	Description
• 4M	8 Mbit bucket size
• 8M	16 Mbit bucket size
• 16M	16 Kbit bucket size
<PBS>	Ingress peak burst bucket size
• 4K	4 Kbit bucket size
• 8K	8 Kbit bucket size
• 16K	16 Kbit bucket size
• 32K	32 Kbit bucket size
• 64K	64 Kbit bucket size
• 128K	128 Kbit bucket size
• 256K	256 Kbit bucket size
• 512K	512 Kbit bucket size
• 1M	1 Mbit bucket size
• 2M	2 Mbit bucket size
• 4M	4 Mbit bucket size
• 8M	8 Mbit bucket size
• 16M	16 Mbit bucket size
<PIR>	Peak information rate. This is a value between 0.0 and 100.0. Default value is 100.0.
<CFMSTATE>	Link Integrity status
• Y	Enabled
• N	Disabled

14.9 ENT-CPS

The Enter Control Plane Service (CPS) command creates a control plane service. Specify the source port, destination ports, and the IP address of the destination node.

Usage Guidelines

- If the AID is invalid, an IIAC (invalid AID) error message is returned. The following AIDs are supported:
 - CLIENT cps type support FAC and VFAC AID type.
 - TRUNK cps type support CHAN AID type.
 - ADD cps type support CHAN, PCHAN, and LINEWL AID type.
- The ALL AID is invalid for this command
- No check is performed on destination AIDs. The check is made during the CPS activation by OPR-CPS.

- In case of 1WAY, unidirectional connection, SRC and DST are single AIDs. In case of 2WAY, bidirectional connection, SRC and DST are double AIDs. However, in case of CLIENT or TRUNK cpstype, src and dst are single AID and the connection is of type 2WAY because of bidirectional ports hence this rule is not applicable.
- If the RESTTYPE is REVERT, it is required to set the REVERTMODE and SOAK parameters.
- If the RESTTYPE is REVERT, it is mandatory to set the REVERTMODE parameter as MANUAL or AUTO.
- SOAK time is mandatory if the REVERTMODE parameter is set to MANUAL or AUTO.

Category

NCS

Security

Provisioning

Input Format

ENT-CPS[:<TID>]:<SRC>:<CTAG>::<DSTADDR>,<DST>,[<WCT>],<CPSTYPE>[:<CKTID=<CKTID>],[<VALMODE=<VALMODE>],[<VALZONE=<VALZONE>],[<VALMODESEC=<VALMODESEC>],[<VALZONESEC=<VALZONESEC>],[<RESTTYPE=<RESTTYPE>],[<REVERTMODE=<REVERTMODE>],[<SOAK=<HH-MM-SS>],[<CKTLABEL=<CKTLABEL>],[<FREQ=<FREQ>],[<WIDTH=<WIDTH>],[<CKTPRIORITY=<CKTPRIORITY>],[<ALLOWRGN=<ALLOWRGN>],[<PATHPOLICY=<PATHPOLICY>],[<DSPWROFS=<DSPWROFS>],[<USPWROFS=<USPWROFS>[:];

Input Example

ENT-CPS::CHAN-1-15-10-RX&CHAN-1-14-10-TX:8::10.20.30.40,CHAN-10-1-10-TX&CHAN-10-1-10-RX,2WAY,ADD::;

ENT-CPS::FAC-1-5-1:888::10.58.40.33,FAC-1-2-1-1,2WAY,CLIENT:CKTID=OCHCC_Rock,VALMODE=FULL,VALZONE=RED::;

Input Parameters

<SRC>	Source access identifier from the “27.1 ALL” section on page 27-1. Listable.
<DSTADDR>	Identifies the destination node IP address.
<DST>	Destination AID from the “27.1 ALL” section on page 27-1.
<WCT>	Identifies the wavelength connection type.
• 1WAY	A unidirectional connection from a source to a destination port. Default is 1WAY
• 2WAY	A bidirectional connection between the two ports.
<CPSTYPE>	Identifies the type of CPS.
• CLIENT	CPS End Point are client ports
• TRUNK	CPS End Point are trunk ports
• ADD	CPS Source End Point is an ADD port
• DROP	Not applicable
• TNA	Not applicable

<CKTID>	(Optional) Circuit identification parameter contains the Common Language Circuit ID or other alias of the circuit being provisioned. Does not contain blank spaces. CKTID is a string of ASCII characters. The maximum length of CKTID can be 48.
<VALMODE>	Identifies the validation mode.
• NONE	No Optical validation is performed
• FULL	The optical validation is performed as indicated in VALZONE parameter
<VALZONE>	Identifies the validation operate zone.
• UNKNOWN	Not evaluated
• GREEN	Margin > 3 sigma
• YELLOW	1 < margin < 3 sigma
• ORANGE	0 < margin < 1 sigma
• RED	-3 < margin < 0 sigma
• OUT	Margin < -3 sigma
<VALMODESEC>	Identifies the validation mode for secondary circuit
<VALZONESEC>	Identifies the validation operate zone for secondary circuit
<RESTTYPE>	Specifies the restoration type on CPS circuit or UNI configuration. Parameter type is RESTTYPE.
• NONE	Restore type is not specified.
• RESTORE	Only restoration is allowed. The circuit is not revertible.
• REVERT	The circuit is revertible, manually or automatically.
<REVERTMODE>	Specifies the revertive mode type. Parameter type is REVERTMODE.
• AUTO	Circuit is automatically revertible after the soak time expires.
• MANUAL	Manually revert the circuit.
• NONE	Not revertible.
<SOAK>	This is the soak time specified in HH-MM-SS format. After the soak time expires, if the revertive mode is AUTO, the circuit reverts automatically. If revertive mode is MANUAL, the soak time is ignored.
<CKTLABEL>	Circuit label.
<FREQ>	Optical wavelength
<WIDTH>	Width
<CKTPRIORITY>	Circuit priority
<ALLOWRGN>	Allow RGN. It can be ON/OFF.
<PATHPOLICY>	Path selection policy.
• ANY	No path selection policy selected.
• LOGO	Path selection policy restricted to LOGO domain.
<DSPWROFS>	Down stream power offset.
<USPWROFS>	Up stream power offset.

14.10 ENT-CRS-<PATH>

The Enter VC Cross-Connection for VC3, VC44C, VC38C, VC464C, VC48C, VC4, VC416C, VC42C, VC43C, or VC12 (ENT-CRS-<PATH>) command creates an VC cross-connection with a cross-connection type (CCT). See [Table 29-1 on page 29-1](#) for supported modifiers by platform.

Usage Guidelines

- When a SNCP cross-connection is created, the path presented by the first AID is configured to be the preferred path. For example, the AID (F1) of the cross-connection (created by ENT-CRS-VC3::F1&F2,T1:123;) is the preferred path.
- The default cross-connection type is two-way.
- If a path is already in a connection, it cannot be in another connection even if the existing connection is a one-way connection and the new one will be one-way in the other direction.
- This command does not support creating multiple VC cross-connects.
- The subnetwork connection protection (SNCP) cross VC connection can be created by using “&” in the AID fields of this command.
 - Use the following command to create a one-way selector or two-way selector and bridge with:
 from points: F1, F2
 to points: T1
 ENT-CRS-{VC_PATH}:{<TID>}:F1&F2,T1:<CTAG>::[<CCT>];
 - Use the following command to create a one-way bridge or two-way selector and bridge with:
 from point: F1
 to points: T1, T2
 ENT-CRS-{VC_PATH}:{<TID>}:F1,T1&T2:<CTAG>::[<CCT>];
 - Use the following command to create a one-way subtending SNCP connection or two-way subtending SNCP connection with:
 from point: F1, F2
 to points: T1, T2
 ENT-CRS-{VC_PATH}:{<TID>}:F1&F2,T1&T2:<CTAG>::[<CCT>];
 - The following command is used to create a two-way selector and bridge with:
 from point: F1,F2 (F1 is the working side, F2 is the protect side)
 selector points: S1, S2 (S1 is the working side, S2 is the protect side)
 ENT-CRS-{VC_PATH}:{<TID>}:F1&F2,S1&S2:<CTAG>::2WAY;
 - The following command is used to create a SNCP integrated dual-ring interconnect (IDRI) cross-connect:
 ENT-CRS-{VC_PATH}:{<TID>}:A&B,C&D:<CTAG>::2WAYDC;
 A: Path on Ring X to which traffic from Ring Y is bridged
 B: Path on Ring X to which traffic from the same ring is bridged
 C: Path on Ring Y to which traffic from Ring X is bridged
 D: Path on Ring Y to which traffic from the same ring is bridged

A, B, C, and D have a positional meaning. Connection type 2WAYDC is used for SNCP IDRI cross-connects.

- The following command is used to create a SNCP dual-ring interconnect (DRI) cross-connect:

```
ENT-CRS-{ VC_PATH }:[<TID>]:A&B,C:<CTAG>::2WAYDC;
```

A: Path on Ring X to which traffic from Ring Y is bridged

B: Path on Ring X to which traffic from the same ring is bridged

C: Traffic to and from Ring Y

A, B, C, and D have a positional meaning. Connection type 2WAYDC is used for SNCP DRI cross-connects.

- All A&B AIDs in the TL1 cross-connection command are in the WorkingAID&ProtectAID format.
- To establish a cross-connection on a two-fiber protection path or a four-fiber protection channel, the protection channel access (PCA) connection type (1WAYPCA or 2WAYPCA) is required.
- If you send a PCA cross-connect type on the non-PCA AIDs, the IIAC error message is returned.
- If you send a non-PCA cross-connect type on the PCA AIDs, the IIAC error message is returned.
- The facility AID is only valid on slots with a G1K-4 card installed.
- The virtual facility AID (VFAC) is only valid on slots holding an ML-Series card.
- Both DRITYPE and DRINODE have been optional fields since Release 5.0 to support the MSSPR-DRI feature. DRITYPE is applied only if the CCT is drop-and-continue (1WAYDC or 2WAYDC), and defaults to SNCP for the DRI. DRINODE must be specified only if at least one end of the connection is on the MS-SPRing, and defaults to NA.
- CKTID is a string of ASCII characters. The maximum length of CKTID is 48. If the CKTID is EMPTY or NULL, the field will not appear.
- VC38c cross-connects are only supported on the FC_MR-4 card and optical cards.
- The DS3i-N-12 card will only allow the creation of VC4 cross-connects. The starting point of the cross-connect can only be VC numbers 1, 4, 7, and 10. This cross-connect will span over three ports of the DS3i-N-12 card.

Category Cross Connections

Security Provisioning

Input Format ENT-CRS-<PATH>:[<TID>]:<SRC>,<DST>:<CTAG>::<CCT>:[DRITYPE=<DRITYPE>],
[DRINODE=<DRINODE>],[CKTID=<CKTID>],[CMDMDE=<CMDMDE>]:<PST>[,<SST>];

Input Example ENT-CRS-VC4:BODEGA:VC4-5-1-1&VC4-6-1-1,VC4-12-1-1&VC4-13-1-1:116::1WAYDC:
DRITYPE=MSSPR,DRINODE=PRI,CKTID=CKTID,CMDMDE=FRCD:UNLOCKED,
AUTOMATICINSERVICE;

Table 14-5 Parameter Support

Parameter	Description
<SRC>	Source access identifier from the “27.1 ALL” section on page 27-1. SRC is listable.
<DST>	Destination AID from the “27.1 ALL” section on page 27-1.
<CCT>	Type of connection. Used for specifying one or two-way connections. Default is 2WAY. The parameter type is CCT, which is the type of cross-connect that will be created.
• 1WAY	A unidirectional connection from a source tributary to a destination tributary
• 1WAYDC	SNCP multicast drop with one-way continue
• 1WAYEN	SNCP multicast end node with one-way continue
• 1WAYMON	A bidirectional connection between the two tributaries Note 1WAYMON is not supported with TL1. However, it is still supported from Cisco Transport Controller (CTC). Using CTC, you can create 1WAYMON cross-connects that can be retrieved through TL1.
• 1WAYPCA	A unidirectional connection from a source tributary to a destination tributary on the protection path/fiber.
• 2WAY	A bidirectional connection between the two tributaries
• 2WAYDC	A bidirectional drop-and-continue connection applicable only to SNCP traditional and integrated DRIs
• 2WAYPCA	A bidirectional connection between the two tributaries on the extra protection path/fiber.
• DIAG	Diagnostic cross-connect. Supports BERT (MS-SPRing PCA diagnostic cross-connect)
<DRITYPE>	(Optional) Dual ring interconnect type. Defaults to SNCP. The parameter type is DRITYPE (DRI type).
• MSSPR	MSSPRing DRI type
• SNCP	SNCP DRI type
• SNCP-MSSPR	SNCP-MSSPRing handoff DRI type
<DRINODE>	(Optional) Dual ring interconnect node. Defaults to NA. The parameter type is DRINODE (DRI node).
• INT	Intermediate DRI node
• NA	The node is not a DRI node.
• PRI	Primary DRI node
• SEC	Secondary DRI node
<CKTID>	(Optional) Cross-connect ID. Defaults to blank or none. CKTID is a string.
<CMDMDE>	(Optional) Command mode. Normal (NORM) mode is the default behavior for all commands but you can specify forced (FRCD) mode to force the system to override a state where the command would normally be denied. The FRCD mode of operation is applicable to delete a virtual concatenated (VCAT) member cross-connect in Unlocked-Enabled or Locked-Disabled, AutomaticInService service states.
• FRCD	Force the system to override a state where the command would normally be denied.
• NORM	Execute the command normally. Do not override any conditions that could make the command fail.
<PST>	(Optional) Primary state. The parameter type is PST, which indicates the current overall service condition of an entity.

• -NA	The node is not a DRI node.
• -PRI	Primary DRI node
• SEC	Secondary DRI node
<CKTID>	(Optional) Cross-connect ID. Defaults to blank or none. CKTID is a string.
<CMDMDE>	(Optional) Command mode. Normal (NORM) mode is the default behavior for all commands but you can specify forced (FRCD) mode to force the system to override a state where the command would normally be denied. The FRCD mode of operation is applicable to delete a virtual concatenated (VCAT) member cross-connect in Unlocked-Enabled or Locked-Disabled, AutomaticInService service states.
• FRCD	Force the system to override a state where the command would normally be denied.
• NORM	Execute the command normally. Do not override any conditions that could make the command fail.
<PST>	(Optional) Primary state. The parameter type is PST, which indicates the current overall service condition of an entity.

14.11 ENT-CRS-ETH

Enter Cross-Connect Ethernet (ENT-CRS-ETH) command allocates an Ethernet Connection. The user needs to specify two or more ethernet connection end points inside ethernet facilities in order to allocate the connection inside the node. According to the specified ethernet facilities, the connection allocated can be a pass-through, add or drop or multi-drop.

Usage Guidelines

The ethernet connection end point identifier must be the same for all the ethernet ports inside the connection and must be kept the same for all the ethernet circuit.

The client and trunk facilities involved in cross-connection is set in UNI and NNI network mode respectively.

The ethernet connection can be allocated in 2WAY (bidirectional) mode.

AID rule to be used for different cases:

- only one source AID can be specified
- one or more destination (drops) AID can be specified
- In both cases the AID specifies a valid ethernet facility and a connection end point identifier within the valid range.
- CKTID is a string of ASCII characters. The maximum length of CKTID can be 48. If the CKTID is EMPTY or NULL this field is not displayed.

Category

NCS

Security

Provisioning

Input Format

ENT-CRS-ETH:[<TID>]:<SRC>,<DST>:<CTAG>::[<ECT>]:[CKTID=<CKTID>][:];

Input Example

ENT-CRS-ETH:VA454-22:ETH-1-3-1-1-13,ETH-1-3-21-1-13:116::2WAY:CKTID=ETHCIRCUIT;;

Input Parameters

Table 14-6 Parameter Support

Parameter	Description
<SRC>	Ethernet connection identifier AID used to access L2 ethernet connection end point.
• ALL	The ALL aid is applicable for RTRV-only commands, basically the RTRV-rr type of commands.
• ETHID[-{1-12}]-{1-5,12-16}-{1-22}-1-{1-20}	Ethernet connection end point aid for GE-XP card.
• ETHID[-{1-12}]-{1-6,12-17}-{1-4}-1-{1-20}	Facility aid for 10GE-XP card.
<DST>	Ethernet connection identifier AIDs used to access L2 ethernet connection end point.
• ALL	The ALL aid is applicable for RTRV-only commands, basically the RTRV-rr type of commands.
• ETHID[-{1-12}]-{1-5,12-16}-{1-22}-1-{1-20}	Ethernet connection end point aid for GE-XP card.

Table 14-6 **Parameter Support**

Parameter	Description
ETHID[-{1-12}]-{1-6,12-17}-{1-4}-1-{1-20}	Facility aid for 10GE-XP card.
<ECT>	Defines the type of cross-connect to be created. It is a subset of the CCT. Default value is - 2way default for cross-connection creation.
2WAY	A bidirectional connection between the two tributaries.
<CKTID>	(optional) Circuit identification parameter contains the Common Language Circuit ID or other alias of the circuit being provisioned. CKTID is a string of ASCII characters. The maximum length of CKTID can be 48. cktid is a String. Default value is - "NULL"

14.12 ENT-EQPT

The Enter Equipment (ENT-EQPT) command enters the card type and attributes for a given equipment slot in the NE. It also automatically enters all facilities supported by the card and assigns default values to all facility and path attributes. The ENT-EQPT command is also used to preprovision an NE configured in multishelf mode. This command can also be used to create PPM.

Usage Guidelines

The command supports the following optional parameters for configuring the card in an equipment protection group: RVTM (revertive time), RVRTV (revertive behavior), PROTID (unique protection ID), and PRTYPE (protection type). PRTYPE can be 1:1 or 1:N. These parameters can only be entered for a working AID. The protect card must be provisioned before creating the protection group.

This command creates a 1:1 protection group. If the command has the optional parameters for creating a protection group and the protection group cannot be created due to an error condition, provisioning of the equipment fails. The value of PROTID is the protecting slot and has the "slot-x" format. The PROTID slot must be provisioned first.

1:1 protection involves the odd slot protecting the even slot. The work-protect pair is 2-1, 4-3, 6-5, 16-17, 14-15, 12-13. The E1, E2, E3, DS3i-N-12, and other electrical cards support 1:1 protection. To create 1:1 protection using the ENT-EQPT command, the working card should not be provisioned first.

This command creates a 1:N protection group or adds a new card to an existing 1:N protection group. Multiple working AIDs can be entered in a protection group. 1:N protection is always revertive. For 1:N protection, the protect slot can only be Slot 3 or Slot 15. For a protect card in Slot 3, the working cards can be in any of the slots on Bank A. Slot 15 is for protection in Bank B. A 1:1 protection cannot be upgraded to 1:N protection.

If the provisioning fails for some AIDs, PRTL responses will indicate failed AIDs. If the provisioning fails for all the AIDs, a DENY response occurs. CMPLD and PRTL responses for protection group queries indicate that the protection group has been successfully created for the AID(s) query.

The protect AID must be provisioned for either commands because protection group parameters are not supported for the protect AID.

The ENT-EQPT command provisions a card successfully in the empty slot if the equipment type is compatible with the slot number. This command can have the optional parameters in the “f” block to provision a card as a working card. It has the effect of adding the protection behavior at the time of provisioning itself. For the protection provisioning to succeed, the protect card should have already been provisioned. Trying to execute ENT-EQPT to provision a protection group on an already provisioned card will result in an error.

**Note**

The STM64/STM64-XFP card must be installed in High Speed Slots (Slots 5 to 6 or Slots 12 to 13) and requires an XC-VXC-10G cross connect card.

Error conditions for creating 1:1 or 1:N protection groups are:

- AID sent to a nonworking slot; the working cards must be in even slots for 1:1 protection and working cards must be in the same bank for 1:N protection and not in Slot 3 or Slot 15.
- An invalid AID chosen for the protection slot.
- The working AID is already in protection group.
- The AID is a protect AID.
- The protect card has a circuit.
- The equipment type does not match with the allowed AID.
- The slot is already provisioned.
- The protecting slot is not provisioned.
- Multiple working AIDs for 1:1 protection.

CMDMDE provisioning behaves as follows:

- If the command mode (CMDMDE) is set to NORM during the creation of a 1:1 or 1:N protection group, all cards must be physically plugged in and in the service state (IS). If the cards are not physically plugged in and are not in ready state, the command is denied with an appropriate error message. CMDMDE=FRCD will override the default behavior and allow creation of protection group regardless of the physical presence and ready state of cards.
- If the command mode is set to NORM during the removal of a card in a 1:1 or 1:N protection group, there must be no cross-connects (for example, services) present on the card. CMDMDE=FRCD will override the default behavior and allow deletion of protection group regardless of presence of cross-connects on the card.

Category

Equipment

Security

Provisioning

Input Format

```
ENT-EQPT:[<TID>]:<AID>:<CTAG>::<AIDTYPE>:[PROTID=<PROTID>],[PRTYPE=<PRTYPE>],
[RVRTV=<RVRTV>],[RVTM=<RVTM>],[CARDMODE=<CARDMODE>],[PEERID=<PROTID>],[
REGENNAME=<REGENNAME>],[CMDMDE=<CMDMDE>],[TRANSMODE=<TRANSMODE>],[
RETIME=<RETIME>],[SHELFROLE=<SHELFROLE>],[FRPROLE=<FRPROLE>],[FRPSTATE=<F
RPSTATE>],[FRPHOLDOFFTIME=<FRPHOLDOFFTIME>],[CFMSTATE=<CFMSTATE>],[CCTIM
```

```
ER=<CCTIMER>],[SWITCHWITHCRCALARM=<SWITCHWITHCRCALARM>],[CRCTHR=<CRCTHR>],[CRCPOLLINTRVL=<CRCPOLLINTRVL>],[CRCISOAKCNT=<CRCISOAKCNT>],[USB=<USB>][:];
```

Input Example

```
ENT-EQPT::SLOT-15:a::GE-XP:CARDMODE=GEXP-L2ETH,SWITCHWITHCRCALARM=Y;
```

```
ENT-EQPT::SLOT-15:a::GE-XP:CARDMODE=GEXP-L2ETH,CRCPOLLINTRVL=4;
```

```
ENT-EQPT:ROCCIANERA:SLOT-4-1:1::AR-XP;
```

Input Parameters**Table 14-7** *Parameter Support*

Parameter	Description
<AID>	Access identifier from the “ 27.13 EQPT ” section on page 27-21.
<AIDTYPE>	(Optional) The type of facility, link or other addressable entity targeted by the message. The parameter type is EQUIPMENT_TYPE (equipment type). The equipment type options are 40E-MXP-C and 40E-TXP-C.
• 100G-LC-C	100G-LC-C card
• 100G-CK-C	100G-CK-C card
• 10X10G-LC	10X10G-LC card
• CFP-LC	CFP-LC card
• AR-MXP	Any rate muxponder
• AR-XP	Any rate xponder
• AR-XPE	Any rate enhanced xponder.
• 16-WXC-FS	16-WXC-FS card.
• 15216-MD-40-EVEN	Thermal Multiplex/Demultiplex Passive Unit, spaced at 50 GHz on even grid
• 15216-MD-40-ODD	Thermal Multiplex/Demultiplex Passive Unit, spaced at 50 GHz on odd grid
• 15216-MD-ID-50	Thermal Interleaver Passive Unit, spaced at 50 GHz grid
• 15216-FLD4-30-3	Edge 4-Ch Bi-Directional OADM Module 1530.33 to 1532.68.
• 15216-FLD4-33-4	Edge 4-Ch Bi-Directional OADM Module 1533.47 to 1535.82.
• 15216-FLD4-36-6	Edge 4-Ch Bi-Directional OADM Module 1536.61 to 1538.98.
• 15216-FLD4-39-7	Edge 4-Ch Bi-Directional OADM Module 1539.77 to 1542.14.
• 15216-FLD4-42-9	Edge 4-Ch Bi-Directional OADM Module 1542.94 to 1545.32.
• 15216-FLD4-46-1	Edge 4-Ch Bi-Directional OADM Module 1546.12 to 1548.51.
• 15216-FLD4-49-3	Edge 4-Ch Bi-Directional OADM Module 1549.32 to 1551.72.
• 15216-FLD4-52-5	Edge 4-Ch Bi-Directional OADM Module 1552.52 to 1554.94.
• 15216-FLD4-55-7	Edge 4-Ch Bi-Directional OADM Module 1555.75 to 1558.17.
• 15216-FLD4-58-9	Edge 4-Ch Bi-Directional OADM Module 1558.98 to 1561.42.

Table 14-7 **Parameter Support**

Parameter	Description
• 32DMX-L	3- channel demultiplexer for L-band
• 32WSS-L	32-channel wavelength switch selector for L-band
• 40-MXP-C	40 Gbit/Sec Multirate Muxponder
• 40-SMR1-C	The single module 40-channel ROADM on C-band
• 40-SMR2-C	The single module 40-channel ROADM with EDFA on C-band
• 40-TXP-C	40 Gigabits per second Multirate Transponder
• 80-WXC-C	80-channel wavelength cross-connect spaced at 100 GHz grid
• AD-1B	OADM 1-Band Filter
• AD-1C	OADM 1-Channel Filter
• AD-2C	OADM 2-Channel Filter
• AD-4B	OADM 4-Band Filter
• AD-4C	OADM 4-Channel Filter
• AICI	AIC-I card
• AIP	Alarm Indication Panel
• ALM-PWR	Alarm Power
• ASAP-4	ASAP carrier card with four PIM slots
• BP	The backplane of the NE
• CE-100T-8	8-port 100T card
• CE-1000-4	4-port GIGE mapper card
• CRFT-TMG	Craft Timing
• DCC	Data Communications Channel
• DCU	Dispersion Compensation Unit
• DMX-32	Optical DMX 32 Channels
• DS3i-N-12	DS3i-N-12 card
• E1	E1 card
• E1-42	42-port E1 card
• E1000T-2	2-port interface card supporting 1000BaseT Ethernet facilities
• E100T-12	12-port interface card supporting 100BaseT Ethernet facilities
• E100T-4	Four-port interface card supporting 100BaseT Ethernet facilities
• E1N	E1N card
• E3	E3 card
• EDRA-1-26	EDRA-1-26 amplifier
• EDRA-1-35	EDRA-1-35 amplifier
• EDRA-2-26	EDRA-2-26 amplifier
• EDRA-2-35	EDRA-2-35 amplifier
• FBGDCU-1157	

Table 14-7 Parameter Support

Parameter	Description
• FBGDCU-1322	
• FBGDCU-165	
• FBGDCU-1653	
• FBGDCU-1983	
• FBGDCU-331	
• FBGDCU-496	
• FBGDCU-661	
• FBGDCU-826	
• FBGDCU-992	
• FILLER_CARD	Filler card
• FMEC-155E-1TO1	The equipment type for FMEC STM1E12 card
• FMEC-155E-1TO3	The equipment type for FMEC STM1E12 card with 1:3 protection
• FMEC-155E-UNPROT	The equipment type for FMEC STM1E12 card without protection
• FMEC-SMZ-E1	FMEC card corresponding to E1 card
• FMEC-SMZ-E3	FMEC card corresponding to E3 card
• FTA	Fan Tray of the NE
• FTA1	Fan Tray 1 of the NE
• FTA2	Fan Tray 2 of the NE
• G1K-4	G1K-4 card
• MD-4	Optical Multiplexer/Demultiplexer with 4 Channels
• MD-48-CM	
• MD-48-EVEN	
• MD-48-ODD	
• MESH-PP-SMR	The passive unit Patch Panel device used to connect upto four 40-SMR2-C cards
• MF-16AD-CFS	16-channels - 1 direction, colorless, omnidirectional add/drop unit.
• MF-4x4-COFS	4-channels, 4-directions, colorless, omnidirectional add/drop unit.
• MF-AST-EDFA	MF-AST-EDFA unit
• MF-DEG-5	5-degrees mesh patch panel
• MF-MPO-8LC	MPO to 8-LC adapter
• MF-UPG-4	4-degrees upgrade module
• ML100X-8	8-port 100X card with optical interface
• ML-100T-8	8-port 100T card with optical interface
• MMU	Multiring mesh upgrade unit
• MS-ISC-100T	Fast Ethernet switch card used for internal shelf connection
• MUX-32	Optical MUX 32 Channels
• MXP-2.5G-10G	10G (4 * 2.5G) Muxponder card

Table 14-7 **Parameter Support**

Parameter	Description
• MXP-MR-10DME	10 Gbps datamux with enhanced FEC
• OPT-AMP-L	Optical preamplifier for L-band
• OPT-BST	Optical booster amplifier
• OPT-BST-L	Optical booster for L-band
• OPT-EDFA-17	MAL-less EDFA Optical Amplifier - C-band - 17dB Gain
• OPT-EDFA-24	MAL-less EDFA Optical Amplifier - C-band - 24dB Gain
• OPT-PRE	Optical Preamplifier
• OPT-RAMP-C	Raman pump amplifier C-band
• OPT-RAMP-CE	An extended version of Raman pump amplifier
• OPT-RAMP-COP	Raman COP card.
• OPT-RAMP-CTP	Raman CTP card.
• OPT-RAMP-E	Raman pump amplifier E-band
• OSC-CSM	Optical Service Channel with Combiner/Separator Module
• OSCM	Optical Service Channel Module
• OTU2-XP	A 4x10G transponder that is capable to operate with multiple bit rates - 10G FC, 10GE, and OC192/STM64
• PIM-4	Pluggable interface module with 4 PPM slots
• PP-4-SMR	Patch-Panel, 4 degrees, for SMR cards
• PP-MESH-4	Patch-Panel, 4 degrees
• PP-MESH-8	Patch-Panel, 8 degrees
• PPM-1	Pluggable port module with 1-port SFP module
• PSM	Protection Service Module card
• PTF-4	Fabric card.
• PTM-4	Line card.
• PTSA	CPT 50 panel.
• PTSYS- Fan-Out-Group	PTSYS Fan-Out-Group.
• SHELF	Shelf entity
• STM4	An interface card that supports one or more STM4 (622 Mbps) optical facilities
• STM4-4	A four port STM4 card
• STM4-IR-1	An interface card that supports one intermediate range STM4 (622 Mbps) optical facilities
• STM4-LR-1	An interface card that supports one long range STM4 (622 Mbps) optical facilities
• STM4-SR-1	An interface card that supports one short range STM4 (622 Mbps) optical facilities
• STM64-4	A four port STM64 card
• STM64-LR-1	An interface card that supports one or more STM64 optical facilities

Table 14-7 Parameter Support

Parameter	Description
• STM1	An interface card that supports multiple STM1 (155 Mbps) optical facilities
• STM1-IR-4	An interface card that supports four intermediate range STM1 (155 Mbps) optical facilities
• STM1-SR-4	An interface card that supports four short range STM1 (155 Mbps) optical facilities
• STM1ATM-IR-6	An interface card that supports six intermediate range STM1 (155 Mbps) ATM optical fibers
• STM1IR-STM1SH-1310-8	An STM1 card which has 8 ports over the lower speed slot with XC-VXL-10G/XC-VXL-2.5G
• STM1POS-SR-4	An interface card that supports four short range STM1 (155 Mbps) POS optical facilities
• STM16	An interface card that supports one or more STM16 (10 Gbps) optical facilities
• STM16-AS-1	An interface card that supports one short range OC-48 (10 Gbps) optical facilities that can be provisioned in any I/O slot
• STM16-ELR-1	An interface card that supports one short range STM16 (2.5 Gbps) optical facility
• STM16-IR-1	An interface card that supports one intermediate range STM16 (10 Gbps) optical facility
• STM16-LR-1	An interface card that supports one long range STM16 (10 Gbps) optical facility
• STM16-SR-1	An interface card that supports one short range STM16 (10 Gbps) optical facilities
• TCC	Timing, Communications, and Control card
• TDC-CC	Coarse tunable dispersion compensation unit
• TDC-FC	Fine tunable dispersion compensation unit
• TXP-MR-10G	10G Multirate Transponder card
• TXP-MR-2.5G	Multirate 2.5G Unprotected
• TXPP-MR-2.5G	Multirate 2.5G Protected
• UNKNOWN	Unknown equipment type
• UNPROVISIONED	Unprovisioned equipment type
• WSE	Wire Speed Encryption (WSE) card
• XC-VXC-10G	XC-VXC-10G cross-connect card
• XCVXL-10G	XC-VXL-10G cross-connect card
• XCVXL-2.5G	XC-VXL-2.5G cross-connect card
<PROTID>	Identifies valid protection slots for the electrical cards.
• NULL	Indicates there is no protection group. Used when trying to delete a protection group.
• SLOT-1	The No.1 slot of an NE.
• SLOT-2	The No.2 slot of an NE
• SLOT-3	The No.3 slot of an NE.
• SLOT-5	The No.5 slot of an NE.

Table 14-7 **Parameter Support**

Parameter	Description
• Slot-6	The No.6 slot of an NE.
• SLOT-13	The No.13 slot of an NE.
• SLOT-15	The No.15 slot of an NE.
• SLOT-17	The No.17 slot of an NE.
<PRTYPE>	Identifies the protection group type values.
• 1-1	1 to 1 protection
• 1-N	1 to N protection
<RVRTV>	(Optional) Revertive mode. The value Y indicates that protection switching system reverts service to the original line after restoration. The value N indicates that protection switching system does not revert service to the original line after restoration. RVRTV is applicable only for 1+1 protection switching. Null defaults to N. Only applies to SNCP. The parameter type is ON_OFF, which disables or enables an attribute.
• N	Does not revert service to original line after restoration.
• Y	Reverts service to original line after restoration.
<RVTM>	(Optional) Revertive time. RVTM is not allowed to be set while RVRTV is N. Only applies to SNCP. The parameter type is REVERTIVE_TIME (revertive time).
• 0.5 to 12.0	Revertive time is 0.5 to 12.0 minutes.
<CMDMDE>	The parameter type is command mode (CMDMDE). Normal (NORM) mode is the default behavior for all commands but you can specify forced (FRCD) mode to force the system to override a state where the command would normally be denied. The FRCD mode of operation is applicable to delete a virtual concatenated (VCAT) member cross-connect in IS-NR or OOS-AU,AINS service states.
<FRCD>	Force the system to override a state where the command would normally be denied.
• NORM	Execute the command normally. Do not override any conditions that might make the command fail.
<RETIME>	(Optional) Indicates the RETIME function for all the facilities on this card. Applies only to the DS1/E1-56 card. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<PEERID>	Indicates the peer trunk facility of the regeneration group on the OTU2-XP card. Accessed using the CHAN AID.
<REGENNAME>	Indicates the name of a regeneration group. Applicable only to NCS flavored cards, which support regeneration group. Regenname is a string. The default value is "NULL".
<TRANSMODE>	Transition Mode.
• AU3	Au3 mode.

Table 14-7 **Parameter Support**

Parameter	Description
• AU4	Au4 mode.
• SONET	Sonnet mode.
<SHELFROLE>	The role of the shelf in the context of the node. When it is omitted it defaults to SC. The parameter is SHELF_ROLE.
<FRPHOLDOFFTIME>	Indicates the hold off timer value. The protection do not start until the hold off expire.
• 100-MSEC	Indicates the hold off timer value as 100 milliseconds.
• 1-MSEC	Indicates the hold off timer value as 1milisecond.
• 200-MSEC	Indicates the hold off timer value as 200 milliseconds.
• 2-MSEC	Indicates the hold off timer value as 2 milliseconds.
• 500-MSEC	Indicates the hold off timer value as 500 milliseconds.
• 50-MSEC	Indicates the hold off timer value as 50 milliseconds.
• 5-MSEC	Indicates the hold off timer value as 50 milliseconds.
• DISABLED	Indicates that the hold off timer is disabled.
<FRPROLE>	Indicates the fast ring protection enable mode for GE-XP/10GE-XP units involved in a protection scheme.
• MASTER	Role is of card master of the ring.
• SLAVE	Role is of card slave of the ring.
<FRPSTATE>	Indicates the fast ring protection enable state.
• DISABLED	Disabled protection
• ENABLED	Enabled protection
• FORCED	Forced protection
<CFMSTATE>	Link Integrity status.
• Y	Enabled
• N	Disabled
<CCTIMER>	Indicates continuity check message timer.
• ONE-MIN	1 minute.
• ONE-SEC	1 second.
• TEN-SEC	10 seconds.
<PROTOPMODE>	PROTOPMODE
<SWITCHWITHCRCALARM>	Switch the GZ card with CRC Alarms
<CRCTHR>	CRC threshold values beyond which alarms are raised. The available threshold values are 10E-2, 10E-3, and 10E-4.
<CRCPOLLINTRVL>	Interval of time after which the polling starts.
<CRCISOAKCNT>	Number of poll cycles during which defect is integrated. The value ranges from 3 to 10.
<USB>	Identifies the USB Port where a passive unit is connected.

14.13 ENT-FFP-<MOD2NCSPAYLOAD>

The Enter Facility Protection Group for 10GFC, 10GIGE, 40GIGE, 100GIGE, 1GFC, 1GFICON, 2GFC, 4GFC, 2GFICON, 8GFC, D1VIDEO, DV6000, DVBASI, ETRCLO, FSTE, GIGE, HDTV, ISC1, ISC3, ISC3STP1G, ISC3STP2G, OCH, OTU1, OTU2, OTU3, OTU4, or PASSTHRU (ENT-FFP-<MOD2NCSPAYLOAD>) command creates Y-cable protection on client facilities.

Usage Guidelines

- Y-cable with bidirectional protection is applicable only for ISC3STP1G and ISC3STP2G payloads on the AR-MXP, AR-XP, and AR-XPE cards.
- Y-cable with unidirectional protection is applicable only for payloads other than ISC3STP1G and ISC3STP2G on the AR-MXP, AR-XP, and AR-XPE cards.
- In CFP-TXP and CFP-MXP operating modes, Y-cable is provisioned on the CHAN AID of the CFP-LC card and not on the 100G-LC-C virtual ports.
- Y-cable protection is supported on the following operational modes for 10x10G-LC, 100G-LC-C, and CFP-LC cards:
 - MXP-10x10G (using 10x10G-LC and 100G-LC-C cards) operational mode with client payloads as 10GIGE and 8GFC only.
 - TXP-10G (using 10x10G-LC card) operational mode with client payloads as 10GIGE and 8GFC only.
 - CFP-MXP (using CFP-LC and 100G-LC-C cards) operational mode with client payload as 40GIGE.
 - CFP-TXP (using CFP-LC and 100G-LC-C cards) operational mode with client payload as 100GIGE.
- The command does not support 3GVIDEO, SDSDI, HDSDI, and AUTO payloads on AR-MXP, AR-XP, and AR-XPE cards.

Category

NCS

Security

Provisioning

Input Format

```
ENT-FFP-<MOD2NCSPAYLOAD>:[<TID>]:<SRC>,<DST>:<CTAG>:::[PROTOTYPE=<PROTOTYPE>],[PROTID=<PROTID>],[RVRTV=<RVRTV>],[RVTM=<RVTM>],[PSDIRN=<PSDIRN>][:];
```

Input Example

```
ENT-FFP-HDTV:CISCO:FAC-1-1-1,FAC-2-1-1:100:::PROTOTYPE=Y-CABLE,PROTID=DC-METRO-1,RVRTV=Y,RVTM=1.0,PSDIRN=BI;
```

Table 14-8 **Input Parameter Support**

Parameter	Description
<SRC>	Source access identifier from the “ 27.15 FACILITY ” section on page 27-23 . The working facility uses VFAC AID.
<DST>	Destination access identifier from the “ 27.15 FACILITY ” section on page 27-23 . The protecting facility uses VFAC AID.
<PROTTYPE>	(Optional) The type of facility protection. The parameter type is PROTOTYPE, which is the protection type for NCS client facilities.
Y-CABLE	Y-cable protection for the client ports on TXP_MR_10G, MXP_2.5G_10G, TXP_MR_2.5G, TXPP_MR_2.5G, AR_MXP, and AR_XP cards.
SPLITTER	Splitter Protection is applicable only on OTU2-XP card.
ONEPLUSONEL2	1 + 1 L2 Protection for the client ports on 10GE XP and GE XP
<PROTID>	(Optional) Protection group identifier. Defaults to the protecting port AID of the protection group. The identifier is a string that can have a maximum length of 32 characters.
<RVRTV>	(Optional) Revertive mode. The value Y indicates that protection switching system reverts service to the original line after restoration. The value N indicates that protection switching system does not revert service to the original line after restoration. RVRTV is applicable only for 1+1 protection switching. Null defaults to N. The parameter type is ON_OFF (disable or enable an attribute).
N	Does not revert service to original line after restoration.
Y	Reverts service to original line after restoration.
<RVTM>	(Optional) Revertive time. Defaults to 5.0 minutes. The parameter type is REVERTIVE_TIME (revertive time).
0.5 to 12.0	Revertive time is 0.5 to 12.0 minutes.
<PSDIRN>	(Optional) Protection switch operation. Identifies the switching mode. Defaults to UNI. The parameter type is UNI_BI, which is unidirectional and bidirectional switch operations.
	Note TXP_MR_10G and MXP_2.5G_10G cards do not support bidirectional switching.
BI	Bidirectional protection switching
UNI	Unidirectional protection switching

14.14 ENT-FFP-<STM_TYPE>

The Enter Facility Protection Group for STM-1, STM-4, STM-16, or STM-64 (ENT-FFP-<STM_TYPE>) command creates optical 1+1 protection. See [Table 29-1 on page 29-1](#) for supported modifiers by platform.

Usage Guidelines

- The protect AID must not be provisioned with traffic.
- The work AID can be provisioned with traffic.
- PROTID is a string and can have a maximum length of 32 characters.
- 1+1 protection group rules for the MRC-12 card:
 - A 1+1 protection group can only be created between two MRC-12 cards. You cannot create a 1+1 protection group between an MRC-12 card and any other card.
 - A 1+1 protection group can be created only using the same port number. For example, a protection group cannot be created between Port-1 of Slot-5 and Port-4 of Slot-12. It can only be created, for example, between Port-1 of Slot-5 and Port-1 of Slot-12 (assuming Slot-5 and Slot-12 both contain MRC-12 cards).
 - A 1+1 protection group cannot be created between ports on the same card. For example, a protection group cannot be created between Port-1 of Slot-5 and Port-4 of Slot-5 (assuming Slot-5 contains a MRC-12 card).
 - Both the cards in the protection group must be placed in the same type of slot. Both MRC-12 cards must be in drop slots (1 to 4 and 14 to 17) or both cards must be in trunk slots (5 to 6 and 12 to 13). You cannot create a protection group between an MRC-12 card in a drop slot and another MRC-12 card in a trunk slot.
- 1+1 protection group rules for the STM64-XFP cards:
 - 1+1 protection groups can be created between two STM64-XFP cards in trunk slots (5 to 6 and 12 to 13).
 - 1+1 protection groups can be created between an STM64-XFP card and an STM64LR/STM64LH card if both cards are in trunk slots (5 to 6 and 12 to 13).
- The PROTYPE parameter is only applicable for optical NCS cards.

Category

Protection

Security

Provisioning

Input Format

ENT-FFP-<STM_TYPE>[:<TID>]:<WORK>,<PROTECT>:<CTAG>:::[PROTOTYPE=<PROTOTYPE>],
 [PROTID=<PROTID>],[RVRTV=<RVRTV>],[RVTM=<RVTM>],[PSDIRN=<PSDIRN>],
 [OPOTYPE=<OPOTYPE>],[:];

Input Example

ENT-FFP-STM1:PETALUMA:FAC-2-1,FAC-1-1:1:::PROTOTYPE=Y-CABLE,
 PROTID=PROT_NAME,RVRTV=Y,RVTM=1.0,PSDIRN=BI,OPOTYPE=STANDARD;

Table 14-9 Parameter Support

Parameter	Description
<WORK>	Working port from the “27.15 FACILITY” section on page 27-23.
<PROTECT>	Protection port from the “27.15 FACILITY” section on page 27-23.

Table 14-9 **Parameter Support**

Parameter	Description
<PROTOTYPE>	(Optional) Protection type for NCS client facilities. The parameter type is PROTOTYPE.
Y-CABLE	Y-Cable Protection for the client ports on MXP_2.5G_10G, TXP_MR_10G, TXP_MR_2.5G, and TXPP_MR_2.5G cards.
SPLITTER	Splitter Protection for the trunk ports on the TXPP_MR_2.5G and MXPP_MR_2.5G protected cards.
<PROTID>	(Optional) Protection group identifier. Defaults to the protecting port AID of the protection group. If the name has an embedded double quote character, that double quote character has to be escaped with a backslash \". The double quotes are special characters that delimit the protection group name and they must be balanced (paired). PROTID is a string that has a maximum length of 32 characters.
<RVRTV>	(Optional) Revertive mode. The value Y indicates that protection switching system reverts service to the original line after restoration. The value N indicates that protection switching system does not revert service to the original line after restoration. RVRTV is applicable only for 1+1 protection switching. Null defaults to N. The parameter type is ON_OFF (disable or enable an attribute).
N	Does not revert service to original line after restoration.
Y	Reverts service to original line after restoration.
<RVTM>	(Optional) Revertive time. Defaults to 5.0 minutes. The parameter type is REVERTIVE_TIME (revertive time).
0.5 to 12.0	Revertive time is 0.5 to 12.0 minutes.
<PSDIRN>	(Optional) Protection switch operation. Identifies the switch mode. The parameter type is TRANS_MODE, which is the G1000 transponder mode.
BI	Bidirectional
NONE	Not in transponder mode
UNI	Unidirectional
<OPOTYPE>	(Optional) 1+1 protection type. Can be either standard or optimized 1+1. The parameter type is ONE_PLUS_ONE, which is the 1+1 protection type.
OPTIMIZED	Optimized 1+1 Note The port must be in NCS mode.
STANDARD	Standard 1+1
3.0	3 seconds

14.15 ENT-FFP-<OCN_TYPE>

The Enter Facility Protection Group for OC-3, OC-12, OC-48, OC-192, or OC768 (ENT-FFP-<OCN_TYPE>) command creates optical 1+1 protection.

Usage Guidelines

See [Table 29-1 on page 29-1](#) for supported modifiers by platform.



Note

- The protect AID must not be provisioned with traffic.
- The working AID can be provisioned with traffic.
- PROTID is a string and can have a maximum length of 32 characters.
- Optimized 1+1 protection and related attributes are applicabl.
- The following parameters are supported: OPOTYPE, VRGRDTM, DTGRDTM, and RCGRDTM.
- The following 1+1 protection group rules apply to the MRC-12 card:
 - A 1+1 protection group can only be created between MRC-12 cards. You cannot create a 1+1 protection group between an MRC-12 card and an OC-48 card, for example.
 - A 1+1 protection group can be created only using the same port number. For example, a protection group cannot be created between Port 1 of Slot 5 and Port 4 of Slot 12 (assuming that Slot 5 and Slot 12 both contain MRC-12 cards).
 - A 1+1 protection group cannot be created between ports on the same card. For example, protection groups cannot be created between Port 1 of Slot 5 and Port 4 of Slot 5 (assuming that Slot 5 contains a MRC-12 card).
 - Both the cards in the protection group must be placed in the same type of slot. Both MRC-12 cards must be in drop slots (Slots 1 to 4, 14 to 17) or both cards must be in trunk slots (Slots 5 to 6, 12 to 13). You cannot create a protection group between an MRC-12 card in a drop slot and another MRC-12 card in a trunk slot.
- The following 1+1 protection group rules apply to the OC192-XFP cards:
 - A 1+1 protection group can be created between two OC192-XFP cards in trunk slots (Slots 5 to 6, 12 to 13).
 - A 1+1 protection group can be created between an OC192-XFP card and an OC192LR/STM64LH card in trunk slots (Slots 5 to 6, 12 to 13).
- The PROTOTYPE parameter is only applicable to optical DWDM cards.

Category

Protection

Security

Provisioning

Input Format

```
ENT-FFP-<OCN_TYPE>:[<TID>]:<WORK>,
<PROTECT>:<CTAG>:::[PROTOTYPE=<PROTOTYPE>],[PROTID=<PROTID>],
[RVRTV=<RVRTV>],[RVTM=<RVTM>],[PSDIRN=<PSDIRN>],[OPOTYPE=<OPOTYPE>],
[VRGRDTM=<VRGRDTM>],[DTGRDTM=<DTGRDTM>],[RCGRDTM=<RCGRDTM>][:];
```

Input Example

```
ENT-FFP-OC-3:PETALUMA:OC3-3-1-1,OC3-3-2-1:1:::PROTOTYPE=Y-CABLE,
PROTID=PROT_NAME,RVRTV=Y,RVTM=1.0,PSDIRN=BI,OPOTYPE=STANDARD,
VRGRDTM=0.5,DTGRDTM=1.0,RCGRDTM=1.0;
```

Input Parameters

<PROTID>	Protection group identifier. Defaults to the protect port AID of the protection group. If the name has an embedded double quote character, that double quote character has to be escaped with a backslash \". The double quotes are special characters that delimit the protection group name and they must be balanced (paired). PROTID is a string that has a maximum length of 32 characters.
<RVRTV>	Revertive mode. The value Y indicates that protection switching system reverts service to the original line after restoration. The value N indicates that protection switching system does not revert service to the original line after restoration. RVRTV is applicable only for 1+1 protection switching. Null defaults to N. The parameter type is ON_OFF (disable or enable an attribute).
• N	Does not revert service to original line after restoration.
• Y	Reverts service to original line after restoration.
<RVTM>	Revertive time. Defaults to 5.0 minutes. The parameter type is REVERTIVE_TIME (revertive time).
• 0.5 to 12.0	Revertive time is 0.5 to 12.0 minutes.
<PSDIRN>	Protection switch operation. Identifies the switch mode. The parameter type is UNI_BI (unidirectional and bidirectional switch operations)
• BI	Bidirectional protection switching
• UNI	Unidirectional protection switching
<OPOTYPE>	1+1 protection type. Can be either standard or optimized 1+1 protection. The parameter type is ONE_PLUS_ONE (1+1 protection type).
• Optimized	Optimized 1+1.
• Standard	Standard 1+1
<VRGRDTM>	Verification guard timer. Only applicable to optimized 1+1. The parameter type is VERIFICATION_GUARD_TIMER (optimized 1+1 verification guard timer).
• 0.5	500 ms
• 1.0	1 second
<DTGRDTM>	Detection guard timer. Only applicable to optimized 1+1. The parameter type is DETECTION_GUARD_TIMER (optimized 1+1 detection guard timer).
• 0.0	0 seconds

• 0.05	50 ms
• 0.1	100 ms
• 0.5	500 ms
• 1.0	1 second
• 2.0	2 second
• 3.0	3 seconds
• 4.0	4 seconds
• 5.0	5 seconds
<RCGRDTM>	Recovery guard timer. Only applicable to optimized 1+1. The parameter type is RECOVERY_GUARD_TIMER (optimized 1+1 detection guard timer).
• 0.0	0 seconds
• 0.05	50 ms
• 0.1	100 ms
• 0.5	500 ms
• 1.0	1 second
• 2.0	2 second
• 3.0	3 seconds
• 4.0	4 seconds
• 5.0	5 seconds
• 6.0	6 seconds
• 7.0	7 seconds
• 8.0	8 seconds
• 9.0	9 seconds
• 10.0	10 seconds

14.16 ENT-FOG

The Enter Fan-Out-Group (ENT-FOG) command creates the Fan-Out-Group.

Usage Guidelines

- This command is used to provision the CPT 50 panel and applied on the carrier packet transport (CPT) system.
- The FOG can be created on a PTSYS AID.
- A 10 GIGE interface provisioned on the CPT 50 panel must be attached when you create the FOG.
- Interfaces that are valid for a particular FOG can be attached.
- Interface attached to one of the FOG cannot be attached to any other FOG.

Category

Equipment

Security

Provisioning

Input Format

ENT-FOG[:<TID>]:<AID>:<CTAG>:::FOGID=<FOGID>,ATTACH=<ATTACH>,QUEUEMODE=<QUEUEMODE>,[PBNAME=<PBNAME>];

Input Examples

ENT-FOG::PTSYS-1:1:::FOGID=37,ATTACH=FAC-3-2-1;

Input Parameters

<AID>	AID of the PTSYS on which the FOG is being created. Access identifier from the “27.13 EQPT” section on page 27-21.
<FOGID>	This is the FOGID. FOG AID is created using the FOGID. The valid range is from 36 to 55.
<ATTACH>	AID of the fabric and line card ports used as the Fan-out members. This is the AID of the interface to be attached to the FOG.
<QUEUEMODE> >	QUEUEMODE
• NOPRI	NOPRI
• STRICT	STRICT
<PBNAME>	PBNAME

14.17 ENT-FTPSEVER

The Enter FTP Server (ENT-FTPSEVER) command creates FTP server entries.

Usage Guidelines

The default value of the TIMER, 0 denotes infinite timeout. The TIMER cannot be set with ENABLE=N.

Category

ENE

Security

Superuser

Input Format

ENT-FTPSEVER[:<TID>]:<CTAG>:::IPADDR=<IPADDR>,IPMASK=<IPMASK>,ENABLE=<ENABLE>,[TIMER=<TIMER>];

Input Examples

1. ENT-FTPSEVER::A:::IPADDR=10.20.30.40,IPMASK=255.0.0.0,ENABLE=Y,TIMER=30;
2. ENT-FTPSEVER:TID::CTAG:::IPADDR="[3ffe:0501:0008:0000:0260:97ff:fe40:efab/64]",ENABLE=Y,TIMER=45;

Table 14-10 Parameter Support

Parameter	Description
<IPADDR>	Specifies the IP address of the FTP Server.
<IPMASK>	Specifies the subnet mask of the FTP Server.
<ENABLE>	Specifies the enable/disable option of the FTP Server. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<TIMER>	(Optional) Specifies the timeout value of the FTP Server in minutes. Timer is an integer that can be set between 0-60 <minutes>.

14.18 ENT-LMP-CTRL

The Enter Link Management Protocol Control Channel (ENT-LMP-CTRL) command creates an LMP control channel.

Usage Guidelines	This command is only available on nodes where LMP is available, and where the LMP protocol has been enabled.
Category	LMP
Security	Provisioning
Input Format	ENT-LMP-CTRL:[<TID>]:<SRC>:<CTAG>:::[LOCALPORT=<LOCALPORT>], [REMOTENE=<REMOTENE>],REMOTEIP=<REMOTEIP>,[HELLO=<HELLO>], [HELLOMIN=<HELLOMIN>],[HELLOMAX=<HELLOMAX>],[DEAD=<DEAD>], [DEADMIN=<DEADMIN>],[DEADMAX=<DEADMAX>]:[<PST>][,<SST>];
Input Example	ENT-LMP-CTRL:PETALUMA:CTRL-123:704:::LOCALPORT=FAC-1-1-1, REMOTENE=15.15.15.115,REMOTEIP=126.0.0.1,HELLO=500, HELLOMIN=300,HELLOMAX=5000,DEAD=12000,DEADMIN=2000, DEADMAX=20000:OOS,DSBLD;

Table 14-11 Parameter Support

Parameter	Description
<SRC>	The LMP control channel AID values
• CTRL-ALL	Specifies all the control channels.

Table 14-11 **Parameter Support**

Parameter	Description
• CTRL-{1-4}	Specifies an individual control channel.
<LOCALPORT>	(Optional) LOCALPORT is the pathway that the LMP control channel will use to send and receive messages.
<REMOTENE>	(Optional) Remote IP address used by the far-end LMP control channel.
<REMOTEIP>	Remote IP address with which the LMP control channel sends and receives messages.
<HELLO>	(Optional) The time interval in which the LMP protocol sends HELLO messages
<HELLOMIN>	(Optional) Minimum hello time the LMP control channels can send out HELLO messages to the remote node
<HELLOMAX>	(Optional) The maximum amount of time the LMP control channel can wait between HELLO messages
<DEAD>	(Optional) Time interval an LMP control channel will wait for a HELLO message from the remote side before listing the control channel as down
<DEADMIN>	(Optional) The minimum amount of time that an LMP control channel can wait before listing the control channel status as down
<DEADMAX>	(Optional) The maximum amount of time that the LMP control channel can wait before listing the control channel as down
<PST>	(Optional) Primary state of the entity. The parameter type is PST, which indicates the current overall service condition of an entity.
• Unlocked	In Service
• Locked	Out of Service
<SST>	(Optional) Secondary state of the entity. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AutomaticInService	Automatic in service
• Disabled	Disabled
• Loopback	Loopback
• MismatchofEquipmentAlarm	Mismatch of equipment and attributes
• Maintenance	Maintenance mode
• OutOfGroup	Out of group
• SoftwareDownload	Software downloading
• Unassigned	Unassigned
• NotInstalled	Unequipped

14.19 ENT-LMP-DLINK

The Enter Link Management Protocol Data Link (ENT-LMP-DLINK) command creates an LMP data link.

Usage Guidelines

This command is only applicable on a node that supports LMP and which has the LMP enabled.

Category

LMP

Security

Provisioning

Input Format

ENT-LMP-DLINK:[<TID>]:<SRC>:<CTAG>:::[LINKTYPE=<LINKTYPE>],TELINK=<TELINK>,REMOTEID=<REMOTEID>;

Input Example

ENT-LMP-DLINK:PETALUMA:FAC-14-1-1:704:::LINKTYPE=PORT,TELINK=TLNK-45,REMOTEID=646631;

Table 14-12 *Parameter Support*

Parameter	Description
<SRC>	Access identifier from the “27.15 FACILITY” section on page 27-23.
<LINKTYPE>	(Optional) The type of LMP data link
• PORT	Port data link
• COMPONENT	Component data link
<TELINK>	Maps LMP data links to LMP TE links
<REMOTEID>	The remote LMP data link ID

14.20 ENT-LMP-TLINK

The Enter Link Management Protocol Traffic Engineering Link (ENT-LMP-TLINK) command creates an LMP Traffic Engineering (TE) link.

Usage Guidelines

This command can only be used on nodes where LMP is available and enabled.

Category

LMP

Security

Provisioning

Input Format

ENT-LMP-TLINK:[<TID>]:<SRC>:<CTAG>:::REMOTEID=<REMOTE_ID>,
 REMOTETE=<REMOTETE>, [MUXCAP=<MUXCAP>]:[<PST>[,<SST>]];

Input Example

ENT-LMP-TLINK:PETALUMA:TLINK-123:704:::REMOTEID=15.15.15.115,REMOTETE=123,MU
 XCAP=LAMBDA:OOS,DSBLD;

Table 14-13 Parameter Support

Parameter	Description
<SRC>	LMP TE link AID values
• TLINK-ALL	Specifies all the TE links.
• TLINK-{1-256}	Specifies an individual TE link.
<REMOTEID>	Remote node ID associated with the LMP TE link
<REMOTETE>	Remote ID used by the far-end LMP TE Link
<MUXCAP>	The muxponder capability of the LMP TE link
• PKTSWITCH1	Packet Switching 1
• PKTSWITCH2	Packet Switching 2
• PKTSWITCH3	Packet Switching 3
• PKTSWITCH4	Packet Switching 4
• LAYER2	Layer 2 switching
• TDM	Time-division multiplexing (TDM) switching
• LAMBDA	Lambda switching
• FIBER	Fiber switching
<PST>	(Optional) Primary state of the entity. The parameter type is PST, which indicates the current overall service condition of an entity.
• Unlocked	In Service
• Locked	Out of Service
<SST>	(Optional) Secondary state of the entity. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AutomaticInService	Automatic in service
• Disabled	Disabled
• Loopback	Loopback
• MismatchofEquipmentAlarm	Mismatch of equipment and attributes
• Maintenance	Maintenance mode
• OutOfGroup	Out of group

• Locked	Out of Service
<SST>	(Optional) Secondary state of the entity. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AutomaticInService	Automatic in service
• Disabled	Disabled
• Loopback	Loopback
• MismatchofEquipmentAla	Mismatch of equipment and attributes
rm	
• Maintenance	Maintenance mode
• OutOfGroup	Out of group

14.21 ENT-LNK

The Enter Optical Link (ENT-LNK) command creates an optical link between two optical connection points.

The optical links can be established between:

- Two optical transport sections (OTs)
- Two optical multiplexing sections (OMSs) with the same band
- Two optical channels (OCHs) with the same wavelength

Usage Guidelines

The created optical link must be between points belonging to the same ring direction. An optical link between two OMSs or between two OCHs can be HITLESS if the connection is between two points from one drop point to a consecutive add point in the logical link. When this command is used to create an optical link between two OCH ports, where the first port belongs to an OCH filter and the second port is an OCH trunk, the second port should be tuned to the same wavelength of the OCH filter if it has not been set yet.

Category

NCS

Security

Provisioning

Input Format

ENT-LNK:[<TID>]:<FROM>,<TO>:<CTAG>:::[<PST>[,<SST>]];

Input Example

```

ENT-LNK:PENNGROVE:CHAN-6-2,CHAN-13-1-RX:114:::OOS,AINS;
ENT-LNK:PENNGROVE:CHAN-6-3-1,CHAN-13-1-RX:114:::OOS,AINS;
ENT-LNK:PENNGROVE:CHAN-6-19-1,CHAN-13-1-RX:114:::OOS,AINS;
ENT-LNK:PENNGROVE:BAND-6-1-TX,BAND-13-1-RX:114:::OOS,AINS;
ENT-LNK:PENNGROVE:LINE-6-1-TX,LINE-13-1-RX:114:::OOS,AINS;

```

Table 14-14 Input Parameter Support

Parameter	Description
<FROM>	Identifier at one end of the optical link from the “27.7 CHANNEL” section on page 27-12, “27.4 BAND” section on page 27-10, or “27.18 LINE” section on page 27-26.
<TO>	Identifier at the other end of the optical link from the “27.7 CHANNEL” section on page 27-12, “27.4 BAND” section on page 27-10, or “27.18 LINE” section on page 27-26.
<PST>	(Optional) Primary state of the entity. The parameter type is PST, which indicates the current overall service condition of an entity.
• Unlocked	In Service
• Locked	Out of Service
<SST>	(Optional) Secondary state of the entity. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AutomaticInService	Automatic in service
• Disabled	Disabled
• Loopback	Loopback
• MismatchofEquipmentAlarm	Mismatch of equipment and attributes
• Maintenance	Maintenance mode
• OutOfGroup	Out of group
• SoftwareDownload	Software downloading
• Unassigned	Unassigned
• NotInstalled	Unequipped

14.22 ENT-LNKTERM

The Enter Provisionable Patchcord Termination (ENT-LINKTERM) command creates a provisionable patchcord (PP) termination (virtual link) on a physical interface. A user-provisioned link is needed when the control channel (DCC) is transparently carried over several physical links, where the physical link cannot be automatically discovered by Open Shortest Path First (OSPF) due to lack of control-channel termination or non-support of NCS by the link.

Usage Guidelines

The Provisioning Rules Failed (SROF) error message is returned when the provisioning rules are not satisfied. The following rules must be satisfied while creating a provisionable patchcord termination on a physical interface:

- For an NCS port:
 - It must have RS-DCC/MS-DCC terminations provisioned. If it is the protect facility in a 1+1 protection group, the corresponding working facility must have RS-DCC/MS-DCC terminations provisioned.
 - If it is part of a MS-SPRing, the RS-DCC/MS-DCC must be provisioned on all of the working ports of the MS-SPRing.
- For a TXP/MXP trunk port, either ITU-T G.709 must be enabled or the payload type must be non-SONET/NCS.
- For a TXP/MXP client port, a card must be operating in the transparent termination mode.
- For a NCS OCH port:
 - If the STM interface is part of a 1+1 protection group, a separate PP termination can be provisioned on the other (working/protect) interface also.
 - If the client interface is part of a Y-cable protection group, a separate PP termination can be provisioned on the other (working/protect) interface also.
 - If the MXP/TXP trunk interface is part of a splitter protection group, a separate PP termination can be provisioned on the other (working/protect) interface also.
 - If REMOTENODE is specified as an IP address (or a node name that can be resolved by the gateway network element [GNE]) that is different from the local node's IP address/name, this termination is intended to be a part of an internode provisionable patchcord.
 - All endpoints of the provisionable patchcord need to be provisioned correctly (on the local and/or remote node) for it to show as UP in OSPF.
 - Misconfigured or partially configured provisionable patchcords will not cause alarms/events to be generated at either end of the link.
 - No two provisionable patchcord terminations on a node can be configured to have the same remote node PP termination information (for example, the combination of values for the REMOTENODE and REMOTELNKTERMAID attributes for a PP termination must be unique on a single node).
 - All provisionable patchcord terminations on one physical interface must have their remote terminations on a single remote node.
 - The command does not accept multiple and ALL style AIDs.
- (R9.6.0) The number of PP terminations and the identifier range is limited to 146.
- (R9.6.0.3) The number of PP terminations is limited to 146.

Category

Provisionable Patchcords

Security

Provisioning

Input Format ENT-LNKTERM:[<TID>]:<AID>:<CTAG>:::PORT=<PORT>,
[REMOTENODE=<REMOTENODE>],REMOTELNKTERMID=<REMOTELNKTERMID>;

Input Example ENT-LNKTERM::LNKTERM-1:CTAG:::PORT=FAC-5-1,REMOTENODE=172.20.208.225,
REMOTELNKTERMID=20;

Table 14-15 Input Parameter Support

Parameter	Description
<AID>	Access identifier from the “ 27.20 LNKTERM ” section on page 27-31 . Indicates a link (provisionable patchcord) termination on the local node. For R9.6.0, the integer value can be within the range of 1 to 146. For R9.6.0.3, the integer value can be within the range of 1 to 65535.
<PORT>	The local port corresponding to this provisionable patchcord termination from the “ 27.7 CHANNEL ” section on page 27-12 .
<REMOTENODE>	(Optional) The node where the other end of the provisionable patchcord resides. This can be an IP address or a valid TID. Defaults to the IP address of the local node/existing value. REMOTENODE is a string.
<REMOTELNKTERMID>	The corresponding provisionable patchcord termination on the remote node (as specified by the REMOTENODE parameter). For R9.6.0, the integer value can be within the range of 1 to 146. For R9.6.0.3, the integer value can be within the range of 1 to 65535. Defaults to existing value.

14.23 ENT-MA-CFM

The Enter Maintenance Association Connectivity Fault Management (ENT-MA-CFM) command adds the maintenance association on the card.

- Usage Guidelines**
- This command is applicable only to GE_XP and 10GE_XP cards.
 - The card should be in Layer2 over DMDM mode.
 - The ALL AID is invalid for this command.

Category Equipment

Security Provision

Input Format ENT-MA-CFM:[<TID>]:<AID>:<CTAG>::MANAME=<MANAME>,SVLANID=<SVLANID>,[<CCENABLE=CCENABLE>];

Input Example ENT-MA-CFM:454-156:SLOT-1:1::MANAME=MANAME,SVLANID=4,CCENABLE=Y;

Table 14-16 ED-MA-CFM Command - Parameter Support

Input Parameters	Description
<AID>	Access identifier from the “27.13 EQPT” section on page 27-21 .
<MANAME>	Maintenance Association Name. It is a string. The MA name length should not exceed more than 43 characters.
<SVLANID>	VLAN identifier. A VLAN ID is a number between 1 and 4096. The value 0 is reserved for untagged VLANs. This identifier is used for customer VLAN IDs and service provider VLAN IDs.
<CCENABLE>	Enable or disable Continuous Check messaging
• Y	Enable
• N	Disable

14.24 ENT-MD-CFM

The Enter Maintenance Domain Connectivity Fault Management (ENT-MD-CFM) command adds the maintenance domain on the card.

- Usage Guidelines**
- The “ALL” AID is invalid for this command.
 - This command is applicable only to GE_XP and 10GE_XP cards.
 - The card should be in Layer2 over DMDM mode.

Category Equipment

Security Provisioning

Input Format ENT-MD-CFM:[<TID>]:<AID>:<CTAG>::MDNAME=<MANAME>,LEVEL=<LEVEL>;

Input Example ENT-MD-CFM:454-156:SLOT-1:1::MDNAME=MDNAME,LEVEL=5;

Input Parameters

<AID>	Access identifier from the “27.13 EQPT” section on page 27-21 .
<MDNAME>	Maintenance Domain Name. It is a string. The MD name length should not exceed more than 43 characters.
<LEVEL>	This indicates the level of the maintenance domain. The value ranges from 0 to 7.

14.25 ENT-MDMAMAP-CFM

The Enter Maintenance Domain and Maintenance Association mapping Connectivity Fault Management (ENT-MDMAMAP-CFM) command creates the maintenance domain and maintenance association mapping.

Usage Guidelines

- This command is applicable only to GE_XP and 10GE_XP cards.
- The card should be in Layer2 over DMDM mode.

Category

Equipment

Security

Configuration

Input Format

ENT-MDMAMAP-CFM:[<TID>]:<AID>:<CTAG>::MDNAME=<MANAME>,SVLANID=<SVLAN ID>,MANAME=<MANAME>;

Input Example

ENT-MDMAMAP-CFM::SLOT-17:1::MDNAME=CISCO,SVLANID=6,MANAME=MA_1;

Input Parameters

<AID>	Access identifier from the “27.13 EQPT” section on page 27-21 .
<MDNAME>	Maintenance Domain Name. It is a string. The MD name length should not exceed more than 43 characters.
<MANAME>	Maintenance Association Name. It is a string. The MA name length should not exceed more than 43 characters.
<SVLANID>	VLAN identifier. A VLAN ID is a number between 1 and 4096. The value 0 is reserved for untagged VLANs. This identifier is used for customer VLAN IDs and service provider VLAN IDs.

14.26 ENT-MEP-CFM

The Enter Maintenance End Point Connectivity Fault Management (ENT-MEP-CFM) command creates the maintenance end points on the port.

Usage Guidelines

- This command is applicable only to GE_XP and 10GE_XP cards.
- The card should be in Layer2 over DMDM mode.

Category

Ports

Security

Provisioning

Input Format

ENT-MEP-CFM:[<TID>]:<AID>:<CTAG>::SVLANID=<SVLANID>,MDNAME=<MDNAME>,MPID=<MPID>;

Input Example

ENT-MEP-CFM::ETH-12-3-1:1::SVLANID=100,MDNAME=MD2,MPID=20;

Input Parameters

<AID>	Access identifier from the “27.14 ETH” section on page 27-23 .
<SVLANID>	VLAN identifier. A VLAN ID is a number between 1 and 4096. The value 0 is reserved for untagged VLANs. This identifier is used for customer VLAN IDs and service provider VLAN IDs.
<MDNAME>	Maintenance Domain Name. It is a string. The MD name length should not exceed more than 43 characters.
<MPID>	Maintenance Point Identifier. It is an integer.
<LEVEL>	This indicates the level of the maintenance domain. The value ranges from 0 to 7.

14.27 ENT-MIP-CFM

The Enter Maintenance Intermediate Point Connectivity Fault Management (ENT-MIP-CFM) command creates the maintenance intermediate points on the port.

Usage Guidelines

- This command is applicable only to GE_XP and 10GE_XP cards.
- The card should be in Layer2 over DMDM mode.

Category

Ports

Security

Provisioning

Input Format

ENT-MIP-CFM:[<TID>]:<AID>:<CTAG>::VLANID=<VLANID>,LEVEL=<LEVEL>;

Input Example ENT-MIP-CFM::ETH-1-1-1:1::VLANID=2,LEVEL=5;

Input Parameters

<AID>	Access identifier from the “27.14 ETH” section on page 27-23 .
<VLANID>	VLAN identifier. A VLAN ID is a number between 1 and 4096. The value 0 is reserved for untagged VLANs. This identifier is used for customer VLAN IDs and service provider VLAN IDs.
<LEVEL>	This indicates the level of the maintenance domain. The value ranges from 0 to 7.

14.28 ENT-NNI-ETH

The Enter Network-to-Network Interface Ethernet (ENT-NNI-ETH) command adds a new network-to-network interface service provider VLAN ID to the NNI interface of an L2 Ethernet port.

Usage Guidelines

- The default values for all optional parameters are NE default values, but these values might not be the current value for a parameter. Use a retrieve command to obtain the current value.
- If the AID is invalid, an IIAC error message is returned.
- The ALL AID is invalid for this command.
- The L2 Ethernet port must be present when this command is executed.
- The command will be denied if the service provider VLAN ID is present.

Category

Ethernet

Security

Provisioning

Input Format

ENT-NNI-ETH:[<TID>]:<AID>:<CTAG>::<SVLANID>[:];

Input Example

ENT-NNI-ETH:PETALUMA:ETH-1-1-1:1:1010;

Input Parameters

<AID>	Ethernet AIDs are used to access the L2 Ethernet ports. Access identifier from the “27.14 ETH” section on page 27-23 .
<SVLANID>	VLAN identifier. A VLAN ID is a number between 1 and 4096. The value 0 is reserved for untagged VLANs. This identifier is used for customer VLAN IDs and service provider VLAN IDs.

14.29 ENT-NNI-CHGRP

The Enter Channel Group Network-to-Network Interface (ENT-NNI-CHGRP) command adds the NNI S-VLAN ID for the NNI of a channel group.

Usage Guidelines

- The default values for all optional parameters are NE default values, but these values might not be the current value for a parameter. Use the RTRV-ETH command to obtain the current value.
- If the AID is invalid, an IIAC (Invalid AID) error message is returned.
- The ALL AID is invalid for this command.

Category

Channel group

Security

Provisioning

Input Format

ENT-NNI-CHGRP:[<TID>]:<AID>:<CTAG>::<SVLANID>[:];

Input Example

ENT-NNI-CHGRP:CISCO:CHGRP-1-1:1::1010;

Input Parameters

<AID>	Access identifier from the “27.8 CHGRP” section on page 27-14 .
<SVLANID>	VLAN identifier. A VLAN ID is a number between 1 and 4096. The value 0 is reserved for untagged VLANs. This identifier is used for customer VLAN IDs and service provider VLAN IDs.

14.30 ENT-OCHCC

The Enter Optical Channel Client Connection (ENT-OCHCC) command allocates an OCH client connection. An OCH client connection is the portion of the circuit that connects the end client ports using trail ports to an OCH network connection circuit. This allocates the portion of the circuit between the OCH filter port to the TXP/MXP or ITU-T client port.

Usage Guidelines

- The client port FAC AID must be specified in order to allocate a client channel inside the node.
- The default values for all optional parameters are NE default values. These values might not be the current value for a parameter. Use a retrieve command to obtain the current value.
- On OTU1 and 4GFC ports, time slots are not applicable.
- ODU0START and ODU0END parameters are applicable only on GIGE and 1GFC payloads on the AR-XPE card only.

Category NCS

Security Provisioning

Input Format ENT-CHCC[:<TID>]:<AID>:<CTAG>[:<CKTID=<CKTID>],[CMDMDE=<CMDMDE>],[ODU1START=<ODU1START>],[ODU1END=<ODU1END>],[TSSTART=<TSSTART>],[TSEND=<TSEND>],[ODU0START=<ODU0START>],[ODU0END=<ODU0END>][:<PST>][:<SST>];

Input Example ENT-CHCC::VFAC-3-2-1:123:::ODU1START=1,ODU1END=1,TSSTART=1,TSEND=16;
ENT-CHCC::VFAC-2-1-1:1:::ODU0START=1,ODU0END=1;

Table 14-17 Input Parameter Support

Parameter	Description
<AID>	Access identifier from the “27.15 FACILITY” section on page 27-23 . AR-MXP, AR-XP, and AR-XPE cards use the VFAC AID.
<CKTID>	(Optional) Cross-connect ID. The default is Blank or None. It is a string of ASCII characters. The maximum length is 48. If CKTID is empty or null, the CKTID field will not appear.
<CMDMDE>	(Optional) Command mode. Normal (NORM) mode is the default behavior for all commands but you can specify forced (FRCD) mode to force the system to override a state where the command would normally be denied. The FRCD mode of operation is applicable to delete a virtual concatenated (VCAT) member cross-connect in Unlocked-Enabled or Locked-Disabled, AutomaticInService service states.
• FRCD	Force the system to override a state in which the command would normally be denied.
• NORM	Execute the command normally. Do not override any conditions that may make the command fail.
<ODU1START>	ODU1 Start
<ODU1END>	ODU1 End
<TSSTART>	Time Slot Start
<TSEND>	Time Slot End
<ODU0START>	ODU0 Start.
<ODU0END>	ODU0 End.
<PST>	Primary state. The parameter type is PST, which indicates the current overall service condition of an entity. The default is IS.
• IS	In service
• OOS	Out of service
<SST>	(Optional) Secondary state. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AINS	Automatic in-service
• DSBLD	Disabled
• LPBK	Loopback

Table 14-17 Input Parameter Support

Parameter	Description
• MEA	Mismatch of equipment and attributes
• MT	Maintenance mode
• OOG	Out of group
• SWDL	Software downloading
• UAS	Unassigned
• UEQ	Unequipped

14.31 ENT-OCHNC

The Enter Optical Channel Network Connection (ENT-OCHNC) command allocates an OCH network connection.

Usage Guidelines

- Two CHANWL endpoints must be specified in order to allocate a wavelength channel inside the node. According to the CHANWL specified, the channel allocated can be a pass-through.
- The default values for all optional parameters are NE default values. These values might not be the current value for a parameter. Use a retrieve command to obtain the current value.

Category

NCS

Security

Provisioning

Input Format

(For legacy package)

```
ENT-OCHNC:[<TID>]:<SRC>,<DST>:<CTAG>::[<WCT>]:[CKTID=<CKTID>],[CMDMDE=<CMDMDE>],[WLOPWR=<WLOPWR>],[VOAATTN=<VOAATTN>]:[<PST>][,<SST>];
```

(For flex package)

```
ENT-OCHNC:[<TID>]:<SRC>,<DST>:<CTAG>::[<WCT>]:[CKTID=<CKTID>],[CMDMDE=<CMDMDE>],[WLOPWR=<WLOPWR>],[VOAATTN=<VOAATTN>],FREQ=<FREQ>,[WIDTH=<WIDTH>],[DSPWROFS=<DSPWROFS>],[USPWROFS=<USPWROFS>]:[<PST>][,<SST>];
```

Input Example

```
ENT-OCHNC:VA454-22:LINEWL-1-3-TX-1530.33,CHAN-4-1-RX:116::1WAY:
CKTID=CIRCUIT,CMDMDE=FRCD:OOS,DSBLD;
```

```
ENT-OCHNC:VA454-22:LINEWL-1-3-TX-1530.33&CHAN-4-1-TX,
CHAN-4-1-RX&LINEWL-1-3-RX-1530.33:116::2WAYDCN:
CKTID="DCN CIRCUIT",CMDMDE=FRCD:OOS,DSBLD;
```

ENT-OCHNC:VA454-22:LINEWL-1-9-TX-1530.33,LINEWL-1-11-RX-1530.33:116::DIAG:
WLOPWR=1.0,VOAATTN=1.0;

Table 14-18 **Input Parameter Support**

Parameter	Description
<SRC>	Source access identifier from the “ 27.7 CHANNEL ” section on page 27-12 . In two-way wavelength connection sources, both directions need to be indicated.
<DST>	Destination access identifier from the “ 27.19 LINEWL ” section on page 27-29 . In two-way wavelength connection sources, both directions need to be indicated.
<WCT>	(Optional) Wavelength connection type. The parameter type is WCT. The default is 1WAY.
• 1WAY	A unidirectional wavelength connection for one specified ring direction
• 2WAY	A bidirectional wavelength connection for both the ring directions.
• DIAG	A unidirectional maintenance wavelength connection inside 40-WXC-C cards.
• 2WAYDCN	A bidirectional wavelength connection for both the ring directions that is also used to carry the data communication channels.
<CKTID>	(Optional) Cross-connect ID. The default is Blank or None. It is a string of ASCII characters. The maximum length is 48. If CKTID is empty or null the CKTID field will not appear.
<CMDMDE>	(Optional) Command mode. Normal (NORM) mode is the default behavior for all commands but you can specify forced (FRCD) mode to force the system to override a state where the command would normally be denied. The FRCD mode of operation is applicable to delete a virtual concatenated (VCAT) member cross-connect in Unlocked-Enabled or Locked-Disabled, AutomaticInService service states.
• FRCD	Force the system to override a state in which the command would normally be denied.
• NORM	Execute the command normally. Do not override any conditions that may make the command fail.
<WLOPWR>	The value of calibrated output power that the VOA is going to set as a result of its attenuation. WLOPWR is a float.
<VOAATTN>	The value of calibrated attenuation for the VOA expressed in dBm. The range is 0.0 to +30.0. VOAATTN is a float.
<FREQ>	Optical wavelength
<WIDTH>	Width
<DSPWROFS>	Down stream power offset.
<USPWROFS>	Up stream power offset.
<PST>	(Optional) Primary state. The parameter type is PST, which indicates the current overall service condition of an entity.
• Unlocked	In service

Table 14-18 *Input Parameter Support*

Parameter	Description
• Locked	Out of service
<SST>	(Optional) Secondary state. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AutomaticInService	Automatic in service
• Disabled	Disabled
• Loopback	Loopback
• MismatchofEquipmentAlarm	Mismatch of equipment and attributes
• Maintenance	Maintenance mode
• OutOfGroup	Out of group
• SoftwareDownloaded	Software downloading
• Unassigned	Unassigned
• NotInstalled	Unequipped

14.32 ENT-OPMODE

The Enter Operating Mode (ENT-OPMODE) command creates operating mode on a given client or trunk or peer card.

Usage Guidelines

- Enter the operating mode that is being created.
- Enter the client and trunk port numbers while creating the operating mode.
- Enter the rate on which the operating mode is created.
- PEERSLOTS parameter is applicable only on 100G-LC-C, 10x10G-LC, and CFP-LC cards. PEERSLOTS parameter values should be specified as SLOT-<SLOTNO>.
- RATE parameter is not applicable on 100G-LC-C, 10x10G-LC, and CFP-LC cards.
- In Low-latency and RGN-10G modes, one of the port is represented as Client and the other as Trunk while both are represented as trunks on CTC.
- The OPMODE parameter is a mandatory parameter for all the operating modes on the AR-MXP, AR-XP, AR-XPE, 10x10G-LC, 100G-LC-C, and CFP-LC cards.
- CLIENTPORTS and TRUNKPORTS are the mandatory parameters for all the operating modes on the AR-MXP, AR-XP, and AR-XPE cards.
- CLIENTPORTS and TRUNKPORTS are optional parameters for few operating modes on the 10x10G-LC, 100G-LC-C, and CFP-LC cards. Both these parameters are used in TXP-10G and RGN-10G modes on the 10x10G-LC Card. The CLIENTPORTS parameter is used in CFP-TXP and CFP-MXP operating modes on the CFP-LC card.
- RATE is a mandatory parameter for HIGH rate operating modes on the AR-MXP, AR-XP, and AR-XPE cards.

- CTMAP is a mandatory parameter only in MXP(P)-DME High rate modes on the AR-MXP, AR-XP, and AR-XPE cards.
- PEERSLOTS is a mandatory parameter only in dual card operating modes on the 10x10G-LC, 100G-LC-C, and CFP-LC cards. PEERSLOTS parameter value is of syntax SLOT[-SH]-<SLOTNO>.
- Following are the mandatory parameters for the operating modes on the 10x10G-LC, 100G-LC-C, and CFP-LC cards:
 - OPMODE, CLIENTPORTS, and TRUNKPORTS for TXP-10G, RGN-10G, and LOW-LATENCY operating modes on the 10x10G-LC card.
 - OPMODE parameter for TXP-100G operating mode on the 100G-LC-C card.
 - OPMODE and PEERSLOTS parameters for RGN-100G dual card operating mode on the 100G-LC-C card along with one peer 100G-LC-C and MXP-10X10G dual card operating mode among with two peer cards 10x10G-LC and 100G-LC-C.
 - OPMODE, CLIENTPORTS, and PEERSLOTS parameters for CFP-TXP dual card operating mode between CFP-LC and 100G-LC-C cards.
 - OPMODE and PEERSLOTS parameters for CFP-MXP dual card operating mode between CFP-LC and 100G-LC-C cards.

Category	NCS																				
Security	Provisioning																				
Input Format	ENT-OPMODE[:<TID>]:<AID>:<CTAG>:::OPMODE=<OPMODE>,[PEERSLOTS=<PEERSLOTS>],[TRUNKPORTS=<TRUNKPORTS>],[CLIENTPORTS=<CLIENTPORTS>],[RATE=<RATE>],[CTMAP=<CTMAP>];																				
Input Example	ENT-OPMODE::SLOT-5:1:::OPMODE=CFP-TXP,CLIENTPORTS=1,PEERSLOTS=SLOT-7;																				
Input Parameters	<table> <tr> <td><AID></td><td>Access Identifier—SLOT</td></tr> <tr> <td><OPMODE></td><td>Specifies the opmode created on the card provisioned. Parameter type is OPMODE.</td></tr> <tr> <td>• MXP-10x10G</td><td>Muxponder mode between 10X10G-LC and 100G-LC-C card.</td></tr> <tr> <td>• RGN-100G</td><td>Regenerator mode between two 100G-LC-C cards.</td></tr> <tr> <td>• RGN-10G</td><td>Ginsu regenerator mode among SFP+ ports on 10X10G-LC card.</td></tr> <tr> <td>• CFP-MXP</td><td>Muxponder mode between one CFP-LC and one 100G-LC-C cards.</td></tr> <tr> <td>• CFP-TXP</td><td>Transponder mode between one CFP-LC and one or two 100G-LC-C cards.</td></tr> <tr> <td>• TXP-10G</td><td>Transponder mode among SFP+ ports on 10X10G-LC card.</td></tr> <tr> <td>• TXP-MR</td><td>Unprotected Multi-rate transponder</td></tr> <tr> <td>• TXPP-MR</td><td>Protected Muti-rate Transponder</td></tr> </table>	<AID>	Access Identifier—SLOT	<OPMODE>	Specifies the opmode created on the card provisioned. Parameter type is OPMODE.	• MXP-10x10G	Muxponder mode between 10X10G-LC and 100G-LC-C card.	• RGN-100G	Regenerator mode between two 100G-LC-C cards.	• RGN-10G	Ginsu regenerator mode among SFP+ ports on 10X10G-LC card.	• CFP-MXP	Muxponder mode between one CFP-LC and one 100G-LC-C cards.	• CFP-TXP	Transponder mode between one CFP-LC and one or two 100G-LC-C cards.	• TXP-10G	Transponder mode among SFP+ ports on 10X10G-LC card.	• TXP-MR	Unprotected Multi-rate transponder	• TXPP-MR	Protected Muti-rate Transponder
<AID>	Access Identifier—SLOT																				
<OPMODE>	Specifies the opmode created on the card provisioned. Parameter type is OPMODE.																				
• MXP-10x10G	Muxponder mode between 10X10G-LC and 100G-LC-C card.																				
• RGN-100G	Regenerator mode between two 100G-LC-C cards.																				
• RGN-10G	Ginsu regenerator mode among SFP+ ports on 10X10G-LC card.																				
• CFP-MXP	Muxponder mode between one CFP-LC and one 100G-LC-C cards.																				
• CFP-TXP	Transponder mode between one CFP-LC and one or two 100G-LC-C cards.																				
• TXP-10G	Transponder mode among SFP+ ports on 10X10G-LC card.																				
• TXP-MR	Unprotected Multi-rate transponder																				
• TXPP-MR	Protected Muti-rate Transponder																				

• MXP-DME	Unprotected Data Muxponder
• MXPP-DME	Protected Data Muxponder
• MXP-MR	Unprotected Multi-Rate Muxponder
• MXPP-MR	Protected Multi-Rate Muxponder
• MXP-4x25-10G	OC48/OTU1 Unprotected Muxponder
• MXPP-4x25-10G	OC48/OTU1 Protected Muxponder
• MXP-VDC-10G	Video Muxponder (without Drop & Continue)
• RGN	Regenerator Mode in AR-XP or AR-MXP cards
• LOW-LATENCY	Low latency opmode is supported only on 10x10G-LC card.
• MXPP-MR-S	Operating mode on AR-MXP, AR-XP, or AR-XPE card.
• MXP-MR-S	Operating mode on AR-MXP, AR-XP, or AR-XPE card.
• MXP-2x40G	Operating mode on AR-MXP, AR-XP, or AR-XPE card.
<TRUNKPORTS>	The trunk port(s) on which operating mode being entered
<PEERSLOTS>	Peer Card slot number.
<CLIENTPORTS>	The client port(s) on which operating mode is being entered
<RATE>	The rate on which the operating mode is created
• HIGH	High rate (>5G)
• LOW	Low rate (<5G)
<CTMAP>	(Optional) The client to trunk ratio that will be used while creating operating mode
• ONE-ONE	1 Client to 1 Trunk used in TXP-MR-LOW, TXP-MR-HIGH, RGN-LOW and RGN-HIGH modes
• ONE-TWO	1 Client to 2 Trunks used in TXPP-MR-LOW mode
• THREE-ONE	3 Clients to 1 Trunk used in Video Muxponder mode
• FOUR-ONE	4 Clients to 1 Trunk used in MXP-4x2.5-10G, MXP-DME-HIGH modes
• FOUR-TWO	4 Clients to 2 Trunks used in MXPP-4x2.5-10G and MXPP-DME-HIGH modes
• EIGHT-ONE	8 Clients to 1 Trunk used in MXP-DME-HIGH mode
• EIGHT-TWO	8 Clients to 2 Trunks used in MXPP-DME-HIGH mode
• N-ONE	N Clients to 1 Trunk where N=2,3,4,5,6,7,8 used in MXP-MR-LOW and MXP-MR-HIGH modes
• N-TWO	N Clients to 2 Trunks where N=2,3,4,5,6,7,8 used in MXPP-MR-LOW or MXPP-MR-HIGH modes

14.33 ENT-QNQ-CHGRP

The Enter Channel Group QinQ (ENT-QNQ-CHGRP) command adds the IEEE 802.1Q tunneling (QinQ) relationship between the CE-VLAN and the S-VLAN for Gigabit Ethernet uniport provisioning associated to a channel group.

Usage Guidelines

- The default values for all optional parameters are NE default values, but these values might not be the current value for a parameter. Use the RTRV-ETH command to obtain the current value.
- If the AID is invalid, an IIAC (Invalid AID) error message is returned.
- The ALL AID is invalid for this command.

Category

Channel Group

Security

Provisioning

Input Format

ENT-QNQ-CHGRP:[<TID>]:<AID>:<CTAG>::<FIRST_CE_VLAN_ID>,<LAST_CE_VLAN_ID>,<S_VLAN_ID>:[RULE=<RULE>],[INTERNALVLAN=<INTERNAL_VLAN_ID>],[INGRESSCOS=<INGRESSCOS>][:];

Input Example

ENT-QNQ-CHGRP:CISCO:CHGRP-1-1:1::10,11,100:RULE=ADD;

Table 14-19 ENT-QNQ-CHGRP Command - Parameter Support

Parameter	Description
<AID>	Access identifier from the “27.8 CHGRP” section on page 27-14 .
<FIRSTCEVLANID>	VLAN identifier. A VLAN ID is a number between 1 and 4096. The value 0 is reserved for untagged VLANs. This identifier is used for customer VLAN IDs and service provider VLAN IDs.
<LASTCEVLANID>	VLAN identifier. A VLAN ID is a number between 1 and 4096. The value 0 is reserved for untagged VLANs. This identifier is used for customer VLAN IDs and service provider VLAN IDs.
<SVLANID>	VLAN identifier. A VLAN ID is a number between 1 and 4096. The value 0 is reserved for untagged VLANs. This identifier is used for customer VLAN IDs and service provider VLAN IDs.
<RULE>	Used to represent the rules allowed for the VLAN tagging operations. The default value is ADD.
• ADD	The S-VLAN tag is added to the CE-VLAN tag.
• XLTE	The S-VLAN tag replaces the CE-VLAN tag (single Q).
• XLTE-ADD	XLTE and ADD rule applied together. This rule request to supply an internal S-VLAN. First the Internal VLAN substitutes the Customer VLAN, then Service Provider VLAN TAG (S-VLAN) is added
• DOUBLE-ADD	ADD rule applied two times. This rule request to supply an internal S-VLAN. First the Internal VLAN is added, then Service Provider VLAN TAG (S-VLAN) is added to have a double tag

Table 14-19 ENT-QNQ-CHGRP Command - Parameter Support

Parameter	Description
<INTERNAL_VLAN_ID>	Internal VLAN ID.
<INGRESSCOS>	Identifies the COS value set in the S-VLAN tag.
• 0 to 7	Set a Cos value
• DSCP	The COS is set according to DSCP to COS mapping table.
• TRUST	Use the Customer COS
• VLAN	The COS provisioned on CVLAN basis (QinQ selective mode)

14.34 ENT-QNQ-ETH

The Enter QinQ Ethernet (ENT-QNQ-ETH) command enters a new IEEE 802.1Q tunneling (QinQ) relationship between the CE-VLAN and S-VLAN for Gigabit Ethernet uniport provisioning associated to an L2 Ethernet port.

Usage Guidelines

- The default values for all optional parameters are NE default values, but these values may not be the current value for a parameter. Use a retrieve command to obtain the current value.
- If the AID is invalid, an IIAC error message is returned.
- The ALL AID is invalid for this command.
- The L2 Ethernet port must be defined before executing this command or the command will be denied.
- The command will be denied if the CE-VLAN-ID and S-VLAN-ID relationship is defined before the L2 Ethernet port is defined.

Category

Ethernet

Security

Provisioning

Input Format

ENT-QNQ-ETH:[<TID>]:<AID>:<CTAG>::<FIRSTCEVLANID>,<LASTCEVLANID>,<S_VLAN_ID>[:RULE=<RULE>],[INTERNALVLAN=<INTERNAL_VLAN_ID>],[INGRESSCOS=<INGRESSCOS>][:];

Input Example

ENT-QNQ-ETH:PETALUMA:ETH-1-1-1:1:10,11,100:RULE=ADD;

Table 14-20 *Input Parameter Support*

Parameter	Description
<AID>	Ethernet AIDs are used to access the L2 Ethernet ports. Access identifier from the “ 27.14 ETH ” section on page 27-23 .
<FIRSTCEVLANID>	VLAN identifier. A VLAN ID is a number between 1 and 4096. The value 0 is reserved for untagged VLANs. This identifier is used for customer VLAN IDs and service provider VLAN IDs.
<LASTCEVLANID>	VLAN identifier. A VLAN ID is a number between 1 and 4096. The value 0 is reserved for untagged VLANs. This identifier is used for customer VLAN IDs and service provider VLAN IDs.
<SVLANID>	VLAN identifier. A VLAN ID is a number between 1 and 4096. The value 0 is reserved for untagged VLANs. This identifier is used for customer VLAN IDs and service provider VLAN IDs.
<RULE>	Used to represent the rules allowed for the VLAN tagging operations. The default value is ADD.
• ADD	The S-VLAN tag is added to the CE-VLAN tag.
• XLTE	The S-VLAN tag replaces the CE-VLAN tag (single Q).
• XLTE-ADD	XLTE and ADD rule applied together. This rule request to supply an internal S-VLAN. First the Internal VLAN substitutes the Customer VLAN, then Service Provider VLAN TAG (S-VLAN) is added
• DOUBLE-ADD	ADD rule applied two times. This rule request to supply an internal S-VLAN. First the Internal VLAN is added, then Service Provider VLAN TAG (S-VLAN) is added to have a double tag
<INTERNAL_VLAN_ID>	Internal VLAN ID.
<INGRESSCOS>	Identifies the COS value set in the S-VLAN tag.
• 0 to 7	Set a COS value
• DSCP	The COS is set according to DSCP to COS mapping table.
• TRUST	Use the Customer COS
• VLAN	The COS provisioned on CVLAN basis (QinQ selective mode)

14.35 ENT-REP

The Enter Resilient Ethernet Protocol (ENT-REP) command associates the Resilient Ethernet Protocol (REP) configuration on the ethernet port of GE_XP or 10GE_XP card.

Usage Guidelines

- This command is applicable only if the card is in ETH-L2 card mode.
- This command is applicable only to GE_XP and 10GE_XP cards.
- The PORTROLE parameter can be PRIMARY, NO_NEIGHBOR, or NO_NEIGHBOR_PRIMARY only if the port is an edge port.

- If the Edge is not Enabled, the PORTROLE parameter can only be REGULAR.
- If only the segment ID is specified, by default the edge is disabled and PORTROLE is REGULAR; PREFERRED is disabled.

Category

Ethernet

Security

Provisioning

Input Format

ENT-REP:[TID>]:<AID>:<CTAG>:::<SEGMENTID=<SEGMENTID>,[EDGE=<EDGE>],[PORTROLE=<PORTROLE>],[PREFERRED=<PREFERRED>];

Input Example

ENT-REP::ETH-12-1-1:1:::SEGMENTID=1,EDGE=Y,PORTROLE=PRIMARY,PREFERRED=N;

Input Parameters

<AID>	Ethernet AIDs are used to access L2 Ethernet ports. Access identifier from the “27.14 ETH” section on page 27-23 .
<SEGMENTID>	Indicates the segment ID for REP segment. The valid range is from 0 to 1024.
<EDGE>	Configures the port as an edge port.
• Y	To configure the port as an edge port.
• N	Not to configure the port as an edge port.
<PORTROLE>	The parameter type is REP_PORT_ROLE, which indicates the port's role in a REP Segment for the ethernet ports.
• PRIMARY	Indicates that the port is a primary port.
• NO_NEIGHBOR	Indicates that the port has no neighbor port in the segment.
• NO_NEIGHBOR_PRIMARY	Indicates that the port is a primary port and has no neighbor port in the segment.
• REGULAR	Indicates that the port is a regular port.
• None	Indicates that the port is an edge port.
<PREFERRED>	Indicates that the port is the preferred alternate port. Or the preferred port for VLAN load balancing.
• Y	Yes
• N	No

14.36 ENT-RMONTH-<MOD2_RMON>

The Enter Remote Monitoring Threshold for 10GFC, 10GIGE, 40GIGE, 100GIGE, 1GFC, 1GFICON, 2GFC, 2GFICON, 4FGC, 4GFICON, 8GFC, CHGRP, FSTE, G1000, GFP, GIGE, ETH, GFPOS, GIGE, HDLC, ISCCOMPAT, POS, 3GVIDEO, SDSDI, HDSDI, AUTO, ISC3STP1G, and ISC3STP2G (ENT-RMONTH-<MOD2_RMON>) command creates an entry in the remote monitoring (RMON)

alarm table for the threshold of data statistics (GIGE or FC, for example) managed by the RMON engine. After creating the RMON threshold (RMONTH), a threshold crossing alert (TCA) event will be generated and reported to the TL1 session when the threshold is crossed. More than one threshold can be created with different parameters for each data statistic type.

Usage Guidelines None

Category Performance

Security Provisioning

Input Format ENT-RMONTH-<MOD2_RMON>[:<TID>]:<SRC>:<CTAG>::<MONTYPE>,,,
<INTVL>:RISE=<RISE>,FALL=<FALL>,[SAMPLE=<SAMPLE>],[STARTUP=<STARTUP>][:];

Input Example ENT-RMONTH-GIGE:CISCO:FAC-2-1:1234::ETHERSTATSOCTETS,,,100:RISE=1000,
FALL=100,SAMPLE=DELTA,STARTUP=RISING;

Table 14-21 Parameter Support

Parameter	Description
<SRC>	Source access identifier from the “27.15 FACILITY” section on page 27-23 . AID for the facility that manages the data statistics. AR-MXP, AR-XP, and AR-XPE cards use the VFAC AID.
<MONTYPE>	Monitored type. Type of RMON data statistics. The parameter type is ALL_MONTYPE, which is the monitoring type list.
• AISSP	Alarm Indication Signal Seconds—Path
• BBEP	NCS Background Block Errors Path
• BBE-PM	OTN—Background Block Errors—Path Monitor Point
• BBER	NCS Background Block Error Ratio
• BBER-PM	OTN—Background Block Error Ratio—Path Monitor Point expressed as one tenth of a percentage.
• BBER-SM	OTN—Background Block Error Ratio—Section Monitor Point expressed as one tenth of a percentage.
• BBE-SM	OTN—Background Block Errors—Section Monitor Point
• BIEC	FEC—Bit Errors Corrected
• CGV	8B10B—Code Group Violations
• CVCPP	Coding Violations—CP-Bit Path
• CVL	Coding Violations—Line
• CVP	Coding Violations—Path

Table 14-21 **Parameter Support**

Parameter	Description
• CVS	Coding Violations—Section
• CVV	Coding Violations—Section
• DCG	8B10B—Data Code Groups
• ESCPP	Errored Seconds—CP—Bit Path
• ESL	Errored Seconds—Line
• ESP	Errored Seconds—Path
• ES-PM	OTN—Errored Seconds—Path Monitor Point
• ESR	Errored Second—Ratio
• ESR-PM	Errored Seconds Ratio—Path monitor Point expressed as a tenth of a percentage
• ESR-SM	Errored Seconds Ratio—Section monitor Point expressed as a tenth of a percentage
• ESS	Errored Seconds—Section
• ES-SM	OTN—Errored Seconds—Section Monitor Point
• ESV	Errored Seconds—VC Path
• etherStatsBroadcastPkts	The total number of good packets received that were directed to a multicast address
• etherStatsCollisions	Number of transmit packets that are collisions
• etherStatsCRCAlignErrors	The total number of packets received that have a length (excluding framing bits, but including frame check sequence [FCS] octets) of between 64 and 1518 octets
• etherStatsDropEvents	Number of received frames dropped at the port level
• etherStatsFragments	The total number of packets received that were less than 64 octets
• etherStatsJabbers	The total number of packets received that are longer than 1518 octets
• etherStatsOctets	The total number of octets of data
• etherStatsOversizePkts	The total number of packets received that are longer than 1518 octets
• etherStatsPkts	The total number of packets (including bad packets, broadcast packets, and multicast packets) received
• etherStatsUndersizePkts	The total number of packets received that are less than 64 octets
• FCP	Failure Count—Line
• FC-PM	OTN—Failure Count—Path Monitor Point
• FC-SM	OTN—Failure Count—Section Monitor Point
• HP-AR	Availability Ratio

Table 14-21 **Parameter Support**

Parameter	Description
• HP-BBE	High-Order Path Background Block Error
• HP-BBER	High-Order Path Background Block Error Ratio
• HP-EB	High-Order Path Errored Block
• HP-ES	High-Order Path Errored Second
• HP-ESA	High-Order Path Errored Seconds–A
• HP-ESB	High-Order Path Errored Seconds–B
• HP-ESR	High-Order Path Errored Second Ratio
• HP-FC	High-Order Path Failure Count
• HP-NPJC-PDET	High-Order Path Negative Pointer Justification Count- Path Detected
• HP-NPJC-PGEN	High-Order Path Pointer Justification Count Seconds - Path Generated
• HP-OI	Outage Intensity
• HP-PJCDIFF	High-Order Path Pointer Justification Count Difference
• HP-PJCS-PDET	High-Order Path Pointer Justification Count Seconds - Path Detected
• HP-PJCS-PGEN	High-Order Path Pointer Justification Count Seconds - Path Generated
• HP-PPJC-PDET	High-Order Path Positive Pointer Justification Count - Path Detected
• HP-PPJC-PGEN	High-Order Path Positive Pointer Justification Count - Path Generated
• HP-SEPI	The number of Severely Errored Period Intensity events in available time
• HP-SES	High-Order Path Severely Errored Seconds
• HP-SESR	High-Order Path Severely Errored Second Ratio
• HP-UAS	High-Order Path Unavailable Seconds
• ifInBroadcastPkts	Number of broadcast packets received since the last counter reset
• ifInDiscards	The number of inbound packets
• ifInErrorBytePkts	Receive Error Byte
• ifInErrors	The number of inbound packets (or transmission units) that contained errors
• ifInFramingErrorPkts	Receive Framing Error
• ifInJunkInterPkts	Receive Interpacket Junk
• ifInMulticastPkts	Number of multicast packets received since the last counter reset
• ifInOctets	Number of bytes transmitted since the last counter reset
• ifInUcastPkts	Number of unicast packets received since the last counter reset

Table 14-21 **Parameter Support**

Parameter	Description
• ifOutBroadcastPkts	Number of broadcast packets transmitted
• ifOutDiscards	The number of outbound packets
• ifOutErrors	The number of outbound packets (or transmission units) that could not be transmitted because of errors
• ifOutMulticastPkts	Number of multicast packets transmitted
• ifOutPayloadCrcErrors	Received payload cyclic redundancy check (CRC) errors
• ifOutUcastPkts	Number of unicast packets transmitted
• IOS	8B10B–Idle Ordered Sets
• IPC	Invalid Packet Count
• LBCL-AVG	Average Laser Bias current in microA
• LBCL-MAX	Maximum Laser Bias current in microA
• LBCL-MIN	Minimum Laser Bias current in microA
• LBCN	Normalized Laser Bias Current for STM1-8 card
• LBCN-HWT	Laser Bias Current
• LBCN-LWT	Laser Bias Current
• LOSSL	Loss of Signal Seconds—Line
• LP-BBE	Low-Order Path Background Block Error
• LP-BBER	Low-Order Path Background Block Error Ratio
• LP-EB	Low-Order Path Errored Block
• LP-ES	Low-Order Path Errored Second
• LP-ESA	Low-Order Path Errored Seconds–A
• LP-ESB	Low-Order Path Errored Seconds–B
• LP-ESR	Low-Order Path Errored Second Ratio
• LP-FC	Low-Order Path Failure Count
• LP-NPJC-DET	Low-Order Negative Pointer Justification Count, Detected
• LP-NPJC-GEN	Low-Order Negative Pointer Justification Count, Generated
• LP-PPJC-DET	Low-Order Positive Pointer Justification Count, Detected
• LP-PPJC-GEN	Low-Order Positive Pointer Justification Count, Generated
• LP-SEP	A sequence of between 3 to 9 consecutive severely errored seconds (SES)
• LP-SEPI	Low-Order Path Severely Errored Period Intensity
• LP-SES	Low-Order Path Severely Errored Seconds
• LP-UAS	Low-Order Path Unavailable Seconds
• mediaIndStatsRxFramesBadCrc	rx frames with bad crc

Table 14-21 **Parameter Support**

Parameter	Description
• mediaIndStatsRxLcvErrors	L1 line code violations for lower rate FC. This equates to invalid 8b10b ordered sets.
• mediaIndStatsTxFramesBadCrc	tx frames with bad crc
• mediaIndStatsTxLcvErrors	L1 line code violations for lower rate FC. This equates to invalid 8b10b ordered sets.
• MS-PSC	Protection switch count
• MS-PSD	Protection switch duration
• NIOS	8B10B—Non Idle Ordered Sets
• NPJC-PDET	Negative Pointer Justification Count- Path Detected
• NPJC-PGEN	Negative Pointer Justification Count- Path Generated
• OPR-AVG	Average Receive Power in tenths of a microW
• OPR-MAX	Maximum Receive Power in tenths of a microW
• OPR-MIN	Minimum Receive Power in tenths of a microW
• OPRN	Normalized Optical Receive Power for STM1-8
• OPRN-MAX	Maximum value for OPRN
• OPRN-MIN	Minimum value for OPRN
• OPT-AVG	Average Transmit Power in tenths of a microW
• OPT-MAX	Maximum Transmit Power in tenths of a microW
• OPT-MIN	Minimum Transmit Power in tenths of a microW
• OPTN	Normalized value for Optical Power Transmitted for STM1-8 card
• OPTN-MAX	Maximum value for OPTN
• OPTN-MIN	Minimum value for OPTN
• OPWR-AVG	Optical Power—Average Interval Value in tenths of a dBm
• OPWR-MAX	Optical Power—Maximum Interval Value in tenths of a dBm
• OPWR-MIN	Optical Power—Minimum Interval Value in tenths of a dBm
• PPJC-PDET	Positive Pointer Justification Count - Path Detected
• PPJC-PGEN	Positive Pointer Justification Count - Path Generated
• PSC	Protection Switching Count
• PSC-R	Protection Switching Count—Ring
• PSC-S	Protection Switching Count—Span
• PSC-W	Protection Switching Count—Working
• PSD	Protection Switching Duration
• PSD-R	Protection Switching Duration—Ring
• PSD-S	Protection Switching Duration—Span
• PSD-W	Protection Switching Duration—Working

Table 14-21 **Parameter Support**

Parameter	Description
• SASCPP	Severely Errored Framing/AIS Second—CP-Bit Path
• SASP	Severely Errored Framing/AIS Seconds Path
• SEFS	Severely Errored Framing Seconds
• SESCOPP	Severely Errored Second—CP-Bit Path
• SESL	Severely Errored Second—Line
• SESP	Severely Errored Second—Path
• SES-PM	OTN—Severely Errored Second—Path
• SESR	Severely Errored Second—Ratio
• SESR-PM	OTN—Severely Errored Second Ratio—Path Monitor Point expressed as one tenth of a percentage
• SESR-SM	OTN—Severely Errored Second Ratio—Section Monitor Point expressed as one tenth of a percentage
• SESS	Severely Errored Second—Section
• SES-SM	OTN—Severely Errored Second—Section Monitor Point
• SESV	Severely Errored Second—VC Path
• UASCPP	Unavailable Second—CP-Bit Path
• UASL	Unavailable Second—Line
• UASP	Unavailable Second—Path
• UAS-PM	OTN—Unavailable Second—Path Monitor Point
• UAS-SM	OTN—Unavailable Second—Section Monitor Point
• UASV	Unavailable Second—VC Path
• UNC-WORDS	FEC—Uncorrectable Words
• VPC	Valid Packet Count
<INTVL>	The interval in seconds over which the data is sampled and compared with the rising and falling threshold. A valid value is any integer larger than or equal to 10 (seconds).
<RISE>	The rising threshold for the sampled statistic. A valid value is any integer.
<FALL>	The falling threshold. A valid value is any integer smaller than the rising threshold.
<SAMPLE>	(Optional) The method of calculating the threshold comparison value. The parameter type is SAMPLE_TYPE, which describes how the data will be calculated during the sampling period.
• ABSOLUTE	Comparing directly
• DELTA	Comparing with the current value of the selected variable subtracted by the last sample

Table 14-21 **Parameter Support**

Parameter	Description
<STARTUP>	(Optional) Dictates whether an event will generate if the first valid sample is greater than or equal to the rising threshold, less than or equal to the falling threshold, or both. The parameter type is STARTUP_TYPE, which indicates whether an event will be generated when the first valid sample is crossing the rising or falling threshold.
• FALLING	Generates the event when the sample is smaller than or equal to the falling threshold.
• RISING	Generates the event when the sample is greater than or equal to the rising threshold.
• RISING-OR-FALLING	Generates the event when the sample is crossing the rising threshold, or the falling threshold.

14.37 ENT-ROLL-<MOD_PATH>

The Enter Roll for VC3, VC44C, VC464C, VC48C, VC4, VC416C, VC42C, VC43C, VC11, or VC12 (ENT-ROLL-<MOD_PATH>) command enters information about rolling traffic from one endpoint to another without interrupting service. This command can be used to roll single paths.

Usage Guidelines

For a 1-way destination roll, the roll mode must be MANUAL.

Category

Bridge and Roll

Security

Provisioning

Input Format

ENT-ROLL-<MOD_PATH>[:<TID>]:<FROM>,<TO>:<CTAG>::RFROM=<RFROM>,
RTO=<RTO>,<RMODE>=<RMODE>,[CMDMDE=<CMDMDE>];

Input Example

ENT-ROLL-VC4:CISCO:VC4-1-1-1,VC4-2-1-1::RFROM=VC4-2-1-1,
RTO=VC4-3-1-1,RMODE=MAN,CMDMDE=FRCD;

Table 14-22 **Parameter Support**

Parameter	Description
<FROM>	Source access identifier from the “27.32 VC” section on page 27-35, which is one of the termination points (legs) of the existing cross-connect. If the existing cross-connect is one-way, then this termination point (leg) should be the FROM-AID termination point. Otherwise, FROM is nonsignificant. FROM and TO should be entered as they are entered in the ENT-CRS command. You can issue RTRV-CRS command and use the response for FROM and TO parameters.
<TO>	Destination AID from the “27.32 VC” section on page 27-35, which is one of the termination points (legs) of the existing cross-connect. If the existing cross-connect is one-way, then this termination point (leg) should be the TO-AID termination point. Otherwise, the TO is nonsignificant. FROM and TO should be entered as they are entered in the ENT-CRS command. You can issue RTRV-CRS command and use the response for FROM and TO parameters.
<RFROM>	The termination point of the existing cross-connect that is to be rolled. The termination point is an AID from the “27.32 VC” section on page 27-35.
<RTO>	The termination point that will become a leg of the new cross-connect. The termination point is an AID from the “27.32 VC” section on page 27-35.
<RMODE>	Indicates the mode of the rolling operation. The parameter type is RMODE (roll mode).
• AUTO	Automatic. When a valid signal is available, the roll that has the AUTO mode will automatically delete the previous endpoint.
• MAN	Manual. Enter the corresponding delete roll/bulkroll command to delete the previous endpoint.
<CMDMDE>	(Optional) Command mode. Normal (NORM) mode is the default behavior for all commands but you can specify forced (FRCD) mode to force the system to override a state where the command would normally be denied. The FRCD mode of operation is applicable to delete a virtual concatenated (VCAT) member cross-connect in Unlocked-Enabled or Locked-Disabled, AutomaticInService service states.
• FRCD	Force the system to override a state in which the command would normally be denied.
• NORM	Execute the command normally. Do not override any conditions that could make the command fail.

14.38 ENT-ROUTE

The Enter Route (ENT-ROUTE) command creates static routes.

Usage Guidelines There is no domain name server (DNS) service available on the node. Only numeric IP addresses will be accepted.

Category System

Security Provisioning

Input Format ENT-ROUTE:[<TID>]::<CTAG>::<DESTIP>,<IPMASK>,<NXTHOP>,<COST>;

Input Example ENT-ROUTE:CISCO::123::10.64.72.57,255.255.255.0,10.64.10.12,200;

Table 14-23 Parameter Support

Parameter	Description
<DESTIP>	Destination tip. DESTIP is a string.
<IPMASK>	IP mask. IPMASK is a string.
<NXTHOP>	Next hop. NXTHOP is a string.
<COST>	Unsigned integer. The valid range is from 1 to 32,797.

14.39 ENT-ROUTE-GRE

The Enter Route Generic Routing Encapsulation (ENT-ROUTE-GRE) command creates a GRE tunnel. This can be used to transport IP over an Open Systems Interconnection (OSI) or OSI over IP.

Usage Guidelines None

Category System

Security Provisioning

Input Format ENT-ROUTE-GRE:[<TID>]::<CTAG>:::IPADDR=<IPADDR>,IPMASK=<IPMASK>,NSAP=<NSAP>,[COST=<COST>];

Input Example ENT-ROUTE-GRE:CISCO::123:::IPADDR=10.64.72.57,IPMASK=255.255.255.0,NSAP=39840F80FFFFFFF0000DDDDAA000010CFB4910200,COST=110;

Table 14-24 Parameter Support

Parameter	Description
<IPADDR>	IP address of the tunnel endpoint. IPADDR is a string.
<IPMASK>	Subnet mask for the tunnel endpoint. IPMASK is a string.
<NSAP>	NSAP address for the tunnel endpoint. NSAP is a string.
<COST>	Routing cost associated with the tunnel. COST is an integer.

14.40 ENT-TADRMAP

The Enter TID Address Mapping (ENT-TADRMAP) command instructs a GNE to create an entry in the TADRMAP table that maps the TIDs of the subtending NEs to their addresses. The operating systems (OSs) will address the subtending NEs using the TID in TL1 messages and a GNE will address these NEs by mapping the TID to an IP address or network services access point (NSAP). The TADRMAP table, which resides in the GNE, correlates a TID and an address.

Usage Guidelines

The command requires that at least one IPADDR or NSAP be specified. The PORT and ENCODING parameters are only used with IP address mappings.

Category

System

Security

Provisioning

Input Format

ENT-TADRMAP:[<TID>]::<CTAG>:::[TIDNAME=<TIDNAME>],[IPADDR=<IPADDR>],
[PORT=<PORT>],[ENCODING=<ENCODING>],[NSAP=<NSAP>];

Input Example

ENT-TADRMAP:TID::CTAG:::TIDNAME=ENENODENAME,IPADDR=192.168.100.52,
PORT=3082,ENCODING=LV,NSAP=39840F80FFFFFFF000DDDDAA01001800;

Table 14-25 **Parameter Support**

Parameter	Description
<TIDNAME>	(Optional) TID of the new TID/address mapping. TIDNAME is a string.
<IPADDR>	(Optional) IP address. IPADDR is a string. If the NSAP parameter is not used, the IPADDR parameter is required.
<PORT>	(Optional) Port for the TID/IP address mapping. The port default is 3082. PORT is an integer.
<ENCODING>	(Optional) TL1 encoding for the TID/IP address mapping. The encoding default is LV. The parameter type is ENCODING (modifies information into the required transmission format).
• LV	Length encoding
• RAW-CISCO	Cannot be specified. Used only for display with backward compatible Optical Networking System (ONS) NEs.
• RAW-STD	Non-interactive encoding
<NSAP>	(Optional) NSAP address. NSAP is a string. Note If the IPADDR parameter is not used, the NSAP parameter is required.

14.41 ENT-TRAPTABLE

The Enter Trap Table (ENT-TRAPTABLE) command provisions Simple Network Management Protocol (SNMP) trap destinations and their associated community, UDP port, and SNMP version.

Usage Guidelines

The maximum number of trap entries is ten.

Category

System

Security

Provisioning

Input Format

ENT-TRAPTABLE:[<TID>]:<AID>:<CTAG>::COMMUNITY=<COMMUNITY>,
[TRAPPORT=<TRAPPORT>],[TRAPVER=<TRAPVER>];

Input Examples

1. ENT-TRAPTABLE::1.2.3.4:1::COMMUNITY="PRIVATE",TRAPPORT=162,TRAPVER=SNMPV1 ;
2. ENT-TRAPTABLE::"[3ffe:0501:0008:0000:0260:97ff:fe40:efab]":1::COMMUNITY="PRIVATE",TRAPPORT=162,TRAPVER=SNMPV1;

Table 14-26 Parameter Support

Parameter	Description
<AID>	Access identifier from the “27.17 IPADDR” section on page 27-26 . IP address identifies the trap destination. Only numeric IP addresses are allowed.
<COMMUNITY>	Community associated with the trap destination. Community name is a string with up to 32 characters.
<TRAPPORT>	(Optional) UDP port number associated with the trap destination. The UDP port number default is 162. TRAPPORT is an integer.
<TRAPVER>	(Optional) SNMP version number. Defaults to SNMPv1. The parameter type is SNMP_VERSION, which is the SNMP version.
• SNMPV1	(Default) SNMP Version 1
• SNMPV2	SNMP Version 2

14.42 ENT-TUNNEL-FIREWALL

The Enter Tunnel Firewall (ENT-TUNNEL-FIREWALL) command creates a firewall tunnel.

Usage Guidelines

None

Category	System
Security	Provisioning
Input Format	ENT-TUNNEL-FIREWALL:[<TID>]::<CTAG>:::[SRCADDR=<SRCADDR>], [SRCMASK=<SRCMASK>],[DESTADDR=<DESTADDR>],[DESTMASK=<DESTMASK>];
Input Example	ENT-TUNNEL-FIREWALL:TID::CTAG:::SRCADDR=192.168.100.52, SRCMASK=255.255.255.0,DESTADDR=192.168.101.14,DESTMASK=255.255.255.0;

Table 14-27 **Parameter Support**

Parameter	Description
<SRCADDR>	(Optional) Source IP address. SRCADDR is a string.
<SRCMASK>	(Optional) Source mask. SRCMASK is a string.
<DESTADDR>	(Optional) Destination IP address. DESTADDR is a string.
<DESTMASK>	(Optional) Destination mask. DESTMASK is a string.

14.43 ENT-TUNNEL-PROXY

The Enter Tunnel Proxy (ENT-TUNNEL-PROXY) command creates a proxy tunnel.

Usage Guidelines	None
Category	System
Security	Provisioning
Input Format	ENT-TUNNEL-PROXY:[<TID>]::<CTAG>:::[SRCADDR=<SRCADDR>], [SRCMASK=<SRCMASK>],[DESTADDR=<DESTADDR>],[DESTMASK=<DESTMASK>];
Input Example	ENT-TUNNEL-PROXY:TID::CTAG:::SRCADDR=192.168.100.52,SRCMASK=255.255.255.0, DESTADDR=192.168.101.14,DESTMASK=255.255.255.0;

Table 14-28 **Parameter Support**

Parameter	Description
<SRCADDR>	(Optional) Source IP address. SRCADDR is a string.
<SRCMASK>	(Optional) Source mask. SRCMASK is a string.
<DESTADDR>	(Optional) Destination IP address. DESTADDR is a string.
<DESTMASK>	(Optional) Destination mask. DESTMASK is a string.

14.44 ENT-UNICFG

The Enter User Network Interface Configuration (ENT-UNICFG) command creates UNI configuration which informs the circuit that the two ports specified in the command acts as an entry or exit point of an optical circuit.

Usage Guidelines

- Before executing the ENT-UNICFG command, the node should be configured with an optical side and an internal patchcords between a multiplexer, demultiplexer, and a mesh card.
- The source port should be an ADD port and destination port should be a DROP port.
- By default, the VALMODE parameter value is FULL and the VALZONE parameter value is GREEN.
- With the VALMODE parameter value as NONE, the VALZONE parameter is not applicable.
- RESTTYPE as REVERT is not applicable for UNICFG.

Category

NCS

Security

Provisioning

Input Format

ENT-UNICFG:[<TID>]:<SRC>:<CTAG>::<RVRSID>,<RSYSIP>,<RIFCIP>,<MSTPIP>,<COMMI P>:[VALMODE=<OPTVAL>],[VALZONE=<OPRZONE>],[ADMINSTATE=<ADMINSTATE>],[RE STTYPE=<RESTTYPE>],[CKTPRIORITY=<CKTPRIORITY>],[DSPWROFS=<DSPWROFS>],[US PWROFS=<USPWROFS>][:];

Input Example

ENT-UNICFG::LINE-1-6-4-RX:1::LINE-1-6-4-TX,10.11.12.13,14.15.16.17,18.19.20.21,22.23.24.25: VALMODE=FULL,VALZONE=GREEN,DSPWROFS=2;

Table 14-29 **Parameter Support**

Parameter	Description
<SRC>	Source AID from the “27.1 ALL” section on page 27-1 .
<RVRSID>	Destination AID from the “27.1 ALL” section on page 27-1 .

Table 14-29 **Parameter Support**

Parameter	Description
<RSYSIP>	Remote system IP.
<RIFCIP>	Remote interface IP.
<MSTPIP>	MSTP interface IP.
<COMMIP>	Communication IP.
<VALMODE>	Identifies the validation mode.
• NONE	No optical validation is performed.
• FULL	The optical validation is performed as indicated in VALZONE parameter.
<VALZONE>	Identifies the validation operate zone.
• UNKNOWN	Not evaluated.
• GREEN	Margin > 3 sigma.
• YELLOW	1 < margin < 3 sigma.
• ORANGE	0 < margin < 1 sigma.
• RED	-3 < margin < 0 sigma.
• OUT	Margin < -3 sigma.
<ADMINSTATE>	Identifies the adminstate is UP or DOWN.
• UP	Indicates Adminstate is UP and UNI Services can be activated.
• DOWN	Indicates Adminstate is DOWN and UNI Services cannot be activated.
<RESTTYPE>	Identifies the restoration type on UNI configuration.
• NONE	None restoration type for UNICFG.
• RESTORE	Restore restoration type for UNICFG.
<CKTLABEL>	Circuit label.
<CKTPRIORITY>	Circuit Priority.
<DSPWROFS>	Down stream power offset.
<USPWROFS>	Up stream power offset.

14.45 ENT-USER-SECU

The Enter User Security (ENT-USER-SECU) command adds a user account. Only a Superuser can use the ENT-USER-SECU command. Each user created by the Superuser has one of these four privilege levels:

1. Retrieve [RTRV]: Users with this security level can retrieve information from the node, but cannot modify anything. The default idle time for Retrieve is unlimited.
2. Maintenance [MAINT]: Users with this security level can retrieve information from the node and perform limited maintenance operations such as card resets, Manual/Force/Lockout on cross-connects or in protection groups, and BLSR maintenance. The default idle time for a Maintenance user is 60 minutes.

3. Provisioning [PROV]: Users with this security level can perform all maintenance actions, and all provisioning actions except those restricted to superusers. The default idle time for Provisioning is 30 minutes.
4. Superuser [SUPER]: Users with this security level can perform all PROV user actions, plus creating/deleting user security profiles, setting basic system parameters such as time/date, node name, IP address, and doing database backup and restore. The default idle time for Superuser is 15 minutes.

Usage Guidelines

- Passwords are masked for the following security commands: ACT-USER, ED-PID, ENT-USER-SECU and ED-USER-SECU. Access to a TL1 session by any means will have the password masked. The CTC Request History and Message Log will also show the masked commands. When a password-masked command is reissued by double-clicking the command from CTC Request History, the password will still be masked in the CTC Request History and Message Log. The actual password that was previously issued will be sent to the NE. To use a former command as a template only, single-click the command in CTC Request History. The command will be placed in the Command Request text box, where you can edit the appropriate fields prior to reissuing it.
- In CTC, TL1 accepts the UID length of 2 to 20 characters. The minimum length for PID and the password character rule can be configured using the command SET-ATTR-SECUDFLT. If minimum length for PID is selected as 2, it is mandatory to select ANY_CHAR as the password character rule, but if the password character rule is selected as ANY_CHAR, minimum length for PID can be selected as 2 or 4 or 6 or 8 or 10 or 12.
- Prior execution of SET-ATTR-SECUDFLT command is mandatory to set the minimum password length (PWDMINLEN) and password character rule (PWDCHRULE) for the PID to be entered in ENT-USER-SECU command, else default minimum length and password character rule is applied.

Category

Security

Security

Superuser

Input Format

ENT-USER-SECU:[<TID>]:<UID>:<CTAG>::<PID>,<UAP>[:];

Input Example

ENT-USER-SECU:PETALUMA:CISCO15:123::PSWD11#,MAINT;

Table 14-30 Parameter Support

Parameter	Description
<UID>	User Identifier. Any combination of up to 20 alphanumeric characters. The minimum UID size is 2. UID is a string.
<PID>	User's password or Private Identifier. Minimum length of the PID depends on the PWDMINLEN, the type of characters to be entered depends on the PWDCHRULE, and maximum length depends on PWDMAXLEN set by SET-ATTR-SECUDFLT command. Note PID cannot be the same as or contain the user ID (UID), for example, if the user ID is CSNL25 the password cannot be CSNL25#. Note PID must have one nonalphabetic and one special (+,% , or #) character. Note PID toggling is not permitted; for example, if the current password is CSNL25#, the new password cannot be CSNL25#.
<UAP>	User's access privilege. The parameter type is PRIVILEGE, which is the security level.
• MAINT	Maintenance security level
• PROV	Provision security level
• RTRV	Retrieve security level
• SUPER	Superuser security level
• ROOT_USER	Root user.
• SEC_SUPER	Security super user.
• SEC_USER	Security user.

14.46 ENT-VCG

The Enter Virtual Concatenated Group (ENT-VCG) command creates a VCG object.

Usage Guidelines

- VCG on ML-Series cards supports two members and supported subrates are: VC3, VC4, or VC44C. ML-Series VCG also supports SW-LCAS or NONE.
- VCG on the FC_MR-4 card supports eight members and the supported subrate is limited to VC4. The FC_MR-4 card VCG has no link capacity adjustment scheme (LCAS) support (NONE).

Category

VCAT

Security

Provisioning

Input Format

ENT-VCG:[<TID>]:<SRC>:<CTAG>:::TYPE=<TYPE>,TXCOUNT=<TXCOUNT>,[CCT=<CCT>],[LCAS=<LCAS>],[BUFFERS=<BUFFERS>],[NAME=<NAME>];

Input Example ENT-VCG:NODE1:FAC-1-1:1234:::TYPE=VC3,TXCOUNT=8,CCT=2WAY,LCAS=LCAS,BUFFERS=DEFAULT,NAME="VCG1";

Table 14-31 **Parameter Support**

Parameter	Description
<SRC>	Source access identifier from the “27.15 FACILITY” section on page 27-23 . ML1000-2 and ML100T-12 cards use the VFAC AID. The FC_MR-4 card uses the FAC AID.
<TYPE>	The type of the entity being provisioned. Null indicates not applicable. TYPE can be a common language equipment identifier (CLEI) code or another value. The type of member cross-connect. ML1000-2 and ML100T-12 cards support VC3, VC4 and VC44C. The FC_MR-4 card supports VC4 only. The parameter type is MOD_PATH, which is the VC path modifier.
• VC3	VC3 Path
• VC44C	VC44C Path
• VC38C	VC38C Path
• VC464C	VC464C Path
• VC48C	VC48C Path
• VC4	VC4 Path
• VC416C	VC416C Path
• VC42C	VC42C Path
• VC43C	VC43C Path
• VC12	VC12 Path
<TXCOUNT>	Number of members in the transmit direction. For ML1000-2 and ML100T-12 cards, the only valid value is 2. For the FC_MR-4 card, the only valid value is 8. TXCOUNT is an integer.
<CCT>	(Optional) Type of connection (one-way or two-way). CCT is the cross-connect type for the VCG member cross-connects. It must be the same for all the member cross-connects of a VCG. The parameter type is CCT, which is the type of cross-connect to be created.
• 1WAY	A unidirectional connection from a source tributary to a destination tributary
• 1WAYDC	SNCP multicast drop with 1-way continue
• 1WAYEN	SNCP multicast end node with 1-way continue
• 1WAYMON	A bidirectional connection between the two tributaries Note 1WAYMON is not supported with TL1. However, it is still supported from CTC. Using CTC you can create 1WAYMON cross-connects and can be retrieved through TL1.
• 1WAYPCA	A unidirectional connection from a source tributary to a destination tributary on the protection path/fiber
• 2WAY	A bidirectional connection between the two tributaries
• 2WAYDC	A Bidirectional Drop and Continue connection applicable only to SNCP traditional and integrated DRIs
• 2WAYPCA	A bidirectional connection between the two tributaries on the extra protection path/fiber
• DIAG	Diagnostics cross-connect. Supports BERT (MS-SPRing PCA diagnostics cross-connect)
<LCAS>	(Optional) Link capacity adjustment scheme. The parameter type is LCAS, which is the link capacity adjustment scheme mode for the VCG created.
• LCAS	LCAS is enabled

Table 14-31 Parameter Support

Parameter	Description
• NONE	No LCAS is created
• SW-LCAS	Supports the temporary removal of a VCG member during the member failure. Only supported by the ML1000-2, ML100T-12, ML-MR-10, CE-MR-10, CE-MR-6, and CE-1000-2 cards.
<BUFFERS>	(Optional) Buffer type. The default value is DEFAULT. The FC_MR-4 and CE1000 cards support DEFAULT and EXPANDED buffers. Other data cards support DEFAULT buffers only. The parameter type is BUFFER_TYPE, which is the buffer type used in VCAT.
• DEFAULT	Default buffer value
• EXPANDED	Expanded buffer value
<NAME>	(Optional) Name of the VCAT group. The name defaults to null. Its maximum length is 32 characters. NAME is a string.

14.47 ENT-VLAN

The Enter Virtual VLAN (ENT-VLAN) command adds a new VLAN entry to the VLAN database. The VLAN database is a collection of VLANs used in an NE.

Usage Guidelines

- If the AID is invalid, an IIAC error message is returned.
- The ALL AID is invalid for this command.
- The VLAN with the specified AID must be present in the node or the command will be denied.

Category

Ethernet

Security

Provisioning

Input Format

ENT-VLAN:[<TID>]:<AID>:<CTAG>:::NAME=<NAME>,[PROTN=<PROTN>],[MACLEARNING=<MACLEARNING>],[IGMPENABLE=<IGMPENABLE>],[IGMPFASTLEAVE=<IGMPFASTLEAVE>],[IGMPSUPP=<IGMPSUPP>][:];

Input Example

ENT-VLAN:ROCKS:VLAN-4096:1:::NAME=MYVLAN,PROTN=N,MACLEARNING=Y,IGMPENABLE=Y,IGMPFASTLEAVE=Y,IGMPSUPP=Y;

Table 14-32 Parameter Support

Parameter	Description
<AID>	The AID is used to access the VLAN.
• VLAN-ALL	All AIDs for the VLAN.

Table 14-32 **Parameter Support**

Parameter	Description
• VLAN-{0-4096}	Single AID for the VLAN. VLAN ID 0 is reserved for untagged VLAN.
<NAME>	(Optional) Indicates the name of the VLAN.
<PROTN>	Indicates the VLAN protection feature. This is an optional parameter indicating if the VLAN being created/modified is protected.
• N	Not protected (Default)
• Y	Protected
<MACLEARNING>	MAC Address Learning Mode. This activates the MAC address learning on interface to avoid packet broadcasting. Default value is - "N"
• Y	Activate the MAC learning.
• N	Disable MAC learning.
<IGMPENABLE>	Internet Group Management Protocol status.
• Y	Enabled
• N	Disabled
<IGMPFASTLEAVE>	Internet Group Management Protocol FastLeave status. When enabled, decreases the delay between receiving a Leave Group packet and disabling forwarding of multicast
• Y	Enabled
• N	Disabled
<IGMPSUPP>	IGMP Report suppression. Indicates multicast registered client hiding. When enabled (default) it prevents duplicate reports from being sent to the multicast devices.
• Y	Enabled
• N	Disabled

14.48 ENT-WDMANS

The Enter Wavelength Division Multiplexing Automatic Node Setup (ENT-WDMANS) command adds the automatic optical node setup application attributes.

Usage Guidelines

- If the AID is invalid, an IIAC (Invalid AID) error message is returned.
- The ALL AID is invalid for this command.

Category

NCS

Security

Maintenance

Input Format

(For legacy package)


```
ENT-WDMANS:[<TID>]:<AID>:<CTAG>::[<WLEN>]:[VOAATTN=<VOAATTN>],[POWEROSC=
<POWEROSC>],[NTWTYPE=<NTWTYPE>],[CHLOSS=<CHLOSS>],[GAIN=<GAIN>],[TILT=<TI
LT>],[CHPWR=<CHPWR>],[AMPLMODE=<AMPLMODE>],[RATIO=<RATIO>],[OSCLOSS=<OS
CLOSS>],[DITHER=<DITHER>],[TOTALPWR=<TOTALPWR>],[TOTALPWRMILLIW=<TOTALP
WRMILLIW>],[HIGHSLVEXP=<HIGHSLVEXP>],[LOWSLVEXP=<LOWSLVEXP>],[TOTALPWR
DBM=<TOTALPWRDBM>];
```

(For flex package)

```
ENT-WDMANS:[<TID>]:<AID>:<CTAG>::[<WLEN>]:[VOAATTN=<VOAATTN>],[POWEROSC=
<POWEROSC>],[NTWTYPE=<NTWTYPE>],[CHLOSS=<CHLOSS>],[GAIN=<GAIN>],[TILT=<TI
LT>],[CHPWR=<CHPWR>],[AMPLMODE=<AMPLMODE>],[RATIO=<RATIO>],[OSCLOSS=<OS
CLOSS>],[DITHER=<DITHER>],[TOTALPWRMILLIW=<TOTALPWRMILLIW>],[HIGHSLVEXP
=<HIGHSLVEXP>],[LOWSLVEXP=<LOWSLVEXP>],[TOTALPWRDBM=<TOTALPWRDBM>],[E
NABLELOGO=<ENABLELOGO>][:];
```

Input Example

```
ENT-WDMANS:PENNGROVE:WDMNODE:114::1530.33:VOAATTN=2.5,POWEROSC=5.0,NTWT
YPE=METRO-CORE,CHPWR=2.0,DITHER=10,TOTALPWR=150;
```

Table 14-33 **Parameter Support**

Parameter	Description
<AID>	The AID is used to access the WDM node or a single port of the NCS node.
• WDMNODE	Indicates the WDM node of an MSTP and accesses the NWTWTYPE and DITHER WDMANS node parameters.
• LINE	The optical transport section port.
• BAND	The optical multiplex section port.
• CHAN	The optical channel port.
<WLEN>	(Optional) The parameter type is OPTICAL_WLEN, which indicates the optical wavelength.
• 1310	Wavelength 1310
• 1470	Wavelength 1470
• 1490	Wavelength 1490
• 1510	Wavelength 1510
• 1528.77	Wavelength 1528.77
• 1529.16	Wavelength 1529.16
• 1529.55	Wavelength 1529.55
• 1529.94	Wavelength 1529.94
• 1530	Wavelength 1530
• 1530.33	Wavelength 1530.33
• 1530.73	Wavelength 1530.73
• 1531.12	Wavelength 1531.12
• 1531.51	Wavelength 1531.51
• 1531.90	Wavelength 1531.90

Table 14-33 **Parameter Support**

Parameter	Description
• 1532.29	Wavelength 1532.29
• 1532.68	Wavelength 1532.68
• 1533.07	Wavelength 1533.07
• 1533.47	Wavelength 1533.47
• 1533.86	Wavelength 1533.86
• 1534.25	Wavelength 1534.25
• 1534.64	Wavelength 1534.64
• 1535.04	Wavelength 1535.04
• 1535.43	Wavelength 1535.43
• 1535.82	Wavelength 1535.82
• 1536.22	Wavelength 1536.22
• 1536.61	Wavelength 1536.61
• 1537	Wavelength 1537
• 1537.40	Wavelength 1537.40
• 1537.79	Wavelength 1537.79
• 1538.19	Wavelength 1538.19
• 1538.58	Wavelength 1538.58
• 1538.98	Wavelength 1538.98
• 1539.37	Wavelength 1539.37
• 1539.77	Wavelength 1539.77
• 1540.16	Wavelength 1540.16
• 1540.56	Wavelength 1540.56
• 1540.95	Wavelength 1540.95
• 1541.35	Wavelength 1541.35
• 1541.75	Wavelength 1541.75
• 1542.14	Wavelength 1542.14
• 1542.35	Wavelength 1542.35
• 1542.54	Wavelength 1542.54
• 1542.94	Wavelength 1542.94
• 1543.33	Wavelength 1543.33
• 1543.73	Wavelength 1543.73
• 1544.13	Wavelength 1544.13
• 1544.53	Wavelength 1544.53
• 1544.92	Wavelength 1544.92
• 1545.32	Wavelength 1545.32
• 1545.72	Wavelength 1545.72

Table 14-33 **Parameter Support**

Parameter	Description
• 1546.12	Wavelength 1546.12
• 1546.52	Wavelength 1546.52
• 1546.92	Wavelength 1546.92
• 1547.32	Wavelength 1547.32
• 1547.72	Wavelength 1547.72
• 1548.12	Wavelength 1548.12
• 1548.51	Wavelength 1548.51
• 1548.92	Wavelength 1548.92
• 1549.32	Wavelength 1549.32
• 1549.71	Wavelength 1549.71
• 1550	Wavelength 1500
• 1550.12	Wavelength 1550.12
• 1550.52	Wavelength 1550.52
• 1550.92	Wavelength 1550.92
• 1551.32	Wavelength 1551.32
• 1551.72	Wavelength 1551.72
• 1552.12	Wavelength 1552.12
• 1552.52	Wavelength 1552.52
• 1552.93	Wavelength 1552.93
• 1553.33	Wavelength 1553.33
• 1553.73	Wavelength 1553.73
• 1554.13	Wavelength 1554.13
• 1554.13	Wavelength 1554.13
• 1554.94	Wavelength 1554.94
• 1555.34	Wavelength 1555.34
• 1555.75	Wavelength 1555.75
• 1556.15	Wavelength 1556.15
• 1556.55	Wavelength 1556.55
• 1556.96	Wavelength 1556.96
• 1557.36	Wavelength 1557.36
• 1557.77	Wavelength 1557.77
• 1558.17	Wavelength 1558.17
• 1558.58	Wavelength 1558.58
• 1558.98	Wavelength 1558.98
• 1559.39	Wavelength 1559.39
• 1559.79	Wavelength 1559.79

Table 14-33 **Parameter Support**

Parameter	Description
• 1560.20	Wavelength 1560.20
• 1560.61	Wavelength 1560.61
• 1561.01	Wavelength 1561.01
• 1561.42	Wavelength 1561.42
• 1561.83	Wavelength 1561.83
• 1562.23	Wavelength 1562.23
• 1562.64	Wavelength 1562.64
• 1563.05	Wavelength 1563.05
• 1563.45	Wavelength 1563.45
• 1563.86	Wavelength 1563.86
• 1564.27	Wavelength 1564.27
• 1564.68	Wavelength 1564.68
• 1565.09	Wavelength 1565.09
• 1565.50	Wavelength 1565.50
• 1565.90	Wavelength 1565.90
• 1566.31	Wavelength 1566.31
• 1566.72	Wavelength 1566.72
• 1570	Wavelength 1570
• 1570.83	Wavelength 1570.83
• 1571.24	Wavelength 1571.24
• 1571.65	Wavelength 1571.65
• 1572.06	Wavelength 1572.06
• 1572.48	Wavelength 1572.48
• 1572.89	Wavelength 1572.89
• 1573.30	Wavelength 1573.30
• 1573.71	Wavelength 1573.71
• 1574.13	Wavelength 1574.13
• 1574.54	Wavelength 1574.54
• 1574.95	Wavelength 1574.95
• 1575.37	Wavelength 1575.37
• 1575.78	Wavelength 1575.78
• 1576.20	Wavelength 1576.20
• 1576.61	Wavelength 1576.61
• 1577.03	Wavelength 1577.03
• 1577.44	Wavelength 1577.44
• 1577.86	Wavelength 1577.86

Table 14-33 **Parameter Support**

Parameter	Description
• 1578.27	Wavelength 1578.27
• 1578.69	Wavelength 1578.69
• 1579.10	Wavelength 1579.10
• 1579.52	Wavelength 1579.52
• 1579.93	Wavelength 1579.93
• 1580.35	Wavelength 1580.35
• 1580.77	Wavelength 1580.77
• 1581.18	Wavelength 1581.18
• 1581.60	Wavelength 1581.60
• 1582.02	Wavelength 1582.02
• 1582.44	Wavelength 1582.44
• 1582.85	Wavelength 1582.85
• 1583.27	Wavelength 1583.27
• 1583.69	Wavelength 1583.69
• 1584.11	Wavelength 1584.11
• 1584.53	Wavelength 1584.53
• 1584.95	Wavelength 1584.95
• 1585.36	Wavelength 1585.36
• 1585.78	Wavelength 1585.78
• 1586.20	Wavelength 1586.20
• 1586.62	Wavelength 1586.62
• 1587.04	Wavelength 1587.04
• 1587.46	Wavelength 1587.46
• 1587.88	Wavelength 1587.88
• 1588.30	Wavelength 1588.30
• 1588.73	Wavelength 1588.73
• 1589.15	Wavelength 1589.15
• 1589.57	Wavelength 1589.57
• 1589.99	Wavelength 1589.99
• 1590	Wavelength 1590
• 1590.41	Wavelength 1590.41
• 1590.83	Wavelength 1590.83
• 1591.26	Wavelength 1591.26
• 1591.68	Wavelength 1591.68
• 1592.10	Wavelength 1592.10
• 1592.52	Wavelength 1592.52

Table 14-33 **Parameter Support**

Parameter	Description
• 1592.95	Wavelength 1592.95
• 1593.37	Wavelength 1593.37
• 1593.79	Wavelength 1593.79
• 1594.22	Wavelength 1594.22
• 1594.64	Wavelength 1594.64
• 1595.06	Wavelength 1595.06
• 1595.49	Wavelength 1595.49
• 1596.34	Wavelength 1596.34
• 1596.76	Wavelength 1596.76
• 1597.19	Wavelength 1597.19
• 1597.62	Wavelength 1597.62
• 1598.04	Wavelength 1598.04
• 1598.47	Wavelength 1598.47
• 1598.89	Wavelength 1598.89
• 1599.32	Wavelength 1599.32
• 1599.75	Wavelength 1599.75
• 1600.06	Wavelength 1600.06
• 1601.03	Wavelength 1601.03
• 1601.46	Wavelength 1601.46
• 1601.88	Wavelength 1601.88
• 1602.31	Wavelength 1602.31
• 1602.74	Wavelength 1602.74
• 1603.17	Wavelength 1603.17
• 1603.60	Wavelength 1603.60
• 1604.03	Wavelength 1604.03
• 1610	Wavelength 1610
<VOAATTN>	The value of calibrated attenuation for the VOA expressed in dBm. The range is 0.0 to +30.0. VOAATTN is a float.
<POWEROSC>	WDM-ANS OSC power parameter.
<NTWTYPE>	WDM-ANS network type parameter.
<CHLOSS>	WDM-ANS channel loss parameter.
<GAIN>	WDM-ANS amplifier gain parameter.
<TILT>	WDM-ANS amplifier tilt parameter.
<CHPWR>	WDM-ANS channel power parameter.
<AMPLMODE>	(Optional) The optical amplification control mode. The parameter type is AMPL_MODE, which defines amplifier control mode.
• GAIN	The amplifier always maintain a fixed gain.

Table 14-33 Parameter Support

Parameter	Description
• POWER	The amplifier maintains the output power to a fixed value.
<OSCLOSS>	WDM-ANS OSC channel loss parameter.
<DITHER>	WDM-ANS WXC dithering parameter.
<TOTALPWR>	WDM-ANS Raman amplifier total power in mW.
<TOTALPWRMILLIW>	Optical power setting in mW.
<HIGHSLVEXP>	Span loss verification—high value.
<LOWSLVEXP>	Span loss verification—low value.
<TOTALPWRDBM>	Optical power setting in dBm.
<ENABLELOGO>	Enable logo.

14.49 ENT-WDMSIDE

The Enter Wavelength Division Multiplexing Side (ENT-WDMSIDE) command adds a new WDM node side and defines its attributes.

Usage Guidelines

- The LINEIN and LINEOUT attributes are mandatory and they specify the input and output lines of the node.
- If the AID is invalid, an IIAC error message is returned.
- The ALL AID is invalid for this command.

Category

NCS

Security

Maintenance

Input Format

ENT-WDMSIDE:[<TID>]:<AID>:<CTAG>:::LINEIN=<LINEIN>,LINEOUT=<LINEOUT>[:];

Input Example

ENT-WDMSIDE:TEXAS:WDMSIDE-A:114:::LINEIN=LINE-1-3-RX,LINEOUT=LINE-1-3-TX;

Table 14-34 Parameter Support

Parameter	Description
<AID>	The AID is used to access the WDM side of an NCS node.
• WDMSIDE-{A,B,C,D,E,F,G,H}	NCS side identifier

Table 14-34 **Parameter Support**

Parameter	Description
<LINEIN>	Used to access the Optical Transport Section (OTS) layer of cards
LINE[-{1-8}]-{1-6,12-17}-{1-3}-ALL	All the lines (COM=1, OSC=2, LINE=3) in OPT-BST, OPT-BST-E, OPT-BST-L, and OPT-AMP-17-C cards where the format is LINE-[SHELF]-[SLOT]-[PORT]-ALL.
LINE[-{1-8}]-{1-6,12-17}-{1-3}-{RX,TX}	The receive/transmit lines (COM=1, OSC=2, LINE=3) in OPT-BST, OPT-BST-E, OPT-BST-L, and OPT-AMP-17-C cards where the format is LINE-[SHELF]-[SLOT]-[PORT]-[DIRN].
<LINEOUT>	Used to access Optical Transport Section (OTS) layer of Optical Network units.
LINE[-{1-8}]-{1-6,12-17}-{1-3}-ALL	All the lines (COM=1, OSC=2, LINE=3) in OPT-BST, OPT-BST-E, OPT-BST-L, and OPT-AMP-17-C cards where the format is LINE-[SHELF]-[SLOT]-[PORT]-ALL.
LINE[-{1-8}]-{1-6,12-17}-{1-3}-{RX,TX}	The receive/transmit lines (COM=1, OSC=2, LINE=3) in OPT-BST, OPT-BST-E, OPT-BST-L, and OPT-AMP-17-C cards where the format is LINE-[SHELF]-[SLOT]-[PORT]-[DIRN].



EX Commands

This chapter provides exercise (EX) commands for the Cisco NCS 2002 and Cisco NCS 2006.

15.1 EX-SW-<STM_MSSPR>

The Exercise Protection Switch for STM4, STM16, STM64, and STM256 (EX-SW-<STM_MSSPR>) command exercises the algorithm for switching from a working facility to a protection facility without actually performing a switch. It is assumed that the facility being exercised is the working card. The exercise switching success or failure result will be indicated by an automatic alarm. See [Table 29-1 on page 29-1](#) for supported modifiers by platform.

Usage Guidelines

- Exercise switch for the NCS protection line is not supported in this release. If you send this command to the protection card, an error message will be returned. In addition to all normal INPUT, EQUIPAGE, and PRIVILEGE error codes, the following error codes are also included in this command:
 - Status, Not in Valid State (SNVS)
 - Status, Requested Operation Failed (SROF)
 - Status, Switch Request Denied (SSRD)
- If you send the EX-SW-<STM_MSSPR> command to both east and west sides/spans of a two-fiber or four-fiber ring within a short time period (less than 30 to 45 seconds) the system will only execute one (WEST) side EXER-RING query, and preempt the other (EAST) side query. No event messages is reported for the preempted side, and it will be in APS-CLEAR switching state. This is applicable in the following situations:
 - A single command with both side/span AIDs (in the list AID format) of the same two-fiber or four-fiber ring
 - Separate queries (through Transaction Language One [TL1], Cisco Transport Controller [CTC], or TL1 and CTC) on both sides/spans of the same two-fiber or four-fiber ring
- DIRN is an optional parameter. A NULL value of this parameter defaults to BTH for a two-fiber or four-fiber MS-SPRing protection group. DIRN follows these rules:
 - TRMT will always fail for any kind of protection group.
 - For two-fiber and four-fiber MS-SPRing protection groups, both the RCV and TRMT direction will fail.

- Only BTH is a valid parameter. EX-SW-<STM_TYPE> can be operated only on MS-SPRing protection groups.

Category MS-SPRing

Security Maintenance

Input Format EX-SW-<STM_MSSPR>[:<TID>]:<AID>:<CTAG>::,<SWITCHTYPE>],[<DIRECTION>];

Input Example EX-SW-STM16:CISCO:FAC-12-1:123::,SPAN,BTH;

Table 15-1 Parameter Support

Parameter	Description
<AID>	Access identifier from the “27.15 FACILITY” section on page 27-23. Identifies the facility in the NE to which the switch request is directed.
<SWITCHTYPE>	(Optional) Switch type. Must not be null. The parameter type is SWITCH_TYPE, which is the MS-SPRing switch type. MANWKSWBK, MANWKSWPR, FRCDWKSWBK, FRCDWKSWPR, LOCKOUTOFPR, and LOCKOUTOFWK are retrieve-only values for RTRV-PROTNSW-STM commands. They are not applicable for the OPR-PROTNSW-STM commands. RING and SPAN are the only allowed values for MS-SPRing protection.
• FRCDWKSWBK	Working card is forced to switch back to working.
• FRCDWKSWPR	Working card is forced to switch to the protection card.
• LOCKOUTOFPR	Lockout of protection.
• LOCKOUTOFWK	Lockout of working.
• MANWKSWBK	Manual switch of working card back to working.
• MANWKSWPR	Manual switch of working card back to the protection card.
• RING	MS-SPRing ring switch type.
• SPAN	MS-SPRing span switch type.
<DIRECTION>	(Optional) Direction. A null value defaults to RCV. The parameter type is DIRECTION, which is the transmit and receive directions.
• BTH	Both transmit and receive directions
• RCV	Receive direction only
• TRMT	Transmit direction only

15.2 EX-SW-<OCN_BLSR>

The Exercise Protection Switch for OC12, OC48, OC192, or OC768 (EX-SW-<OCN_BLSR>) command exercises the algorithm for switching from a working facility to a protection facility without actually performing a switch. It is assumed that the facility being exercised is the working unit. The success or failure of the exercise switching will be indicated by an automatic alarm.

Usage Guidelines

See [Table 29-1 on page 29-1](#) for supported modifiers by platform.

Exercise switch for the SONET protection line is not supported in this release. If sending this command to the protection unit, an error message will be returned. In addition to all normal INPUT, EQUIPAGE, and PRIVILEGE error codes, the following error codes are also included in this command:

- SNVS (Status, Not in Valid State)
- SROF (Status, Requested Operation Failed)
- SSRD (Status, Switch Request Denied)



Note

- If you send the EX-SW-<OCN_BLSR> command to both the east and the west sides/spans of a two-fiber or four-fiber ring within a short time period (less than 30 to 45 seconds) the system will only execute one (WEST) side EXER-RING query, and preempt the other (EAST) side query. There will be no event messages reported for the preempted side, and it will be in APS-CLEAR switching state. Examples of this are:
 - A single command with both side/span AIDs (in the list AID format) of the same two-fiber or four-fiber ring
 - Separate queries (through TL1 or Cisco Transport Controller [CTC], or TL1 and CTC) on both sides/spans of the same two-fiber or four-fiber ring
- DIRN is an optional parameter. A NULL value of this parameter defaults to BTH for a two-fiber or four-fiber BLSR protection group. DIRN follows these rules:
 - TRMT will always fail for any kind of protection group.
 - For two-fiber and four-fiber BLSR protection groups, both the RCV and TRMT direction will fail.
 - Only BTH is a valid parameter. EX-SW-<OCN_TYPE> can be operated only on bidirectional line switched ring (BLSR) protection groups.

Category

BLSR

Security

Maintenance

Input Format

EX-SW-<OCN_BLSR>:[<TID>]:<AID>:<CTAG>::,[<SWITCHTYPE>],[<DIRECTION>];

Input Example EX-SW-OC48:CISCO:FAC-12-1:123::,SPAN,BTH;

Input Parameters	<AID>	Access identifier from the “ 27.15 FACILITY ” section on page 27-23 . Identifies the facility in the NE to which the switch request is directed.
	<SWITCHTYPE>	Switch type. Must not be null. The parameter type is SWITCH_TYPE, which is the BLSR switch type. MANWKSWBK, MANWKSWPR, FRCDWKSWBK, FRCDWKSWPR, LOCKOUTOFPR, and LOCKOUTOFWK are retrieve-only values for RTRV-PROTNSW-OCn commands. They are not applicable for the OPR-PROTNSW-OCn commands. RING and SPAN are the only allowed values for BLSR protection.
	• FRCDWKSWBK	Working unit is forced to switch back to working
	• FRCDWKSWPR	Working unit is forced to switch to the protection unit
	• LOCKOUTOFPR	Lock out of protection
	• LOCKOUTOFWK	Lock out of working
	• MANWKSWBK	Manual switch of working unit back to working
	• MANWKSWPR	Manual switch of working unit back to the protection unit
	• RING	BLSR ring switch type
	• SPAN	BLSR span switch type
	<DIRECTION>	Direction. A null value defaults to RCV. The parameter type is DIRECTION (transmit and receive direction)
	• BTH	Both transmit and receive directions
	• RCV	Receive direction only
	• TRMT	Transmit direction only



INH Commands

This chapter provides inhibit (INH) commands for the Cisco NCS2002 and Cisco NCS 2006.

16.1 INH-CONSOLE-PORT

The Inhibit Console Port (INH-CONSOLE-PORT) command is used to turn off the console port for an ML-Series card.

Usage Guidelines	None	
Category	Security	
Security	Superuser	
Input Format	INH-CONSOLE-PORT:[<TID>]:<AID>:<CTAG>;	
Input Example	INH-CONSOLE-PORT:CISCONODE:SLOT-2:123;	
Input Parameters	<AID>	Access identifier from the “27.13 EQPT” section on page 27-21.

16.2 INH-MSG-ALL

The Inhibit Message All (INH-MSG-ALL) command inhibits all REPT ALM and REPT EVT autonomous messages from being transmitted.

Usage Guidelines

- See the ALW-MSG-ALL command to resume these autonomous messages. When a TL1 session starts, the REPT ALM and REPT EVT messages are allowed by default.
- If this command is used twice in the same session, the Already Inhibited (SAIN) error message is reported.

Category

System

Security

Retrieve

Input Format

INH-MSG-ALL:[<TID>]:[<AID>]:<CTAG>[:,,];

Input Example

INH-MSG-ALL:PETALUMA:ALL:550;

Input Parameters

<AID>	(Optional) Access identifier from the “27.1 ALL” section on page 27-1.

16.3 INH-MSG-DBCHG

The Inhibit Database Change Message (INH-MSG-DBCHG) command disables the REPT DBCHG message.

Usage Guidelines

None

Category

Log

Security

Retrieve

Input Format

INH-MSG-DBCHG:[<TID>]:<CTAG>[:,,];

Input Example

INH-MSG-DBCHG:CISCO::123;

Input Parameters

None

16.4 INH-MSG-SECU

The Inhibit Message Security (INH-MSG-SECU) command inhibits the REPT EVT SECU and REPT ALM SECU messages.

Usage Guidelines	None
Category	Security
Security	Superuser
Input Format	INH-MSG-SECU:[<TID>]::<CTAG>[:,,];
Input Example	INH-MSG-SECU:PETALUMA::123;
Input Parameters	None

16.5 INH-PMREPT-ALL

The Inhibit Performance Report All (INH-PMREPT-ALL) command inhibits all scheduled performance monitoring (PM) reporting. The inhibition of the PM reporting is session-based, which means the command is only effective to the TL1 session that issues this command. A TL1 session for which PM reports are inhibited will include an INHMSG-PMREPT condition when issuing TL1 command RTRV-COND-ALL.

Usage Guidelines	None
Category	Performance
Security	Retrieve
Input Format	INH-PMREPT-ALL:[<TID>]::<CTAG>;
Input Example	INH-PMREPT-ALL:NE-NAME::123;

Input Parameters	None

16.6 INH-SWDX-EQPT

The Inhibit Switch Duplex Equipment (INH-SWDX-EQPT) command inhibits automatic or manual switching on a system containing duplex equipment.

Usage Guidelines

- Use the ALW-SWDX command to release the inhibit.
- This command is not used for NCS line protection switching. For NCS line/path protection switching commands, use the OPR-PROTNSW and RLS-PROTNSW commands.
- This command is not used for 1:1 and 1:N equipment protection switching; use ALW-SWTOPROTN, ALW-SWTOWKG, INH-SWTOPROTN, INH-SWTOWKG commands instead.
- In this release, this command applies only to the XC-VXC-10G, XC-VXL-10G, and XC-VXL-2.5G cards.
- If you send this command to a TCC2/TCC2P/TCC3 card, an error message will occur because the network element (NE) treats the TCC2/TCC2P/TCC3 as a nonrevertive protection group without user control.

Category	Equipment

Security	Maintenance

Input Format	INH-SWDX-EQPT:[<TID>]:<AID>:<CTAG>[:];

Input Example	INH-SWDX-EQPT:CISCO:SLOT-1:1234;

Input Parameters	<AID> Access identifier from the “27.13 EQPT” section on page 27-21.

16.7 INH-SWTOPROTN-EQPT

The Inhibit Switch to Protection Equipment (INH-SWTOPROTN-EQPT) command inhibits automatic or manual switching of an equipment card to protection. Use the ALW-SWTOPROTN-EQPT command to release the inhibit.

Usage Guidelines

Use the INH-SWTOPROTN-EQPT command for electrical cards (such as, E1, E3, E4, and DS3i-N-12 cards) that can participate in an electrical protection group.

When performing a lockout with this command, traffic will be switched from the card specified by the AID, unless the working card being protected has failed or is missing. When performing a lock-on with this command and the working card specified in the AID is in standby, sending this command will also initiate a traffic switch. When traffic is locked on the working card or locked out of the protection card with this command, the protection card will not carry traffic, even if the working card is pulled from the system.

Sending this command to a working card in a 1:N protection group does not prevent a protection switch from another working card in the same protection group. All the working cards must be sent this command to prevent a protection switch. If the command is sent only to a subset of the working cards, only those working cards will have traffic locked on.

The inhibit state is persistent over TCC2/TCC2P/TCC3 side switches and removal/reboot of all the cards in the protection group. The inhibit state can be, but does not have to be, persistent over a complete power cycle of the NE.

The card specified by the AID will raise the condition of INHSWPR when this command is sent.

The following actions will return error messages:

- This command only supports the BTH value of the DIRN parameter. A command with any other value is considered an incorrect use of the command and will return an Input, Data Not Valid (IDNV) error message.
- This command is not used for the common control (TCC2, TCC2P, TCC3, XC-VXL-10G, XC-VXL-2.5G, or XC-VXC-10G) cards. A command on a common control card will return an Input, Invalid Access Identifier (IIAC) error message. To switch the common control cards, use the SW-DX-EQPT and ALW-SWDX-EQPT commands.
- This command is not used for optical (STM) cards. A command on an optical card will return an IIAC error message. To switch an optical card, use the OPR-PROTNSW and RLS-PROTNSW commands.
- If this command is used on a card that is not in a protection group, the Status, Not in Valid State (SNVS) error message is returned.
- If this command is used on a card that is already in the inhibit state, the SAIN error message is returned.
- Sending this command to a working card when the protect card in the same protection group has already raised the condition of INHSWWKG will return the Status, Protection Unit Locked (SPLD) error message.
- Sending this command to the protect card when a working card in the same protection group has already raised the condition of INHSWWKG will return the Status, Working Unit Locked (SWLD) error message.
- Sending this command to an active protect card when the peer working card is failed or missing will return the Status, Working Unit Failed (SWFA) error message.

As long as none of the previous error conditions apply, sending this command to missing cards will not generate any error response.

Category

Equipment

Security

Maintenance

Input Format

```
INH-SWTOPROTN-EQPT:[<TID>]:<AID>:<CTAG>[:<DIRN>];
```

Input Example

```
INH-SWTOPROTN-EQPT:CISCO:SLOT-2:123::BTH;
```

Input Parameters

<AID>	Access identifier from the “ 27.13 EQPT ” section on page 27-21. This AID can either be the working card for which switching to protection is inhibited (lock-on) or the protection card for which carrying traffic is to be inhibited (lockout).
<DIRN>	(Optional) The direction relative to the entity defined in the AID field. The direction of the switching. This command only supports the BTH value of this parameter. DIRN defaults to BTH. The parameter type is DIRECTION (transmit and receive directions).
• BTH	Both transmit and receive directions

16.8 INH-SWTOWKG-EQPT

The Inhibit Switch to Working Equipment (INH-SWTOWKG-EQPT) command inhibits automatic or manual switching of an equipment card back to the working card. Use the ALW-SWTOWKG-EQPT command to release the inhibit.

Usage Guidelines

INH-SWTOWKG-EQPT is used for electrical cards (such as, E1, E3, E4, and DS3i-N-12 cards) that can participate in an electrical protection group.

When performing a lockout with this command, the traffic will be switched from the card specified by the AID, unless the protection card has failed or is missing. When performing a lock-on with this command and the protection card specified in the AID is in standby, sending this command will initiate a traffic switch only when there is one working card in the protection group. In the case where there is more than one working card in the protection group, an error will be generated (see the error conditions that follow). When traffic is locked on the protection card or locked out of a working card with this command, the working card will not carry traffic, even if the protection card is pulled from the system.

The inhibit state is persistent over TCC2/TCC2P/TCC3 side switches and removal/reboot of all the cards in the protection group. The inhibit state can but does not have to be persistent over a complete power cycle of the NE.

The card specified by the AID will raise the condition of INHSWWKG when this command is sent.

The following actions will return error messages:

- The command only supports the BTH value of the DIRN parameter. A command with any other value is considered an incorrect use of the command and will return an IDNV error message.
- This command is not used for the common control (TCC2, TCC2P, TCC3, XC-VXL-10G, XC-VXL-2.5G, or XC-VXC-10G) cards. A command on a common control card will return an IIAC error message. To switch the common control cards, use the SW-DX-EQPT and ALW-SWDX-EQPT commands.
- This command is not used for optical (STM) cards. A command on an optical card will return an IIAC error message. To switch an optical card, use the OPR-PROTNSW and RLS-PROTNSW commands.
- If this command is used on a card that is not in a protection group, the SNVS error message is returned.

- If this command is used on a card that is already in the inhibit state, the SAIN error message is returned.
- Sending this command to a working card when the protect card in the same protection group has already raised the condition of INHSWPR will return the SPLD error message.
- Sending this command to a protect card when a working card in the same protection group has already raised the condition of INHSWPR will return the SWLD error message.
- Sending this command to an active working card when the protect card has failed or is missing will return the SPFA error message.
- Sending the INH-SWTOWKG command to an active working card when the protect card is already carrying traffic (this only occurs in a 1:N protection group with N greater than one) will return the Status, Protection Unit Active (SPAC) error message.

As long as none of the previous error conditions apply, sending this command to missing cards is allowed and will not generate any error response.

Category

Equipment

Security

Maintenance

Input Format

INH-SWTOWKG-EQPT:[<TID>]:<AID>:<CTAG>[:<DIRN>];

Input Example

INH-SWTOWKG-EQPT:CISCO:SLOT-2:123::BTH;

Input Parameters

<AID>	Access identifier from the “27.13 EQPT” section on page 27-21 . This AID can either be the working card for which switching to protection is inhibited (lock-on) or the protection card for which carrying traffic is to be inhibited (lockout).
<DIRN>	(Optional) The direction relative to the entity defined in the AID field. The direction of the switching. This command only supports the BTH value of this parameter. DIRN defaults to BTH. The parameter type is DIRECTION (transmit and receive directions)
• BTH	Both transmit and receive directions

16.9 INH-USER-SECU

The Inhibit User Security (INH-USER-SECU) command disables (without deleting) a user account, so the user is denied access to the NE. The user is disabled until reenabled through the ALW-USER-SECU command.

Usage Guidelines

- This command does not forcibly log a user off. If the user is logged in, changes do not apply until after the user has logged off.

- The user is disabled until enabled through the corresponding ALW command.

Category	Security		
Security	Superuser		
Input Format	INH-USER-SECU:[<TID>]::<CTAG>::<UID>;		
Input Example	INH-USER-SECU:PETALUMA::123::CISCO100;		
Input Parameters	<table><tr><td><UID></td><td>User identifier. UID is a string.</td></tr></table>	<UID>	User identifier. UID is a string.
<UID>	User identifier. UID is a string.		



INIT Commands

This chapter provides initialize (INIT) commands for the Cisco NCS 2002 and Cisco NCS 2006.

17.1 INIT-REG-<MOD2>

The Initialize Register for 10GFC, 10GIGE, 40GIGE, 100GIGE, 1GFC, 1GFICON, 2GFC, 4GFC, 2GFICON, 5GIB, 8GFC, CHGRP, CLNT, D1VIDEO, DS3I, DV6000, DVBAS1, E1, E3, E4, ESCON, ETH, ETRCLO, FSTE, G1000, GFPOS, GIGE, HDLC, HDTV, ISC1, ILK, ISCCOMPAT, ISC3PEER2R, ISC3PEER1G, ISC3PEER2G, OTU3, OTU4, STM4, STM64, STM1, STM16, OCH, OMS, OTS, POS, STM1E, T3, VC3, VC44C, VC38C, VC464C, VC48C, VC4, VC416C, VC42C, VC43C, VC12, 3GVIDEO, SDSDI , HDSDI, AUTO, OTU1, OTU2, ISC3STP1G, or ISC3STP2G (INIT-REG-<MOD2>) command initializes the performance monitoring (PM) registers.

Usage Guidelines

The command supports the modifier 3GVIDEO, SDSDI , HDSDI, AUTO, OTU1, ISC3STP1G, and ISC3STP2G.

See [Table 29-1 on page 29-1](#) for supported modifiers by platform.

- The time period is always the current time period, and the previous time period counts are not cleared; therefore, both <MONDAT> and <MONTM> are not supported in this command.
- All cards support only the receive (RCV) direction. BTH is not supported for this command.
- INIT-REG-<MOD2> can also be used to initialize the remote monitoring (RMON) managed raw data.

Category

Performance

Security

Provisioning

Input Format

INIT-REG-<MOD2>:[<TID>]:<AID>:<CTAG>::<MONTYPE>,,[<LOCN>],[<DIRN>],[<TMPER>][,];

Input Example INIT-REG-OTU1:CISCO:VFAC-1-2-1:1234::CVL,,NEND,BTH,15-MIN;

Table 17-1 **Parameter Support**

Parameter	Description
<AID>	Access identifier from the “ 27.1 ALL ” section on page 27-1. All of the STS, VT1, Facility, and DS1 AIDs are supported. The AR-MXP, AR-XP, and AR-XPE cards use the VFAC AID.
<MONTYPE>	Monitored type. The parameter type is ALL_MONTYPE, which is the monitoring type list.
• AISSP	Alarm Indication Signal Seconds—Path
• ALL	All possible values
• BBEP	NCS Background Block Errors Path
• BBE-PM	OTN—Background Block Errors—Path Monitor Point
• BBER	NCS Background Block Error Ratio
• BBER-PM	OTN—Background Block Error Ratio—Path Monitor Point expressed as one tenth of a percentage.
• BBER-SM	OTN—Background Block Error Ratio—Section Monitor Point expressed as one tenth of a percentage.
• BBE-SM	OTN—Background Block Errors—Section Monitor Point
• BIEC	FEC—Bit Errors Corrected
• BIT-EC	The number of bit errors corrected by the FEC algorithm
• CGV	8B10B—Code Group Violations
• CVCPP	Coding Violations—CP-Bit Path
• CVL	Coding Violations—Line
• CVP	Coding Violations—Path
• CVS	Coding Violations—Section
• CVV	Coding Violations—Section
• DCG	8B10B—Data Code Groups
• ESCPP	Errored Seconds—CP—Bit Path
• ESL	Errored Seconds—Line
• ESP	Errored Seconds—Path
• ES-PM	OTN—Errored Seconds—Path Monitor Point
• ESR	Errored Second—Ratio
• ESR-PM	Errored Seconds Ratio—Path monitor Point expressed as tenths of a percentage
• ESR-SM	Errored Seconds Ratio—Section monitor Point expressed as tenths of a percentage
• ESS	Errored Seconds—Section
• ES-SM	OTN—Errored Seconds—Section Monitor Point
• ESV	Errored Seconds—VC Path
• etherStatsBroadcastPkts	The total number of good packets received that were directed to a multicast address
• etherStatsCollisions	Number of transmit packets that are collisions

- etherStatsBroadcastPk The total number of good packets received that were directed to a multicast address

ts

- etherStatsCollisions Number of transmit packets that are collisions

Table 17-1 **Parameter Support**

Parameter	Description
• HP-UAS	High-Order Path Unavailable Seconds
• ifInBroadcastPkts	Number of broadcast packets received since the last counter reset
• ifInDiscards	The number of inbound packets
• ifInErrorBytePktss	Receive Error Byte
• ifInErrors	The number of inbound packets (or transmission units) that contained errors
• ifInFramingErrorPkts	Receive Framing Error
• ifInJunkInterPkts	Receive Interpacket Junk
• ifInMulticastPkts	Number of multicast packets received since the last counter reset
• ifInOctets	Number of bytes transmitted since the last counter reset
• ifInUcastPkts	Number of unicast packets received since the last counter reset
• ifOutBroadcastPkts	Number of broadcast packets transmitted
• ifOutDiscards	The number of outbound packets
• ifOutErrors	The number of outbound packets (or transmission units) that could not be transmitted because of errors
• ifOutMulticastPkts	Number of multicast packets transmitted
• ifOutPayloadCrcErrors	Received payload cyclic redundancy check (CRC) errors
• ifOutUcastPkts	Number of unicast packets transmitted
• IOS	8B10B–Idle Ordered Sets
• IPC	Invalid Packet Count
• LBCL-AVG	Average Laser Bias current in micro A
• LBCL-MAX	Maximum Laser Bias current in micro A
• LBCL-MIN	Minimum Laser Bias current in micro A
• LBCN	Normalized Laser Bias Current for STM1-8
• LBCN-HWT	Laser Bias current
• LBCN-LWT	Laser Bias current
• LOSSL	Loss of Signal Seconds—Line
• LP-BBE	Low-Order Path Background Block Error
• LP-BBER	Low-Order Path Background Block Error Ratio
• LP-EB	Low-Order Path Errored Block
• LP-ES	Low-Order Path Errored Second
• LP-ESA	Low-Order Path Errored Seconds—A
• LP-ESB	Low-Order Path Errored Seconds—B
• LP-ESR	Low-Order Path Errored Second Ratio
• LP-FC	Low-Order Path Failure Count
• LP-NPJC-DET	Low Order Negative Pointer Justification Count, Detected
• LP-NPJC-GEN	Low Order Negative Pointer Justification Count, Generated

Table 17-1 **Parameter Support**

Parameter	Description
• LP-PPJC-DET	Low Order Positive Pointer Justification Count, Detected
• LP-PPJC-GEN	Low Order Positive Pointer Justification Count, Generated
• LP-SEP	A sequence of between 3 to 9 consecutive severely errored seconds (SES)
• LP-SEPI	Low-Order Path Severely Errored Period Intensity
• LP-SES	Low-Order Path Severely Errored Seconds
• LP-UAS	Low-Order Path Unavailable Seconds
• MS-PSC	Multiplex Section-Protection switch count
• MS-PSD	Multiplex Section-Protection switch duration
• NIOS	8B10B—Non Idle Ordered Sets
• NPJC-PDET	Negative Pointer Justification Count, Path Detected
• NPJC-PGEN	Negative Pointer Justification Count, Path Generated
• OPR-AVG	Average Receive Power in tenths of a micro W
• OPR-MAX	Maximum Receive Power in tenths of a micro W
• OPR-MIN	Minimum Receive Power in tenths of a micro W
• OPRN	Normalized Optical Receive Power for STM1-8
• OPRN-MAX	Maximum value for OPRN
• OPRN-MIN	Minimum value for OPRN
• OPT-AVG	Average Transmit Power in tenths of a micro W
• OPT-MAX	Maximum Transmit Power in tenths of a micro W
• OPT-MIN	Minimum Transmit Power in tenths of a micro W
• OPTN	Normalized value for Optical Power Transmitted for STM1-8 card
• OPTN-MAX	Maximum value for OPTN
• OPTN-MIN	Minimum value for OPTN
• OPWR-AVG	Optical Power—Average Interval Value in tenths of a dBm
• OPWR-MAX	Optical Power—Maximum Interval Value in tenths of a dBm
• OPWR-MIN	Optical Power—Minimum Interval Value in tenths of a dBm
• PPJC-PDET	Positive Pointer Justification Count, Path Detected
• PPJC-PGEN	Positive Pointer Justification Count, Path Generated
• PRE-FECBER	Enum to hold PRE-FECBER value
• PSC	Protection Switching Count
• PSC-R	Protection Switching Count—Ring
• PSC-S	Protection Switching Count—Span
• PSC-W	Protection Switching Count—Working
• PSD	Protection Switching Duration
• PSD-R	Protection Switching Duration—Ring
• PSD-S	Protection Switching Duration—Span

Table 17-1 **Parameter Support**

Parameter	Description
• PSD-W	Protection Switching Duration—Working
• SASCPP	Severely Errored Framing/AIS Second—CP-Bit Path
• SASP	Severely Errored Framing/AIS Seconds Path
• SEFS	Severely Errored Framing Seconds
• SESCPP	Severely Errored Second—CP-Bit Path
• SESL	Severely Errored Second—Line
• SESP	Severely Errored Second—Path
• SES-PM	OTN—Severely Errored Second—Path
• SESR	Severely Errored Second—Ratio
• SESR-PM	OTN—Severely Errored Second Ratio—Path Monitor Point expressed as tenths of a percentage
• SESR-SM	OTN—Severely Errored Second Ratio—Section Monitor Point expressed as tenths of a percentage
• SESS	Severely Errored Second—Section
• SES-SM	OTN—Severely Errored Second—Section Monitor Point
• SESV	Severely Errored Second—VC Path
• UASCPP	Unavailable Second—CP-Bit Path
• UASL	Unavailable Second—Line
• UASP	Unavailable Second—Path
• UAS-PM	OTN—Unavailable Second—Path Monitor Point
• UAS-SM	OTN—Unavailable Second—Section Monitor Point
• UASV	Unavailable Second—VC Path
• UNC-WORDS	FEC—Uncorrectable Words
• VPC	Valid Packet Count
<LOCN>	(Optional) Location associated with a particular command in reference to the entity identified by the AID. The parameter type is LOCATION, which is the location where the action is to take place.
• FEND	Action occurs on the Far End of the facility.
• NEND	Action occurs on the Near End of the facility.
<DIRN>	(Optional) Direction relative to the entity identified by the AID. Defaults to ALL, which means that the command initializes all of the registers irrespective of the PM direction. The parameter type is DIRECTION (transmit and receive directions).
• RCV	Receive direction only
<TMPER>	(Optional) Accumulation time period for performance counters. A null value defaults to 15-MIN. Defaults to 15-MIN. The parameter type is TMPER, which is the accumulation time period for the performance management center.
• 1-DAY	Performance parameter accumulation interval length; every 24-hours. For NCS PM data only one day of history data is available. For RMON managed PM data seven days of history data are available.

Table 17-1 **Parameter Support**

Parameter	Description
• 1-HR	Performance parameter accumulation interval length; every 1 hour. This is only applicable to RMON managed PM data. There are 24 hours of history data available.
• 1-MIN	Performance parameter accumulation interval length; every 1 minute. This is only applicable to RMON managed PM data. There are 60 minutes of history available.
• 15-MIN	Performance parameter accumulation interval length; every 15 minutes. There are 32 15-MIN buckets of history data available for this accumulation interval length.
• RAW-DATA	Performance parameter accumulation interval length; starting from the last time the counters were cleared. This is only applicable to RMON managed PMs.

17.2 INIT-SYS

The Initialize System (INIT-SYS) command initializes the specified card and its associated subsystem(s).

Usage Guidelines

- This command cannot be executed if the network is in a Multiplex-Section Shared Protection Ring (MS-SPRing)
- The SLOT-ALL AID and the list AID are not allowed in this command.
- Only one level of reset is supported in this command.
- It is important that the standby TCC2/TCC2P/TCC3, TNC, TSC, and CTX cards should be up and running fully standby before this command is sent on the active TCC2/TCC2P/TCC3, TNC, TSC, and CTX cards for a period of time. During this time, the system is vulnerable to traffic outages caused by timing disruptions or other causes.
- Before a card is hard reset, it must be in one of the following state:ADMIN STATE - LOCKED,MAINTENANCE & SERVICE STATE - LOCKED-ENABLED, MAINTENANCE.

Category System

Security Maintenance

Input Format INIT-SYS:[<TID>]:<AID>:<CTAG>::<PH>[,<CMDMDE=CMDMDE>];

Input Example INIT-SYS:HOTWATER:SLOT-1:201::1,CMDMDE=FRCD;

Table 17-2 **Parameter Support**

Parameter	Description
<AID>	Access identifier from the “27.13 EQPT” section on page 27-21 .
<PH>	The phase. 1=soft reset; 2=hard reset. PH is an integer.
<CMDMDE>	(Optional) Command mode. Normal (NORM) mode is the default behavior for all commands but you can specify forced (FRCD) mode to force the system to override a state where the command would normally be denied. The FRCD mode of operation is applicable to delete a virtual concatenated (VCAT) member cross-connect in Unlocked-Enabled or Locked-Disabled, AutomaticInService service states.
• FRCD	Force the system to override a state in which the command would normally be denied.
• NORM	Execute the command normally. Do not override any conditions that could make the command fail.



OPR Commands

This chapter provides operate (OPR) commands for the Cisco NCS 2002 and Cisco NCS 2006.

18.1 OPR-ACO-ALL

The Operate Alarm Cutoff All (OPR-ACO-ALL) command cuts off the office audible alarm indication without changing the local alarm indications. It directs the network element (NE) to provide conditioning only on those alarms that are currently active. The command retires the Central Office (CO) alarm audible indicators without clearing the indicators that show the trouble still exists.

There is no need for a RLS-ACO command. This command does not have any effect on future alarms at the NE.

Usage Guidelines	None
Category	Environment
Security	Maintenance
Input Format	OPR-ACO-ALL:[<TID>]:[<AID>]:<CTAG>;
Input Example	OPR-ACO-ALL:CISCO:SHELF-2:123; OPR-ACO-ALL:CISCO::123;
Input Parameters	<AID> The node or shelf access identifier from the “27.26 SHELF” section on page 27-33. If this parameter is omitted, the node or the first shelf of the node becomes the AID.

18.2 OPR-ALS

The Operate Automatic Laser Shutdown (OPR-ALS) command is used to restart the laser of an OC-N/STM-N facility and for all of the facilities that support the ALS feature.

Usage Guidelines

None

Category

Ports

Security

Maintenance

Input Format

OPR-ALS:[<TID>]:<AID>:<CTAG>[:];

Input Example

OPR-ALS:CISCO:FAC-1-1:100;

Input Parameters

<AID>	Access identifier from the “27.2 AidUnionId” section on page 27-7 .

18.3 OPR-APC

The Operate Amplifier Power Control (OPR-APC) command permits the APC application inside the NE to force regulation of the optical power to the entire dense wavelength division multiplex (NCS) ring.

Usage Guidelines

None

Category

NCS

Security

Maintenance

Input Format

OPR-APC[:<TID>]:<AID>:<CTAG>[:<ROLE>];

Input Example

OPR-APC:NCS:WDMSIDE-A:123::

Input Parameters

Table 18-1 Parameter Support

Parameter	Description
<AID>	Access identifier from the “ 27.33 WDMANS ” section on page 27-37.
<ROLE>	The role the unit is playing in the protection group.
• PROT	The entity is the protection unit in the protection group.
• WORK	The entity is the working unit in the protection group.

18.4 OPR-CPS

The Operate Control Plane Service (OPR-CPS) command activates a Control Plane Service parameter.

Usage Guidelines

- Specify only the source port to identify the CPS.
- Specify both the source AIDs, if the CPS is of type ADD 2WAY.
- If the AID is invalid, an IIAC (invalid AID) error message is returned.
- The ALL AID is invalid for this command.
- CMPLD response to this command means that CPS Activation is Started.
- Since this operation can take more than a minute, use RTRV-CPS to check when is ended positively.
- If the CPSSTATUS remain in ACTIVATING for more than 10 min the operation is automatically aborted and status return to INACTIVE.
- CLIENT cps type support FAC and VFAC AID type.
- TRUNK cps type support CHAN AID type.
- ADD cps type support CHAN, PCHAN, and LINEWL AID type.

Category

NCS

Security

Provisioning

Input Format

OPR-CPS[:<TID>]:<SRC>:<CTAG>[:<CKTID=<CKTID>],[IGNPATHALM=<IGNPTHALM>],[ACTION=<ACTION>][:];

Input Example

```
OPR-CPS::CHAN-1-15-10-RX&CHAN-1-14-10-TX:8::;
OPR-CPS::FAC-1-4-1-1:1::ACTION=UPGRADE;
```

Input Parameters

<SRC>	Source AID from the “27.11 CrossConnectId1” section on page 27-16.
<CKTID>	Circuit identification parameter can be used to filter this command.
<IGNPTHALM>	(Optional) Ignore Path Alarms. Parameter type is IGNPATHALM.
<ACTION>	Specifies the action to be performed after the WSON Circuit is established. Parameter Type is ACTION.
• MANRVRT	Manual Revert. Switches the circuit manually to revert state.
• NONE	None.
• FRCD	Forced.
• UPGRADE	Upgrades the circuit to the restored path.

18.5 OPR-EXT-CONT

The Operate External Control (OPR-EXT-CONT) command operates an external control and closes the external control contact. The control can be operated momentarily or continuously.

Usage Guidelines

- The duration has two values:
 - MENTRY: Momentary duration
 - CONTS: Continuous duration
- In an automatic state, the contact could be opened or closed depending on the provisioned trigger.
- RLS-EXT-CONT changes the state to automatic. Therefore, issuing an OPR-EXT-CONT command when the control is manually open and then issuing a RLS-EXT-CONT command will not revert the state back to Manual Open.
- A NULL value for the duration parameter defaults to MENTRY.
- RLS-EXT-CONT is not allowed during the MENTRY duration; the command is allowed for the CONTS duration. The length of the MENTRY duration is set to be 2 seconds on the NCS.
- RLS-EXT-CONT cannot change the state to automatic if the existing state is Manual Open.

**Caution**

Do not turn on external controls that activate a potential danger; that is, sprinklers or other controls connected to possibly hazardous systems or equipment.

Category

Environment

Security

Maintenance

Input Format

OPR-EXT-CONT:[<TID>]:<AID>:<CTAG>::[<CONTTYPE>],[<DURATION>];

Input Example OPR-EXT-CONT:CISCO:ENV-OUT-2:123::AIRCOND,CONTS;

Table 18-2 Parameter Support

Parameter	Description
<AID>	Access identifier from the “27.12 ENV” section on page 27-20. The AID must not be null.
<CONTTYPE>	(Optional) Environmental control type. A null value is equivalent to ALL. The parameter type is CONTTYPE, which is the environmental control type.
• AIRCOND	Air conditioning
• ENGINE	Engine
• FAN	Fan
• GEN	Generator
• HEAT	Heat
• LIGHT	Light
• MISC	Miscellaneous
• SPKLR	Sprinkler
<DURATION>	Identifies the duration. A NULL value for the duration parameter defaults to CONTS (Continuous).
• CONTS	Continuous duration

18.6 OPR-LPBK-<MOD2>

The Operate Loopback for 10GFC, 10GIGE, 40GIGE, 100GIGE, 1GFC, 1GFICON, 2GFC, 4GFC, 2GFICON, 5GIB, 8GFC, CLNT, D1VIDEO, DS3I, DV6000, E1, E3, E4, ESCON, ETRCLO, ETH, EQPT, FSTE, G1000, GFPOS, GIGE, HDTV, STM4, STM64, STM1, STM16, OCH, OMS, OTS, OTU2, OTU3, POS, STM1E, VC3, VC44C, VC38C, VC464C, VC48C, VC4, VC416C, VC42C, VC43C, VC12, VC3, VC12, AUTO, OTU1, OTU4, ISC3STP1G, or ISC3STP2G (OPR-LPBK-<MOD2>) command operates a signal loopback on an input/output (I/O) card or on a cross-connect.

Usage Guidelines

- The command supports the modifier AUTO, OTU1, ISC3STP1G, and ISC3STP2G.
- See [Table 29-1 on page 29-1](#) for supported modifiers by platform.
- The optional <LPBKTYPE> defaults to FACILITY in this command if it is given to a port entity. It defaults to CRS if given to a VC entity.
- The value CRS for the LPBKTYPE parameter is applicable only for the VC modifier. The FACILITY and TERMINAL values are applicable to the ports.
- Loopbacks are only allowed to be set up if the port/interface/VC_PATH is in Locked-Maintenance or in Locked-AutomaticInService state.
- Cross-connect loopbacks cannot be applied to the destination end of any 1WAY cross-connect.
- A cross-connect loopback can be applied only on one VC path of a cross-connect.

- Far end access control (FEAC) loopbacks can be applied only if the DS-3 is in C-bit framing format. FEAC loopbacks will override existing loopbacks at the near end on the entity and vice versa. This means that if a facility loopback has been applied on a port and the FEAC loopback is also applied, then the facility loopback is released first and then the far-end loopback is applied.
- A Lockout of Protection command is required before putting the span of either a two-fiber or four-fiber multiplex section-shared protection ring (MS-SPRing) line in loopback.
 - A span lockout on one side (for example, the east side) of the two-fiber MS-SPRing is required before operating a Facility (or Terminal) line loopback on the same side of the ring.
 - A span lockout on one Protection side (for example, the east side) of the four-fiber MS-SPRing is required before operating a Facility (or Terminal) line loopback on the same side working line of the ring.
- FEAC loopbacks on the DS-1 interface of a DS3XM card can be applied only if a Virtual Tributary (VT) connection has been created on the DS-1. An attempt to operate or release FEAC loopbacks in the absence of a VT connection will cause an error message.
- The FEAC line is supported only with the FEND value of the LOCN parameter on DS-1/ T3 of the DS3XM-12 card.
- Only the following MOD2 fields are supported in this release: DS1 EC1, G1000, FSTE, OC12, OC192, OC3, OC48, OCH, T1, T3, STS1, STS12C, STS192C, STS24C, STS3C, STS36C, STS48C, STS6C, STS9C, E1, 1GFC, 2GFC, 4GFC, 10GFC, 1GFICON, 2GFICON, 4GFICON, GIGE, 10GIGE, ESCON, STS18C, DV6000, ETRCLO, ISCCOMPAT, ISC3PEER1G, ISC3PEER2R, PASSTHRU, ISC3PEER2G.
- This command supports a new Modifier, EQPT, which operates backplane loopback at card level.
- OPR-LPBK-EQPT command is applicable to 100g cards only. The supported backplane loopback types for this modifier are : BACKPLANE-FACILITY and BACKPLANE-TERMINAL.
- Move the card to OOS,MT state to operate backplane loopback. All the ports provisioned on the card will be moved to loopback state once the card is in Backplane loopback.
- Ports cannot be provisioned/unprovisioned when the card is in backplane loopback state.
- NEND is the only location supported for Backplane loopback.

**Note**

LINE and PAYLOAD values are applicable only with the FEND location value. PAYLOAD loopback can be applied by specifying the loopback type as PAYLOAD and the location as FEND.

- CFP-TXP and CFP-MXP modes loopback is provisioned on the 100G-LC-C virtual ports on VCFAC(OTU3/OTU4) or VCHAN(40GIGE/100GIGE) AIDs and not on the CFP-LC card.

Category

Troubleshooting and Test Access

Security

Maintenance

Input Format

OPR-LPBK-<MOD2>:[<TID>]:<AID>:<CTAG>::[<LOCATION>],,,[<LPBKTYPE>];

Input Example

```
OPR-LPBK-OTU1:PTREYES:VFAC-4-1-1-13:203::NEND,,FACILITY;
OPR-LPBK-EQPT::SLOT-2:1::NEND,,BACKPLANE-FACILITY;
```

Table 18-3 **Parameter Support**

Parameter	Description
<AID>	Access identifier from the “ 27.1 ALL ” section on page 27-1. BAND, CHANNEL, DS1, FACILITY, LINE, and VC. The AR-MXP, AR-XP, and AR-XPE cards use the VFAC AID.
<LOCATION>	(Optional) The location where the operation is to be carried out. It defaults to NEND. The parameter type is LOCATION.
• FEND	Action occurs on the far end of the facility.
• NEND	Action occurs on the near end of the facility.
<LPBKTYPE>	(Optional) Type of loopback signal. The parameter type is LPBK_TYPE, which indicates the type of loopback that is to be operated or released.
• BACKPLANE-FACILITY	Puts the 100G-LC-C, 10x10G-LC, and CFP-LC cards in facility loopback.
• BACKPLANE-TERMINAL	Puts the 100G-LC-C, 10x10G-LC, and CFP-LC cards in Terminal loopback.
• CRS	Path-level loopback that is established at the cross-connect matrix level. A VC level cross-connect loopback causes an AIS-P to be sent on the outgoing direction of transmission.
• FACILITY	Type of loopback that connects the incoming received signal immediately following the optical-to-electrical conversion (after descrambling) to the associated transmitter in the return direction.
• TERMINAL	A loopback that connects the signal that is about to be transmitted (after scrambling but before the electrical-to-optical conversion) and is connected to the associated, incoming receiver.

18.7 OPR-LPBK-EFM

The Operate Loopback Ethernet in the First Mile (OPR-LPBK-EFM) command enables loopback on the Ethernet in the First Mile (EFM) enabled port.

Usage Guidelines

- This command is applicable only to GE_XP and 10GE_XP cards.
- The card should be in Layer2 over DMDM mode.

Category

Ports

Security

Provisioning

Input Format

```
OPR-LPBK-EFM:[<TID>]:<AID>:<CTAG>;
```

Input Example OPR-LPBK-EFM::ETH-12-1-1:1;

Table 18-4 OPR-LPBK-EFM Command - Parameter Support

Input Parameters	Description
<AID>	Access identifier from the “27.14 ETH” section on page 27-23 .

18.8 OPR-PROTNSW-<MOD2NCSPAYLOAD>

The Operate Protection Switch for 10GFC, 10GIGE, 40GIGE, 100GIGE, 1GFC, 1GFICON, 2GFC, 2GFICON, 8GFC, D1VIDEO, DV6000, DVBASI, ETRCLO, FSTE, GIGE, HDTV, ISC1, ISC3, OTU3, OTU4, PASSTHRU, 3GVIDEO, SDSDI, HDSDI, AUTO, OTU1, ISC3STP1G, or ISC3STP2G (OPR-PROTNSW-<MOD2NCSPAYLOAD>) command initiates a Y-cable protection switch request. User switch requests initiated with this command remain active until they are released by the RLS-PROTNSW-<MOD2NCSPAYLOAD> command or are overridden by a higher priority protection switch request. See [Table 29-1 on page 29-1](#) for supported modifiers by platform.

Usage Guidelines

The command supports the modifier 3GVIDEO, SDSDI, HDSDI, AUTO, OTU1, ISC3STP1G, and ISC3STP2G.

The switch commands MAN (Manual Switch), FRCD (Forced Switch), and LOCKOUT (Lockout) are supported by the NCS.

- **Manual Switch of Protection Line (to Working Line):** If the AID identifies the protection line in a 1+1 protection group, then service will be transferred from the protection line to the working line, unless a request of equal or higher priority is in effect.
- **Manual Switch of Working Line (to Protection Line):** If the AID identifies a working line, then service will be switched from the working line to the protection line unless a request of equal or higher priority is in effect.
- **Force Switch of Protection Line (to Working Line):** If the AID identifies the protection line, then service will be transferred from the protection line to the working line unless a request of equal or higher priority is in effect.
- **Force Switch of Working Line (to Protection Line):** If the AID identifies a working line, then service will be transferred from the working line to the protection line unless a request of equal or higher priority is in effect. A lockout of protection and a signal fail of protection have higher priority than a Force switch command.
- **Lockout of Protection Line:** If the AID identifies the protection line, this switch command will prevent the working line from switching to the protection line. If the working line is already on protection, then the working line will be switched back to its original working line.
- **Lockout of Working Line:** If the AID identifies the working line, this switch command will prevent the working line from switching to protection line. If the working line is already on protection, then the working line will be switched back from protection line to its original working line.

If the command is used against preprovisioned cards, the SROF (Protection Switching Failed) error is returned.

Category

NCS

Security

Maintenance

Input Format

OPR-PROTNSW-<MOD2NCSPAYLOAD>:[<TID>]:<SRC>:<CTAG>::<SC>[:];

Input Example

OPR-PROTNSW-SDSDI:CISCO:VFAC-1-1-1:100::FRCD;

Input Parameters

<SRC>	Access identifier from the “ 27.15 FACILITY ” section on page 27-23. The AR-MXP, AR-XP, and AR-XPE cards use the VFAC Access Identifier.
<SC>	Switch command that is to be initiated on the paths. The parameter type is SW.
• APS-CLEAR	APS-CLEAR switch state. It is a read-only switch state and is not allowed in the OPR-PROTNSW-xxx commands.
• CLEAR	CLEAR switch state. CLEAR switch state is not allowed in the OPR-PROTNSW-xxx commands.
• EXERCISE	EXERCISE switch state. EXERCISE switch state is not allowed in the OPR-PROTNSW-xxx commands.
• FRCD	Forces a switch unless another FRCD or LOCKOUT is in effect.
• LOCKOUT	Locks the facility out of switching. The system cannot switch to this facility to carry service.
• MAN	Requests a manual switch of the facility.

18.9 OPR-PROTNSW-<STM_TYPE>

The Operate Protection Switch for STM1, STM4, STM16, or STM64 (OPR-PROTNSW-<STM_TYPE>) command initiates a NCS line protection switch request. User switch requests initiated with this command remain active until they are released by the RLS-PROTNSW-STM command or are overridden by a higher priority protection switch request. See [Table 29-1 on page 29-1](#) for supported modifiers by platform.

Usage Guidelines

The switch commands MAN (Manual Switch), FRCD (Forced Switch), and LOCKOUT (Lockout) are supported by the NCS.

- **Manual Switch of Protection Line (to Working Line):** If the AID identifies the protection line, then (only in the 1+1 architecture) service will be transferred from the protection line to the working line, unless a request of equal or higher priority is in effect.
- **Manual Switch of Working Line (to Protection Line):** If the AID identifies a working line in a 1+1 protection group, then service will be switched from the working line to the protection line unless a request of equal or higher priority is in effect.
- **Force Switch of Protection Line (to Working Line):** If the AID identifies the protection line, then (only in the 1+1 architecture) service will be transferred from the protection line to the working line unless a request of equal or higher priority is in effect.

- **Force Switch of Working Line (to Protection Line):** If the AID identifies a working line, then service will be transferred from the working line to the protection line unless a request of equal or higher priority is in effect. A lockout of protection and a signal fail of protection have higher priority than a Force switch command.
- **Lockout of Protection Line:** If the AID identifies the protection line, this switch command will prevent the working line from switching to the protection line. If the working line is already on protection, then the protection line will be switched back to its original working line.
- **Lockout of Working Line:** If the AID identifies the working line, this switch command will prevent the working line from switching to protection line. If the working line is already on protection, then the working line will be switched back from protection line to its original working line.

**Note**

- Use the RTRV-COND-ALL or RTRV-ALM-ALL commands to retrieve the protection switching state (Manual, Force, lockout).
- Protection for preprovisioned cards will not succeed.
- If the far end of the same span has a higher protection switching state, for example, the near end is under Manual protection and the far-end is in the Force protection state, the near-end protection switching state will be preempted and will have an APS_CLEAR switching state. The RTRV-PROTNSW-STM command is used to retrieve the current switching state of a NCS line.
- Sending the following Manual ring switch request on both east and west sides/spans of a two-fiber or four-fiber ring in less than 30 to 45 seconds will cause the system to execute only one (WEST) side MS-RING query and preempt the other (EAST) side query.
 - A single TL1 command with both side/span AIDs (in the list AID format) of the same two-fiber or four-fiber ring
 - The separated (via TL1, CTC, or TL1 and CTC user interfaces) queries on the both sides/spans of the same two-fiber or four-fiber ring

There will be no event messages coming out for the preempted side whose switching state will be in the APS-CLEAR state.

- Protection switch will be denied if a signal degrade/signal fail (SD/SF) condition is already present on the switching path. If SD/SF is generated on the switching path after the switch is performed, the switch will be overwritten by the APS_CLEAR state. The switch will not be overwritten despite an SD or SF condition if the switch is a Lockout of Protection or a Force switch, because these switches have a higher priority than SD and SF.
- DIRN is an optional parameter. A NULL value defaults to BTH for MS-SPRing protection, BTH for 1+1 bidirectional protection, and RCV for 1+1 unidirectional protection.
- DIRN follows these rules: TRMT will always fail for all protection groups. For two-fiber and four-fiber MS-SPRing protection groups, both the RCV and TRMT directions will fail.
- DIRN is applicable for both 1+1 and MS-SPRing protection groups. For example, OPR-PROTNSW can be performed on a MS-SPRing span/ring as follows:
OPR-PROTNSW-STM16::FAC-5-1:A::LOCKOUT,SPAN:BTH;
- A Lockout of Protection command is required before putting the span of two-fiber or four-fiber MS-SPRing lines in loopback.
 - A span lockout of one side (for example, the east side) of the two-fiber MS-SPRing is required before operating a Facility (or Terminal) line loopback on the same side of the ring.
 - A span lockout of one protection side (for example, the east side) of the four-fiber MS-SPRing is required before operating a Facility (or Terminal) line Loopback on the same side working line of the ring.

- A span lockout on the working card is not supported.

The following actions will return error messages:

- Sending this command for the common control cards (TCC2,TCC2P, TCC3, XC-VXL-10G, X-CVXL-2.5G, or XC-VXC-10G). A query on a common-control card will generate an Input, Invalid Access Identifier (IIAC) error message. To switch the common control cards, use the SW-DX-EQPT and ALW-SWDX-EQPT commands.
- Sending this command on non-NCS (STM) cards will return the IIAC error message. To switch a non-NCS card, use the ALW-SWTOPROTN/SWTOWKG-EQPT and INH-SWTOPROTN/SWTOWKG-EQPT commands.
- Sending this command to query on a card that is not in a protection group will return the Status, Not in Valid State (SNVS) error message.
- Sending this command to a working card that is failed or missing will return the SROF error message.
- Sending this command to a protect card that is failed or missing will return the SROF error message.
- Sending this command to a card that is already in protection with a higher priority will return the Status, Switch Request Denied (SSRD) error message.
- Sending this command to an STM line with a switching mode that is already in process will return a Already in the Maintenance State (SAMS) error message.
- Sending this command with the EXERCISE or APS_CLEAR switch operation will return an SROF error message because these operations are not valid according to Telcordia GR-833-CORE. The EX-SW-<STM_MSSPR> is the correct command for an EXERCISE switch over the MS-SPRing line.

Category	Protection
Security	Maintenance
Input Format	OPR-PROTNSW-<STM_TYPE>[:<TID>]:<AID>:<CTAG>::<SC>,[<SWITCHTYPE>][:<DIRN>];
Input Example	OPR-PROTNSW-STM16:PETALUMA:FAC-6-1:204::LOCKOUT,SPAN:BTH;

Table 18-5 **Parameter Support**

Parameter	Description
<AID>	Access identifier from the “27.15 FACILITY” section on page 27-23. Identifies the facility in the NE to which the switch request is directed.
<SC>	Switch command that is to be initiated on the paths. The parameter type is SW, which is the type of switch.
• APS-CLEAR	APS-CLEAR switch state. It is a read-only switch state and is not allowed in the OPR-PROTNSW-xxx commands.
• CLEAR	CLEAR switch state. The CLEAR switch state is not allowed in the OPR-PROTNSW-xxx commands.
• EXERCISE	EXERCISE switch state. The EXERCISE switch state is not allowed in the OPR-PROTNSW-xxx commands.
• FRCD	Forces a switch unless another FRCD or LOCKOUT is in effect.
• LOCKOUT	Locks the facility out of switching. The system cannot switch to this facility to carry service.
• MAN	Requests a manual switch of the facility.
<SWITCHTYPE>	(Optional) MS-SPRing switch type. The parameter type is SWITCH_TYPE (switch type).
• RING	MS-SPRing switch type
• SPAN	MS-SPRing span switch type
<DIRN>	(Optional) The direction relative to the entity defined in the AID field. The direction of the switching. DIRN defaults to RCV. The parameter type is DIRECTION (transmit and receive directions).
• BTH	Both transmit and receive directions
• RCV	Receive direction only
• TRMT	Transmit direction only

18.10 OPR-PROTNSW-<OCN_TYPE>

The Operate Protection Switch for OC3, OC12, OC48, OC192, or OC768 (OPR-PROTNSW-<OCN_TYPE>) command initiates a SONET line protection switch request. User switch requests initiated with this command remain active until they are released via the RLS-PROTNSW-OCN command or are overridden by a higher priority protection switch request.

Usage Guidelines

See [Table 29-1 on page 29-1](#) for supported modifiers by platform.

The switch commands; MAN (Manual Switch), FRCD (Forced Switch), and LOCKOUT (Lockout) are supported.

- Manual Switch of Protection Line (to Working Line). If the AID identifies the protection line in a 1+1 protection group, then service will be transferred from the protection line to the working line, unless a request of equal or higher priority is in effect.
- Manual Switch of Working Line (to Protection Line). If the AID identifies a working line, then service will be switched from the working line to the protection line unless a request of equal or higher priority is in effect.
- Force Switch of Protection Line (to Working Line). If the AID identifies the protection line, then (only in the 1+1 architecture) service will be transferred from the protection line to the working line unless a request of equal or higher priority is in effect.
- Force Switch of Working Line (to Protection Line). If the AID identifies a working line, then service will be transferred from the working line to the protection line unless a request of equal or higher priority is in effect. A lockout of protection and a signal fail of protection have higher priority than a Force switch command.
- Lockout of Protection Line. If the AID identifies the protection line, this switch command will prevent the working line from switching to protection line. If the working line is already in protection, then the protection line will be switched back to its original working line.
- Lockout of Working Line. If the AID identifies the working line, this switch command will prevent the working line from switching to the protection line. If the working line is already in protection, then the working line will be switched back from protection line to its original working line.

The following actions will return error messages:

- This command cannot be used for the common control cards (TCC2/TCC2P/TCC3 or XCVT/XC10G). A query on a common control card will generate an IIAC (Input, Invalid Access Identifier) error message. For common control card switching, use the SW-DX-EQPT and ALW-SWDX-EQPT commands.
- Sending this command to electrical cards will return an IIAC error message. For electrical card switching, use the ALW-SWTOPROTN/SWTOWKG-EQPT and INH-SWTOPROTN/SWTOWKG-EQPT commands.
- Sending this command to query on a card that is not in a protection group will return the SNVS (Status, Not in Valid State) error message.
- Sending this command to a working card that is failed or missing will return the SROF error message.
- Sending this command to a protect card that is failed or missing will return the SROF error message.
- Protection for preprovisioned cards will not succeed.
- Sending this command to a card that is already in protection with a higher priority will return the SSRD (Status, Switch Request Denied) error message.
- Sending this command to an OCN line with a switching mode that is already in process will return a SAMS (Already in the Maintenance State) error message.
- Sending this command with the EXERCISE or APS_CLEAR switch operations will return an error SROF (Invalid Protection Switch Operation) because these operations are not valid according to Telcordia GR-833-CORE. The EX-SW-<OCN_BLSR> is the correct command to perform the EXERCISE switch over the BLSR line.
- Protection switch will be denied if signal degrade/signal fail (SD/SF) is already present on the switching path. If SD/SF is generated on the switching path after the switch is performed, the switch will be overwritten by the APS_CLEAR state. The switch will not be overwritten despite an SD or SF condition if the switch is a Lockout of Protection or a Force switch, because these switches have a higher priority than SD and SF.

**Note**

- To get the protection switching state (Manual, Force, and lockout), use the RTRV-COND-ALL or RTRV-ALM-ALL commands.
- If the far end of the same span has a higher protection switching state (for example, the near end is in the Manual protection state and the far end is in the Force protection state) the near-end protection switching state will be preemptive and will have an APS_CLEAR switching state. The RTRV-PROTNSW-OCN command is used to retrieve the current switching state of a SONET line.
- Sending the following Manual ring switch requests on both east and west sides/spans of a two-fiber or four-fiber BLSR in less than 30 to 45 seconds will cause the system to execute only one (WEST) side BLSR query and preempt the other (EAST) side query.
 - A single TL1 command with both side/span AIDs (in the list AID format) of the same two-fiber or four-fiber ring.
 - The separated (via TL1, CTC, or TL1 and CTC user interfaces) queries on both sides/spans of the same two-fiber or four-fiber ring.

There will be no event messages for the preempted side, whose switching state will be in the APS-CLEAR state.

- DIRN is an optional parameter. A NULL value defaults to BTH for BLSR protection, BTH for 1+1 bidirectional protection, and RCV for 1+1 unidirectional protection.
DIRN follows these rules: TRMT will always fail for all protection groups. For two-fiber and four-fiber BLSR protection groups, both the RCV and TRMT directions will fail.
- DIRN is applicable for both 1+1 and BLSR protection groups. For example, OPR-PROTNSW can be performed on a BLSR span/ring as follows:
OPR-PROTNSW-OC48::FAC-5-1:A::LOCKOUT,SPAN:BTH;
- A Lockout of Protection command is required before putting the span of either a two-fiber or four-fiber BLSR line in loopback.
 - A span lockout on one side (for example, the east side) of the two-fiber BLSR is required before operating a facility (or terminal) line loopback on the same side (for example, the east side) of the ring.
 - A span lockout on one protection side (for example, the east side) of the four-fiber BLSR is required before operating a facility (or terminal) line loopback on the same side Working line (for example, the east side) of the ring.
- A span lockout on the working port is not supported.

Category

Protection

Security

Maintenance

Input Format

OPR-PROTNSW-<OCN_TYPE>:[<TID>]:<AID>:<CTAG>::<SC>,[<SWITCHTYPE>][:<DIRN>];

Input Example

OPR-PROTNSW-OC48:CHICKALUMA:FAC-6-1:204::LOCKOUT,SPAN:BTH;

Input Parameters

<AID>	Access identifier from the “ 27.15 FACILITY ” section on page 27-23 . Identifies the facility in the NE to which the switch request is directed.
<SC>	Switch command that is to be initiated on the paths. The parameter type is SW.
• APS-CLEAR	APS-CLEAR switch state. It is a read-only switch state and is not allowed in the OPR-PROTNSW-xxx commands.
• CLEAR	CLEAR switch state. The CLEAR switch state is not allowed in the OPR-PROTNSW-xxx commands.
• EXERCISE	EXERCISE switch state. The EXERCISE switch state is not allowed in the OPR-PROTNSW-xxx commands.
• FRCD	Forces a switch unless another FRCD or LOCKOUT is in effect.
• LOCKOUT	Locks the facility out of switching. The system cannot switch to this facility to carry service.
• MAN	Requests a manual switch of the facility.
<SWITCHTYPE>	BLSR switch type. The parameter type is SWITCH_TYPE (switch type).
• RING	BLSR ring switch type
• SPAN	BLSR span switch type
<DIRN>	The direction relative to the entity defined in the AID field. The direction of the switching. DIRN defaults to RCV. The parameter type is DIRECTION (transmit and receive directions).
• BTH	Both transmit and receive directions
• RCV	Receive direction only
• TRMT	Transmit direction only

18.11 OPR-PROTNSW-<PATH>

The Operate Protection Switch for VC3, VC44C, VC38C, VC464C, VC48C, VC4, VC416C, VC42C, VC43C, or VC12 (OPR-PROTNSW-<PATH>) command initiates a NCS path subnetwork connection protection (SNCP) switch request. User switch requests initiated with this command (Manual, Force, and lockout) remain active until they are released through the RLS-PROTNSW-<PATH> command or overridden by a higher priority protection switch request. See [Table 29-1 on page 29-1](#) for supported modifiers by platform.

Usage Guidelines

- This command applies to SNCP configurations only.
- The VTAID should be the working or protect AID only.
- To retrieve the protection switching state (Manual, Force, lockout), use the RTRV-COND-ALL or RTRV-ALM-ALL commands.
- The protection switch will be denied if a SD/SF condition is already present on the switching path. If SD/SF is generated on the switching path after the switch is performed, the switch will be overwritten by the APS_CLEAR state. The switch is not overwritten if it is a lockout of protection or a Force switch, because these switch types have a higher priority than SD/SF conditions.

The following actions will return error messages:

- If you send this command on the Drop AID, a DENY (Invalid AID, should use working/protect AID) message will be returned.
- The Telcordia GR-1400 does not allow the LOCKOUT_OF_WORKING on the SNCP WORKING path/AID. If this command is sent on the SNCP WORKING path, a SROF error message is returned.
- If this command is sent with an EXERCISE or APS_CLEAR switch operation, an SROF error message is returned because these operations are not valid according to Telcordia GR-833-CORE.

Category Protection

Security Maintenance

Input Format OPR-PROTNSW-<PATH>[:<TID>]:<SRC>:<CTAG>::<SC>[:];

Input Example OPR-PROTNSW-VC4:CISCO:VC4-2-1-1:123::MAN;

Table 18-6 Parameter Support

Parameter	Description
<SRC>	Source access identifier from the “ 27.11 CrossConnectId1 ” section on page 27-16.
<SC>	The switch command that is to be initiated on the paths. The parameter type is SW, which is the type of switch.
• APS-CLEAR	APS-CLEAR switch state. It is a read-only switch state and is not allowed in the OPR-PROTNSW-xxx commands.
• CLEAR	CLEAR switch state. The CLEAR switch state is not allowed in the OPR-PROTNSW-xxx commands.
• EXERCISE	EXERCISE switch state. The EXERCISE switch state is not allowed in the OPR-PROTNSW-xxx commands.
• FRCD	Forces a switch unless another FRCD or LOCKOUT is in effect.
• LOCKOUT	Locks the facility out of switching. The system cannot switch to this facility to carry service.
• MAN	Requests a manual switch of the facility.

18.12 OPR-PROTNSW-OCH

The Operate Protection Switch Optical Channel (OPR-PROTNSW-OCH) command performs a protection switch on the trunk port of a card that has splitter protection.

Usage Guidelines None

Category NCS

Security Maintenance

Input Format OPR-PROTNSW-OCH:[<TID>]:<AID>:<CTAG>::<SW>;

Input Example OPR-PROTNSW-OCH:VA454-22:CHAN-2-2:100::FRCD;

Input Parameters	<AID>	Access identifier from the “27.7 CHANNEL” section on page 27-12. Indicates the trunk port.
	<SW>	Switch operation. The parameter type is SW.
	• APS-CLEAR	APS-CLEAR switch state. It is a read-only switch state and is not allowed in the OPR-PROTNSW-xxx commands.
	• CLEAR	CLEAR switch state. The CLEAR switch state is not allowed in the OPR-PROTNSW-xxx commands.
	• EXERCISE	EXERCISE switch state. The EXERCISE switch state is not allowed in the OPR-PROTNSW-xxx commands.
	• FRCD	Forces a switch unless another FRCD or LOCKOUT is in effect.
	• LOCKOUT	Locks the facility out of switching. The system cannot switch to this facility to carry service.
	• MAN	Requests a manual switch of the facility.

18.13 OPR-PROTNSW-OTS

The Operate Protection Switch OTS (OPR-PROTNSW-OTS) command performs a protection switch on the trunk port of TXPP_MR_2.5G, MXPP_MR_2.5G, Optical Protection Unit, and OTU2-XP cards.

Usage Guidelines None

Category NCS

Security Maintenance

Input Format OPR-PROTNSW-OTS:[<TID>]:<AID>:<CTAG>::<SW>;

Input Example OPR-PROTNSW-OTS:VA454-22:LINE-2-2-RX:100::FRCD;

Input Parameters	<AID>	Access identifier from the “ 27.7 CHANNEL ” section on page 27-12 . Indicates the trunk port.
	<SW>	The type of switch to be initiated.

18.14 OPR-RAMAN

The Operate RAMAN (OPR-RAMAN) command operates the Raman amplifier.

Usage Guidelines None

Category NCS

Security Maintenance

Input Format OPR-RAMAN:[<TID>]:<AID>:<CTAG>:::[RAMANACT=<RAMANACT>],[AID2=<AID2>],[MEASIDX=<MEASIDX>],[RAMANST=<RAMANST>],[LAMBDA=<LAMBDA>],[DELTAPWR=<DELTAPWR>];

Input Example OPR-RAMAN::LINE-2-5-TX:AA:::RAMANACT=DO-TEST,AID2=LINE-2-5-RX, RAMANST=MEASURE,LAMBDA=1,DELTAPWR=0.0;

Input Parameters	<AID>	The LINE aid is used to access Optical Transport Section (OTS) layer of Optical Network units. Format is LINE-[slot]-[port]-[direction].
	• LINE[-{1-50}]-{1-5,12-16}-{1-5}-[RX,TX]	The receive/transmit Lines (COM=1, OSC=2, LINE=3, DC=4, RAMAN=5) in a OPT-RAMP-C cards. Where format is LINE-[shelf]-[slot]-[port]-[dirn]
	• LINE[-{1-50}]-{1-5,12-16}-{1-5}-ALL	All the Lines (COM=1,OSC=2,LINE=3, DC=4, RAMAN=5) in a OPT-RAMP-C cards. Where format is LINE-[shelf]-[slot]-[port]-ALL
	<RAMANACT>	RAMAN action
	• DO-MEASURE	Starts RAMAN Measure.
	• DO-RSTSM	Restarts RAMAN SM.
	• DO-TEST	Starts RAMAN test.
	• RESTORE	Restores after RAMAN test.
	• DO-CALCPAR	Calculates RAMAN parameters.

<RAMANACT>	RAMAN action
• DO-MEASURE	Starts RAMAN Measure.
• DO-RSTSM	Restarts RAMAN SM.
• DO-TEST	Starts RAMAN test.
• RESTORE	Restores after RAMAN test.
• DO-CALCPAR	Calculates RAMAN parameters.

18.15 OPR-SLV-WDMANS

The Operate Span Loss Verification Wavelength Division Multiplexing Automatic Node Set Up (OPR-SLV-WDMANS) command performs the calculation of the expected span loss verification.

Usage Guidelines	None

Category	NCS

Security	Maintenance

Input Format OPR-SLV-WDMANS[:<TID>]:<AID>:<CTAG>[:<ROLE>];;

Input Example OPR-SLV-WDMANS:VA454-22:WDMSIDE-E:116;

Input Parameters	<AID>	Access identifier from the “27.33 WDMANS” section on page 27-37.
	<ROLE>	The role the unit is playing in the protection group.
	• PROT	The entity is the protection unit in the protection group.
	• WORK	The entity is the working unit in the protection group.

18.16 OPR-SYNCNSW

The Operate Synchronization Switch (OPR-SYNCNSW) command initiates a switch to the reference specified by the synchronization reference number if the reference supplied is valid and of the same quality.

- Usage Guidelines**
- For manual types of switches, the reference to which you want to switch should be of the same quality as the active reference source; otherwise, the command will fail.
 - If you want to switch to a reference of lower quality, use the Force switch option.
 - The Operate Synchronization Switches are released by the RLS-SYNCNSW command or are overridden by a synchronization reference failure.
 - When the switch is effective, a minor alarm, Manual Switch to Primary or Secondary Reference (MANSWTOPRI) is raised.

Category Synchronization

Security Maintenance

Input Format OPR-SYNCNSW[:<TID>]:<AID>:<CTAG>:<SWITCHTO>,<SC>;

Input Example OPR-SYNCNSW:CISCO:SYNC-NE:3::PRI,MAN;

Table 18-7 **Parameter Support**

Parameter	Description
<AID>	Access identifier from the “ 27.29 SYNC_REF ” section on page 27-34 . The default is SYNC-NE.
<SWITCHTO>	Access identifier from the “ 27.30 SYNC_SW ” section on page 27-35 . Identifies the new synchronization reference that will be used.
<SC>	(Optional) Switch command to be initiated on the paths. Only MAN and FRCD switches are allowed for this command. The parameter type is SW, which is the type of switch.
• APS-CLEAR	APS-CLEAR switch state. It is a read-only switch state and is not allowed in the OPR-PROTNSW-xxx commands.
• CLEAR	CLEAR switch state. The CLEAR switch state is not allowed in the OPR-PROTNSW-xxx commands.
• FRCD	Forces a switch unless another FRCD or LOCKOUT is in effect.
• MAN	Requests a manual switch of the facility.

18.17 OPR-VLB-REP

The Operate VLAN Load Balancing Resilient Ethernet Protocol (OPR-VLB-REP) command manually triggers the VLAN Load Balancing (VLB) on REP segment.

Usage Guidelines

- Enable VLB on the ports to activate VLB.
- This command is applicable only to GE_XP and 10GE_XP cards.

Category

Ethernet

Security

Provisioning

Input Format

OPR-VLB-REP:[<TID>]:<AID>:<CTAG>:::<TRIGGERTYPE>;

Input Example

OPR-VLB-REP::ETH-16-2-1:1::ACTIVATE;

Table 18-8 OPR-VLB-REP Command - Parameter Support

Input Parameters	Description
<AID>	Access identifier from the “27.15 FACILITY” section on page 27-23 .
<TRIGGER TYPE>	Indicates the TRIGGER TYPE.
• ACTIVATE	Activates manual trigger.
• DEACTIVATE	De-activates manual trigger.

18.18 OPR-WDMANS

The Operate Wavelength Division Multiplexing Automatic Node Set Up (OPR-WDMANS) command initiates the Automatic Node Set Up (ANS) application inside the NE to force a recompute of the value assigned to all variable optical attenuators (VOAs) representing the optical path inside the node.

Usage Guidelines	None	
Category	NCS	
Security	Maintenance	
Input Format	OPR-WDMANS:[<TID>]::<CTAG>[:];	
Input Example	OPR-WDMANS:PENNGROVE::114;	
Input Parameters	<MODE>	Indicates which mode should operate the WDMANS command.
	<AGINMARGIN>	(Optional) Indicates the Agin margin optimal value to be used to calculate the WDMANS parameter without Cisco TransportPlanner. It is a float value expressed in dBm.



REPT Messages

This chapter provides report (REPT) messages for the Cisco NCS 2002 and Cisco NCS 2006.

19.1 REPT ALM <MOD2ALM>

The Report Alarm for 1GFC, 1GFICON, 2GFC, 2GFICON, CLNT, DS1, E100, E1000, E3, E4, EC1, ETH, FSTE, G1000, GFPOS, GIGE, ILK, ISCCOMPAT, ISC3PEER2R, ISC3PEER1G, ISC3PEER2G, OC12, OC192, OC3, OC48, OCH, OMS, OTS, 10GFC, 8GFC, 10GIGE, 100GIGE, 40GIGE, OC192, OTU1, OTU2, OTU3, OTU4, POS, STM1, STM4, STM16, STM64, T1, T3, UDCDCC, UDCF, VC3, VC4, VC4-2c, VC4-3c, VC4-4c, VC4-8c, VC4-16c, VC4-64c, VC12, VCG, VT1, VT2, or WLEN (REPT ALM <MOD2ALM>) message reports an alarm condition against a facility, an RPR interface, or a path.

See [Table 29-1 on page 29-1](#) for supported modifiers by platform.

Category	Fault
Security	Retrieve
Output Format	<pre>SID DATE TIME ** ATAG REPT ALM <MOD2ALM> "<AID>:<NTFCNCDE>,<CONDTYPE>,<SRVEFF>,<OCRDAT>],[<OCRTM>],[<LOCN>], [<DIRN>]:[<DESC>],[<AIDDET>]" ;</pre>
Output Example	<pre>TID-000 1998-06-20 14:30:00 ** 100.100 REPT ALM STM4 "FAC-2-1:MJ,LOS,SA,08-01,14-25-59,,;" "LOSS OF SIGNAL",STM4" ;</pre>

Table 19-1 **Parameter Support**

Parameter	Description
<AID>	Access identifier from the “27.18 LINE” section on page 27-26 and “27.15 FACILITY” section on page 27-23.
<NTFCNCDE>	Two-letter notification code. The parameter type is NOTIF_CODE, which is a two-character notification code associated with an autonomous message.
• CL	The condition causing the alarm has cleared
• CR	A critical alarm
• MJ	A major alarm
• MN	A minor alarm
• NA	The condition is not alarmed
• NR	The alarm is not reported
<CONDTYPE>	Condition type for an alarm or a reported event. The parameter type is CONDITION, which is any problem detected on an NCS shelf, whether or not the problem is reported (that is, whether or not it generates a trouble notification). Reported conditions include alarms, Not Alarmed conditions (NA), and Not Reported (NR) conditions. See the Table 28-1 for a list of conditions.
<SRVEFF>	The effect on service caused by the standing alarm or condition. The parameter type is SERV_EFF, which is the effect of the alarm on service.
• NSA	The condition is non-service affecting
• SA	The condition is service affecting
<OCRDAT>	(Optional) Date
<OCRTM>	(Optional) Time
<DESC>	(Optional) Condition description.
<AIDDET>	(Optional) AIDDET uses the same addressing rules as the AID, but specifies AID type and additional details about the entity being managed. The parameter type is EQPT_TYPE, which is the type of equipment being provisioned into a slot.
• 100G-LC-C	100G-LC-C card
• 100G-CK-C	100G-CK-C card
• 10X10G-LC	10X10G-LC card
• CFP-LC	CFP-LC card
• AR-MXP	Any rate muxponder
• AR-XP	Any rate xponder
• AR-XPE	Any rate enhanced xponder.
• 16-WXC-FS	16-WXC-FS card.
• 15216-MD-40-EVEN	Thermal Multiplex/Demultiplex Passive Unit, spaced at 50 GHz on even grid
• 15216-MD-40-ODD	Thermal Multiplex/Demultiplex Passive Unit, spaced at 50 GHz on odd grid
• 15216-MD-ID-50	Thermal Interleaver Passive Unit, spaced at 50 GHz grid
• 15216-FLD4-30-3	Edge 4-Ch Bi-Directional OADM Module 1530.33 to 1532.68.
• 15216-FLD4-33-4	Edge 4-Ch Bi-Directional OADM Module 1533.47 to 1535.82.

Table 19-1 **Parameter Support**

Parameter	Description
• 15216-FLD4-36-6	Edge 4-Ch Bi-Directional OADM Module 1536.61 to 1538.98.
• 15216-FLD4-39-7	Edge 4-Ch Bi-Directional OADM Module 1539.77 to 1542.14.
• 15216-FLD4-42-9	Edge 4-Ch Bi-Directional OADM Module 1542.94 to 1545.32.
• 15216-FLD4-46-1	Edge 4-Ch Bi-Directional OADM Module 1546.12 to 1548.51.
• 15216-FLD4-49-3	Edge 4-Ch Bi-Directional OADM Module 1549.32 to 1551.72.
• 15216-FLD4-52-5	Edge 4-Ch Bi-Directional OADM Module 1552.52 to 1554.94.
• 15216-FLD4-55-7	Edge 4-Ch Bi-Directional OADM Module 1555.75 to 1558.17.
• 15216-FLD4-58-9	Edge 4-Ch Bi-Directional OADM Module 1558.98 to 1561.42.
• 32DMX-L	3- channel demultiplexer for L-band
• 32WSS-L	32-channel wavelength switch selector for L-band
• 40-MXP-C	40 Gbit/Sec Multirate Muxponder
• 40-SMR1-C	The single module 40-channel ROADM on C-band
• 40-SMR2-C	The single module 40-channel ROADM with EDFA on C-band
• 40-TXP-C	40 Gigabits per second Multirate Transponder
• 80-WXC-C	80-channel wavelength cross-connect spaced at 100 GHz grid
• AD-1B	OADM 1-Band Filter
• AD-1C	OADM 1-Channel Filter
• AD-2C	OADM 2-Channel Filter
• AD-4B	OADM 4-Band Filter
• AD-4C	OADM 4-Channel Filter
• AICI	AIC-I card
• AIP	Alarm Indication Panel
• ALM-PWR	Alarm Power
• ASAP-4	ASAP carrier card with four PIM slots
• BP	The backplane of the NE
• CE-100T-8	8-port 100T card
• CE-1000-4	4-port GIGE mapper card
• CRFT-TMG	Craft Timing
• DCC	Data Communications Channel
• DCU	Dispersion Compensation Unit
• DMX-32	Optical DMX 32 Channels
• DS3i-N-12	DS3i-N-12 card
• E1	E1 card
• E1-42	42-port E1 card
• E1000T-2	2-port interface card supporting 1000BaseT Ethernet facilities
• E100T-12	12-port interface card supporting 100BaseT Ethernet facilities

Table 19-1 **Parameter Support**

Parameter	Description
• E100T-4	Four-port interface card supporting 100BaseT Ethernet facilities
• E1N	E1N card
• E3	E3 card
• EDRA-1-26	EDRA-1-26 amplifier
• EDRA-1-35	EDRA-1-35 amplifier
• EDRA-2-26	EDRA-2-26 amplifier
• EDRA-2-35	EDRA-2-35 amplifier
• FBGDCU-1157	
• FBGDCU-1322	
• FBGDCU-165	
• FBGDCU-1653	
• FBGDCU-1983	
• FBGDCU-331	
• FBGDCU-496	
• FBGDCU-661	
• FBGDCU-826	
• FBGDCU-992	
• FILLER_CARD	Filler card
• FMEC-155E-1TO1	The equipment type for FMEC STM1E12 card
• FMEC-155E-1TO3	The equipment type for FMEC STM1E12 card with 1:3 protection
• FMEC-155E-UNPROT	The equipment type for FMEC STM1E12 card without protection
• FMEC-SMZ-E1	FMEC card corresponding to E1 card
• FMEC-SMZ-E3	FMEC card corresponding to E3 card
• FTA	Fan Tray of the NE
• FTA1	Fan Tray 1 of the NE
• FTA2	Fan Tray 2 of the NE
• G1K-4	G1K-4 card
• MD-4	Optical Multiplexer/Demultiplexer with 4 Channels
• MD-48-CM	
• MD-48-EVEN	
• MD-48-ODD	
• MESH-PP-SMR	The passive unit Patch Panel device used to connect upto four 40-SMR2-C cards
• MF-16AD-CFS	16-channels - 1 direction, colorless, omnidirectional add/drop unit.
• MF-4x4-COFS	4-channels, 4-directions, colorless, omnidirectional add/drop unit.
• MF-AST-EDFA	MF-AST-EDFA unit
• MF-DEG-5	5-degrees mesh patch panel

Table 19-1 **Parameter Support**

Parameter	Description
• MF-MPO-8LC	MPO to 8-LC adapter
• MF-UPG-4	4-degrees upgrade module
• ML100X-8	8-port 100X card with optical interface
• ML-100T-8	8-port 100T card with optical interface
• MMU	Multiring mesh upgrade unit
• MS-ISC-100T	Fast Ethernet switch card used for internal shelf connection
• MUX-32	Optical MUX 32 Channels
• MXP-2.5G-10G	10G (4 * 2.5G) Muxponder card
• MXP-MR-10DME	10 Gbps datamux with enhanced FEC
• OPT-AMP-L	Optical preamplifier for L-band
• OPT-BST	Optical booster amplifier
• OPT-BST-L	Optical booster for L-band
• OPT-EDFA-17	MAL-less EDFA Optical Amplifier - C-band - 17dB Gain
• OPT-EDFA-24	MAL-less EDFA Optical Amplifier - C-band - 24dB Gain
• OPT-PRE	Optical Preamplifier
• OPT-RAMP-C	Raman pump amplifier C-band
• OPT-RAMP-CE	An extended version of Raman pump amplifier
• OPT-RAMP-COP	Raman COP card.
• OPT-RAMP-CTP	Raman CTP card.
• OPT-RAMP-E	Raman pump amplifier E-band
• OSC-CSM	Optical Service Channel with Combiner/Separator Module
• OSCM	Optical Service Channel Module
• OTU2-XP	A 4x10G transponder that is capable to operate with multiple bit rates - 10G FC, 10GE, and OC192/STM64
• PIM-4	Pluggable interface module with 4 PPM slots
• PP-4-SMR	Patch-Panel, 4 degrees, for SMR cards
• PP-MESH-4	Patch-Panel, 4 degrees
• PP-MESH-8	Patch-Panel, 8 degrees
• PPM-1	Pluggable port module with 1-port SFP module
• PSM	Protection Service Module card
• PTF-4	Fabric card.
• PTM-4	Line card.
• PTSA	CPT 50 panel.
• PTSYS- Fan-Out-Group	PTSYS Fan-Out-Group.
• SHELF	Shelf entity
• STM4	An interface card that supports one or more STM4 (622 Mbps) optical facilities

Table 19-1 **Parameter Support**

Parameter	Description
• STM4-4	A four port STM4 card
• STM4-IR-1	An interface card that supports one intermediate range STM4 (622 Mbps) optical facilities
• STM4-LR-1	An interface card that supports one long range STM4 (622 Mbps) optical facilities
• STM4-SR-1	An interface card that supports one short range STM4 (622 Mbps) optical facilities
• STM64-4	A four port STM64 card
• STM64-LR-1	An interface card that supports one or more STM64 optical facilities
• STM1	An interface card that supports multiple STM1 (155 Mbps) optical facilities
• STM1-IR-4	An interface card that supports four intermediate range STM1 (155 Mbps) optical facilities
• STM1-SR-4	An interface card that supports four short range STM1 (155 Mbps) optical facilities
• STM1ATM-IR-6	An interface card that supports six intermediate range STM1 (155 Mbps) ATM optical fibers
• STM1IR-STM1SH-1310-8	An STM1 card which has 8 ports over the lower speed slot with XC-VXL-10G/XC-VXL-2.5G
• STM1POS-SR-4	An interface card that supports four short range STM1 (155 Mbps) POS optical facilities
• STM16	An interface card that supports one or more STM16 (10 Gbps) optical facilities
• STM16-AS-1	An interface card that supports one short range OC-48 (10 Gbps) optical facilities that can be provisioned in any I/O slot
• STM16-ELR-1	An interface card that supports one short range STM16 (2.5 Gbps) optical facility
• STM16-IR-1	An interface card that supports one intermediate range STM16 (10 Gbps) optical facility
• STM16-LR-1	An interface card that supports one long range STM16 (10 Gbps) optical facility
• STM16-SR-1	An interface card that supports one short range STM16 (10 Gbps) optical facilities
• TCC	Timing, Communications, and Control card
• TDC-CC	Coarse tunable dispersion compensation unit
• TDC-FC	Fine tunable dispersion compensation unit
• TXP-MR-10G	10G Multirate Transponder card
• TXP-MR-2.5G	Multirate 2.5G Unprotected
• TXPP-MR-2.5G	Multirate 2.5G Protected
• UNKNOWN	Unknown equipment type
• UNPROVISIONED	Unprovisioned equipment type
• WSE	Wire Speed Encryption (WSE) card
• XC-VXC-10G	XC-VXC-10G cross-connect card
• XCVXL-10G	XC-VXL-10G cross-connect card
• XCVXL-2.5G	XC-VXL-2.5G cross-connect card

19.2 REPT ALM BITS

The Report Alarm Building Integrated Timing Supply (REPT ALM BITS) message reports an alarm condition on a BITS facility.

Usage Guidelines None

Category Synchronization

Security Retrieve

Output Format

```
SID DATE TIME
** ATAG REPT ALM BITS
"<AID>:<NTFCNCDE>,<CONDTYPE>,<SRVEFF>,[<OCDAT>],[<OCDTM>],[<LOCN>],
<DIRN>]:[<DESC>]"
;
```

Output Example

```
TID-000 1998-06-20 14:30:00
** 100.100 REPT ALM BITS
"BITS-1:MJ,SYNC,SA,08-01,14-25-59,,:\'LOSS OF TIMING\'"
;
```

Table 19-2 **Parameter Support**

Parameter	Description
<AID>	Access identifier from the “27.6 BITS” section on page 27-11 .
<NTFCNCDE>	Two-letter notification code. The parameter type is NOTIF_CODE, which is a two-character notification code associated with an autonomous message.
• CL	The condition causing the alarm has cleared.
• CR	A critical alarm.
• MJ	A major alarm.
• NA	The condition is not alarmed.
• NR	The alarm is not reported.
<CONDTYPE>	Condition type for an alarm or a reported event. The parameter type is CONDITION, which is any problem detected on an NCS shelf, whether or not the problem is reported (that is, whether or not it generates a trouble notification). Reported conditions include alarms, Not Alarmed conditions (NA), and Not Reported (NR) conditions. See the Table 28-1 for a list of conditions
<SRVEFF>	The effect on service caused by the standing alarm or condition. The parameter type is SERV_EFF, which is the effect of the alarm on service.
• NSA	The condition is non-service affecting
• SA	The condition is service affecting

Table 19-2 *Parameter Support*

Parameter	Description
<OCRDAT>	(Optional) Date
<OCRTM>	(Optional) Time
<DESC>	(Optional) Condition description.

19.3 REPT ALM COM

The Report Alarm Common (REPT ALM COM) message reports an alarm condition when an AID cannot be given, for example, a fan failure is reported using this message.

Usage Guidelines	None
Category	Fault
Security	Retrieve
Output Format	SID DATE TIME ** ATAG REPT ALM COM “[<AID>]:<NTFCNCDE>,<CONDTYPE>,<SRVEFF>,<OCRDAT>,<OCRTM>,<LOCN>,<DIRN>]:<DESC>]” ;
Output Example	TID-000 1998-06-20 14:30:00 ** 100.100 REPT ALM COM “COM:MJ,FAN,NSA,08-01,14-25-59,,:\“FAN FAILURE\”” ;

Table 19-3 *Parameter Support*

Parameter	Description
<AID>	(Optional) Access identifier. Identifies the entity to which the command pertains. Indicates an alarm without AID. AID is a string.
<NTFCNCDE>	Two-letter notification code. The parameter type is NOTIF_CODE, which is a two-character notification code associated with an autonomous message.
• CL	The condition causing the alarm has cleared.
• CR	A critical alarm.
• MJ	A major alarm.
• MN	A minor alarm.

Table 19-3 **Parameter Support**

Parameter	Description
• NA	The condition is not alarmed.
• NR	The alarm is not reported.
<CONDTYPE>	Condition type for an alarm or a reported event. The parameter type is CONDITION, which is any problem detected on an NCS shelf, whether or not the problem is reported (that is, whether or not it generates a trouble notification). Reported conditions include alarms, Not Alarmed conditions (NA), and Not Reported (NR) conditions. See the Table 28-1 for a list of conditions.
<SRVEFF>	The effect on service caused by the standing alarm or condition. The parameter type is SERV_EFF, which is the effect of the alarm on service.
• NSA	The condition is non-service affecting.
• SA	The condition is service affecting.
<OCRDAT>	(Optional) Date
<OCRTM>	(Optional) Time
<DESC>	(Optional) Condition description.

19.4 REPT ALM ENV

The Report Alarm Environment (REPT ALM ENV) message reports a customer-defined condition on an environmental alarm input.

Usage Guidelines None

Category Environment

Security Retrieve

Output Format

```

SID DATE TIME
** ATAG REPT ALM ENV
"<AID>:<NTFCNCDE>,<ALMTYPE>,<OCRDAT>,<OCRTM>,<DESC>]"
;
```

Output Example

```

TID-000 1998-06-20 14:30:00
** 100.100 REPT ALM ENV
"ENV-IN-1:MJ,OPENDR,08-01,14-25-59,\"OPEN DOOR\""
;
```

Table 19-4 **Parameter Support**

Parameter	Description
<AID>	Access identifier from the “ 27.12 ENV ” section on page 27-20 . Identifies an environmental input.
<NTFCNCDE>	Two-letter notification code. The parameter type is NOTIF_CODE, which is a two-character notification code associated with an autonomous message.
• CL	The condition causing the alarm has cleared.
• CR	A critical alarm.
• MJ	A major alarm.
• MN	A minor alarm.
• NA	The condition is not alarmed.
• NR	The alarm is not reported.
<ALMTYPE>	Abbreviated code identifying the alarm. The parameter type is ENV_ALM, which is the environmental alarm type.
• AIRCOMPR	Air compressor failure
• AIRCOND	Air conditioning failure
• AIRDRYR	Air dryer failure
• BATDSCHRG	Battery discharging
• BATTERY	Battery failure
• CLFAN	Cooling fan failure
• CPMajor	Centralized power major failure
• CPMINOR	Centralized power minor failure
• ENGINE	Engine failure
• ENGOPRG	Engine operating
• ENGTRANS	Standby engine transfer
• EXPLGS	Explosive gas
• FIRDETR	Fire detector failure
• FIRE	Fire
• FLOOD	Flood
• FUELLEAK	Fuel leak
• FUSE	Fuse failure
• GASALARM	Explosive gas, toxic gas, ventilation fail or gas monitor fail
• HATCH	Controlled Environment Vault (CEV) hatch fail
• GEN	Generator failure
• HIAIR	High airflow
• HIHUM	High humidity
• HITEMP	High temperature
• HIWTR	High water

Table 19-4 **Parameter Support**

Parameter	Description
• INTRUDER	Intrusion
• LEVELCON	Level converter
• LVDADSL	Secondary asymmetric digital subscriber line (ADSL) low voltage disconnect
• LVDBYPAS	Low voltage disconnected bypass
• LWBATVG	Low battery voltage
• LWFUEL	Low fuel
• LWHUM	Low humidity
• LWPRES	Low cable pressure
• LWTEMP	Low temperature
• LWWTR	Low water
• MISC	Miscellaneous
• OPENDR	Open door
• POWER	Commercial power failure
• PUMP	Pump failure
• PWR-48	48 V power supply failure
• PWR-139	–139 V power converter
• PWR-190	–190 V power converter
• PWRMJ	Power supply major
• PWRMN	Power supply minor
• RECT	Rectifier failure
• RECTHI	Rectifier high voltage
• RECTLO	Rectifier low voltage
• RINGGENMJ	Ring generator major
• RINGGENMN	Ring generator minor
• RTACADSL	AC or AC/rectifier power fail ADSL equipment
• RTACCRIT	AC or AC/rectifier power fail DCL equipment critical site
• RTACPWR	AC or AC/rectifier power fail DCL equipment
• RTACPWRENG	Commercial AC fail, site equipped with standby engine
• RTBAYPWR	AC power loss distributed power RT bay
• RTRVENG	Retrieve standby engine, commercial AC restored
• SMOKE	Smoke
• TEMP	High-low temperature
• TOXICGAS	Toxic gas
• TREPEATER	T-repeater shelf
• VENTN	Ventilation system failure

Table 19-4 *Parameter Support*

Parameter	Description
<OCRDAT>	(Optional) Date.
<OCRTM>	(Optional) Time.
<DESC>	(Optional) Condition description.

19.5 REPT ALM LMP

The Report Alarm Link Management Protocol (REPT ALM LMP) autonomous message is used to report the LMP-FAIL alarms for the control channels and traffic engineering (TE) links.

Usage Guidelines None

Category Fault

Security Retrieve

Output Format

```

SID DATE TIME
** ATAG REPT ALM LMP
"[<AID>:<NTFCNCDE>,<CONDTYPE>,<SRVEFF>,<OCRDAT>,<OCRTM>,<LOCN>],
[<DIRN>]:<DESC>]"
;
```

Output Example

```

va454-5 1998-06-20 14:30:00
A 814.812 REPT ALM LMP
"CTRL-1:MJ,LMP-FAIL,NSA,08-01,14-25-59,,"LMP Failure\","
;
```

Table 19-5 *Parameter Support*

Parameter	Description
<AID>	The LMP control channel AID value.
• CTRL-ALL	Specifies all the control channels.
• CTRL-{1-4}	Specifies an individual control channel.
<NTFCNCDE>	The two-character notification code associated with an autonomous message.
• CL	The condition causing the alarm has cleared.
• CR	A critical alarm.
• MJ	A major alarm.
• MN	A minor alarm.

Table 19-5 **Parameter Support**

Parameter	Description
• NA	The condition is not alarmed.
• NR	The condition is not reported.
<CONDTYPE>	The condition type for an alarm or a reported event. The parameter type is CONDITION, which is any problem detected on an NCS, whether or not the problem is reported (that is, whether it generates a trouble notification). Reported conditions include alarms, Not-Alarmed conditions (NA), and Not-Reported (NR) conditions. See Chapter 28, “Conditions” for a list of conditions.
<SRVEFF>	Indicates the effect of the alarm on service.
• NSA	The condition is non-service affecting.
• SA	The condition is service affecting.
<OCRDAT>	(Optional) Date in YYYY-MM-DD format.
<OCRTM>	(Optional) Time in HH:MM:SS format.
<DESC>	Is a condition, alarm or event description.

19.6 REPT ALM EQPT

The Report Alarm Equipment (REPT ALM EQPT) message reports an alarm condition against an equipment unit or slot.

Usage Guidelines None

Category Equipment

Security Retrieve

Output Format

```

SID DATE TIME
** ATAG REPT ALM EQPT
“<AID>:<NTFCNCDE>,<CONDITION>,<SRVEFF>,<OCRDAT>,<OCRTM>,<LOCN>,<DIRN>]:<DESC>,<AIDDET>”
;
```

Output Example

```

TID-000 1998-06-20 14:30:00
** 100.100 REPT ALM EQPT
“SLOT-7:MJ,CONTR,NSA,08-01,14-25-59,,\“CONTROLLER FAILURE”,TCC”
;
```

Table 19-6 **Parameter Support**

Parameter	Description
<AID>	Access identifier from the “ 27.13 EQPT ” section on page 27-21. Equipment AID SLOT- { 1-17 } .
<NTFCNCDE>	Two-letter notification code. The parameter type is NOTIF_CODE, which is a two-character notification code associated with an autonomous message.
• CL	The condition causing the alarm has cleared.
• CR	A critical alarm.
• MJ	A major alarm.
• MN	A minor alarm.
• NA	The condition is not alarmed.
• NR	The alarm is not reported.
<CONDITION>	Condition type for an alarm or a reported event. The parameter type is CONDITION, which is any problem detected on an NCS shelf, whether or not the problem is reported (that is, whether or not it generates a trouble notification). Reported conditions include alarms, Not Alarmed conditions (NA), and Not Reported (NR) conditions. See the Table 28-1 for a list of conditions.
<SRVEFF>	The effect on service caused by the standing alarm or condition. The parameter type is SERV_EFF, which is the effect of the alarm on service.
• NSA	The condition is non-service affecting.
• SA	The condition is service affecting.
<OCRDAT>	(Optional) Date
<OCRTM>	(Optional) Time
<DESC>	(Optional) Condition description.
<AIDDET>	(Optional) AIDDET uses the same addressing rules as the AID, but specifies AID type and additional details about the entity being managed. The parameter type is EQPT_TYPE, which is the type of equipment being provisioned into a slot.
• 100G-LC-C	100G-LC-C card
• 100G-CK-C	100G-CK-C card
• 10X10G-LC	10X10G-LC card
• CFP-LC	CFP-LC card
• AR-MXP	Any rate muxponder
• AR-XP	Any rate xponder
• AR-XPE	Any rate enhanced xponder.
• 16-WXC-FS	16-WXC-FS card.
• 15216-MD-40-EVEN	Thermal Multiplex/Demultiplex Passive Unit, spaced at 50 GHz on even grid
• 15216-MD-40-ODD	Thermal Multiplex/Demultiplex Passive Unit, spaced at 50 GHz on odd grid
• 15216-MD-ID-50	Thermal Interleaver Passive Unit, spaced at 50 GHz grid
• 15216-FLD4-30-3	Edge 4-Ch Bi-Directional OADM Module 1530.33 to 1532.68.
• 15216-FLD4-33-4	Edge 4-Ch Bi-Directional OADM Module 1533.47 to 1535.82.
• 15216-FLD4-36-6	Edge 4-Ch Bi-Directional OADM Module 1536.61 to 1538.98.
• 15216-FLD4-39-7	Edge 4-Ch Bi-Directional OADM Module 1539.77 to 1542.14.

Table 19-6 **Parameter Support**

Parameter	Description
• 15216-FLD4-42-9	Edge 4-Ch Bi-Directional OADM Module 1542.94 to 1545.32.
• 15216-FLD4-46-1	Edge 4-Ch Bi-Directional OADM Module 1546.12 to 1548.51.
• 15216-FLD4-49-3	Edge 4-Ch Bi-Directional OADM Module 1549.32 to 1551.72.
• 15216-FLD4-52-5	Edge 4-Ch Bi-Directional OADM Module 1552.52 to 1554.94.
• 15216-FLD4-55-7	Edge 4-Ch Bi-Directional OADM Module 1555.75 to 1558.17.
• 15216-FLD4-58-9	Edge 4-Ch Bi-Directional OADM Module 1558.98 to 1561.42.
• 32DMX-L	3- channel demultiplexer for L-band
• 32WSS-L	32-channel wavelength switch selector for L-band
• 40-MXP-C	40 Gbit/Sec Multirate Muxponder
• 40-SMR1-C	The single module 40-channel ROADM on C-band
• 40-SMR2-C	The single module 40-channel ROADM with EDFA on C-band
• 40-TXP-C	40 Gigabits per second Multirate Transponder
• 80-WXC-C	80-channel wavelength cross-connect spaced at 100 GHz grid
• AD-1B	OADM 1-Band Filter
• AD-1C	OADM 1-Channel Filter
• AD-2C	OADM 2-Channel Filter
• AD-4B	OADM 4-Band Filter
• AD-4C	OADM 4-Channel Filter
• AICI	AIC-I card
• AIP	Alarm Indication Panel
• ALM-PWR	Alarm Power
• ASAP-4	ASAP carrier card with four PIM slots
• BP	The backplane of the NE
• CE-100T-8	8-port 100T card
• CE-1000-4	4-port GIGE mapper card
• CRFT-TMG	Craft Timing
• DCC	Data Communications Channel
• DCU	Dispersion Compensation Unit
• DMX-32	Optical DMX 32 Channels
• DS3i-N-12	DS3i-N-12 card
• E1	E1 card
• E1-42	42-port E1 card
• E1000T-2	2-port interface card supporting 1000BaseT Ethernet facilities
• E100T-12	12-port interface card supporting 100BaseT Ethernet facilities
• E100T-4	Four-port interface card supporting 100BaseT Ethernet facilities
• E1N	E1N card

Table 19-6 **Parameter Support**

Parameter	Description
• E3	E3 card
• EDRA-1-26	EDRA-1-26 amplifier
• EDRA-1-35	EDRA-1-35 amplifier
• EDRA-2-26	EDRA-2-26 amplifier
• EDRA-2-35	EDRA-2-35 amplifier
• FBGDCU-1157	
• FBGDCU-1322	
• FBGDCU-165	
• FBGDCU-1653	
• FBGDCU-1983	
• FBGDCU-331	
• FBGDCU-496	
• FBGDCU-661	
• FBGDCU-826	
• FBGDCU-992	
• FILLER_CARD	Filler card
• FMEC-155E-1TO1	The equipment type for FMEC STM1E12 card
• FMEC-155E-1TO3	The equipment type for FMEC STM1E12 card with 1:3 protection
• FMEC-155E-UNPROT	The equipment type for FMEC STM1E12 card without protection
• FMEC-SMZ-E1	FMEC card corresponding to E1 card
• FMEC-SMZ-E3	FMEC card corresponding to E3 card
• FTA	Fan Tray of the NE
• FTA1	Fan Tray 1 of the NE
• FTA2	Fan Tray 2 of the NE
• G1K-4	G1K-4 card
• MD-4	Optical Multiplexer/Demultiplexer with 4 Channels
• MD-48-CM	
• MD-48-EVEN	
• MD-48-ODD	
• MESH-PP-SMR	The passive unit Patch Panel device used to connect upto four 40-SMR2-C cards
• MF-16AD-CFS	16-channels - 1 direction, colorless, omnidirectional add/drop unit.
• MF-4x4-COFS	4-channels, 4-directions, colorless, omnidirectional add/drop unit.
• MF-AST-EDFA	MF-AST-EDFA unit
• MF-DEG-5	5-degrees mesh patch panel
• MF-MPO-8LC	MPO to 8-LC adapter

Table 19-6 **Parameter Support**

Parameter	Description
• MF-UPG-4	4-degrees upgrade module
• ML100X-8	8-port 100X card with optical interface
• ML-100T-8	8-port 100T card with optical interface
• MMU	Multiring mesh upgrade unit
• MS-ISC-100T	Fast Ethernet switch card used for internal shelf connection
• MUX-32	Optical MUX 32 Channels
• MXP-2.5G-10G	10G (4 * 2.5G) Muxponder card
• MXP-MR-10DME	10 Gbps datamux with enhanced FEC
• OPT-AMP-L	Optical preamplifier for L-band
• OPT-BST	Optical booster amplifier
• OPT-BST-L	Optical booster for L-band
• OPT-EDFA-17	MAL-less EDFA Optical Amplifier - C-band - 17dB Gain
• OPT-EDFA-24	MAL-less EDFA Optical Amplifier - C-band - 24dB Gain
• OPT-PRE	Optical Preamplifier
• OPT-RAMP-C	Raman pump amplifier C-band
• OPT-RAMP-CE	An extended version of Raman pump amplifier
• OPT-RAMP-COP	Raman COP card.
• OPT-RAMP-CTP	Raman CTP card.
• OPT-RAMP-E	Raman pump amplifier E-band
• OSC-CSM	Optical Service Channel with Combiner/Separator Module
• OSCM	Optical Service Channel Module
• OTU2-XP	A 4x10G transponder that is capable to operate with multiple bit rates - 10G FC, 10GE, and OC192/STM64
• PIM-4	Pluggable interface module with 4 PPM slots
• PP-4-SMR	Patch-Panel, 4 degrees, for SMR cards
• PP-MESH-4	Patch-Panel, 4 degrees
• PP-MESH-8	Patch-Panel, 8 degrees
• PPM-1	Pluggable port module with 1-port SFP module
• PSM	Protection Service Module card
• PTF-4	Fabric card.
• PTM-4	Line card.
• PTSA	CPT 50 panel.
• PTSYS-Fan-Out-Group	PTSYS Fan-Out-Group.
• SHELF	Shelf entity
• STM4	An interface card that supports one or more STM4 (622 Mbps) optical facilities
• STM4-4	A four port STM4 card

Table 19-6 **Parameter Support**

Parameter	Description
• STM4-IR-1	An interface card that supports one intermediate range STM4 (622 Mbps) optical facilities
• STM4-LR-1	An interface card that supports one long range STM4 (622 Mbps) optical facilities
• STM4-SR-1	An interface card that supports one short range STM4 (622 Mbps) optical facilities
• STM64-4	A four port STM64 card
• STM64-LR-1	An interface card that supports one or more STM64 optical facilities
• STM1	An interface card that supports multiple STM1 (155 Mbps) optical facilities
• STM1-IR-4	An interface card that supports four intermediate range STM1 (155 Mbps) optical facilities
• STM1-SR-4	An interface card that supports four short range STM1 (155 Mbps) optical facilities
• STM1ATM-IR-6	An interface card that supports six intermediate range STM1 (155 Mbps) ATM optical fibers
• STM1IR-STM1SH-1310-8	An STM1 card which has 8 ports over the lower speed slot with XC-VXL-10G/XC-VXL-2.5G
• STM1POS-SR-4	An interface card that supports four short range STM1 (155 Mbps) POS optical facilities
• STM16	An interface card that supports one or more STM16 (10 Gbps) optical facilities
• STM16-AS-1	An interface card that supports one short range OC-48 (10 Gbps) optical facilities that can be provisioned in any I/O slot
• STM16-ELR-1	An interface card that supports one short range STM16 (2.5 Gbps) optical facility
• STM16-IR-1	An interface card that supports one intermediate range STM16 (10 Gbps) optical facility
• STM16-LR-1	An interface card that supports one long range STM16 (10 Gbps) optical facility
• STM16-SR-1	An interface card that supports one short range STM16 (10 Gbps) optical facilities
• TCC	Timing, Communications, and Control card
• TDC-CC	Coarse tunable dispersion compensation unit
• TDC-FC	Fine tunable dispersion compensation unit
• TXP-MR-10G	10G Multirate Transponder card
• TXP-MR-2.5G	Multirate 2.5G Unprotected
• TXPP-MR-2.5G	Multirate 2.5G Protected
• UNKNOWN	Unknown equipment type
• UNPROVISIONED	Unprovisioned equipment type
• WSE	Wire Speed Encryption (WSE) card
• XC-VXC-10G	XC-VXC-10G cross-connect card
• XCVXL-10G	XC-VXL-10G cross-connect card
• XCVXL-2.5G	XC-VXL-2.5G cross-connect card

19.7 REPT ALM SECU

The Report Alarm Security (REPT ALM SECU) message reports the occurrence of an alarmed security event against the NE.

Usage Guidelines

Based on Telcordia TR-NWT-000835, the AID of the security alarm should be the Connection Identifier (CID), which is not currently supported.

The COM or UID is an acceptable substitute for the AID.

**Note**

The INTRUSION-PSWD condition is the only condition that is reported as a standing condition instead of a transient condition. It defaults to NA and is reported by the REPT EVT SECU message. However, it can be reprovisioned to be reported at a higher severity. If the severity of this alarm is higher than NA, it is reported by the REPT ALM SECU message.

Category

Security

Security

Superuser

Output Format

```
SID DATE TIME
** ATAG REPT ALM SECU
"<AID>:<NOTIFCODE>,<SECUALMTYPE>"
;
```

Output Example

```
TID-000 1998-06-20 14:30:00
** 100.100 REPT ALM SECU
"COM:CR,INTRUSION-PSWD"
;
```

Table 19-7 **Parameter Support**

Parameter	Description
<AID>	Access identifier. Identifies an entity with the condition. Defaults to COM. AID is a string.
<NOTIFCODE>	Two-letter notification code. The parameter type is NOTIF_CODE, which is the two-character notification code associated with an autonomous message.
• CL	The condition causing the alarm has cleared.
• CR	A critical alarm.
• MJ	A major alarm.
• MN	A minor alarm.
• NA	The condition is not alarmed.
• NR	The alarm is not reported.
<SECUALMTYPE>	Security alarm type. It is a subset of the CONDITION type. In this release, the only allowable type is INTRUSION-PSWD. The parameter type is SECUALMTYPE, which is the security alarm type.
• INTRUSION-PSWD	Condition raised after an invalid password is used during login. This condition is raised only if the password is used a specific number of times.

19.8 REPT ALM SYNCN

The Report Alarm Synchronization (REPT ALM SYNCN) message reports an alarm condition against a synchronization reference.

Usage Guidelines

None

Category

Synchronization

Security

Retrieve

Output Format

```
SID DATE TIME
** ATAG REPT ALM SYNCN
"<AID>:<NTFCNCDE>,<CONDTYPE>,<SRVEFF>,[<OCRDAT>],[<OCRTM>],[<LOCN>],
[<DIRN>]:[<DESC>],
[<EQPTTYPE>]"
;
```

Output Example

```
TID-000 1998-06-20 14:30:00
** 100.100 REPT ALM SYNCN
"SYNC-NE:MJ,MAN,SA,08-01,14-25-59,,:\"MANUAL SWITCH\",TCC"
;
```

Table 19-8 **Parameter Support**

Parameter	Description
<AID>	Access identifier from the “27.29 SYNC_REF” section on page 27-34 . Identifies a synchronization reference with alarm condition.
<NTFCNCDE>	Notification code. The parameter type is NOTIF_CODE, which is a two-character notification code associated with an autonomous message.
• CL	The condition causing the alarm has cleared.
• CR	A critical alarm.
• MJ	A major alarm.
• MN	A minor alarm.
• NA	The condition is not alarmed.
• NR	The alarm is not reported.
<CONDTYPE>	Condition type for an alarm or a reported event. The parameter type is CONDITION, which is any problem detected on an NCS shelf, whether or not the problem is reported (that is, whether or not it generates a trouble notification). Reported conditions include alarms, Not Alarmed (NA) conditions, and Not Reported (NR) conditions. See the Table 28-1 for a list of conditions.

Table 19-8 **Parameter Support**

Parameter	Description
<SRVEFF>	The effect on service caused by the standing alarm or condition. The parameter type is SERV_EFF, which is the effect of the alarm on service.
• NSA	The condition is non-service affecting.
• SA	The condition is service affecting.
<OCDAT>	(Optional) Date
<OCDTM>	(Optional) Time
<DESC>	(Optional) Condition description.
<EQPTTYPE>	(Optional) The parameter type is EQPT_TYPE, which is the type of equipment being provisioned into a slot.
• 100G-LC-C	100G-LC-C card
• 100G-CK-C	100G-CK-C card
• 10X10G-LC	10X10G-LC card
• CFP-LC	CFP-LC card
• AR-MXP	Any rate muxponder
• AR-XP	Any rate xponder
• AR-XPE	Any rate enhanced xponder.
• 16-WXC-FS	16-WXC-FS card.
• 15216-MD-40-EVEN	Thermal Multiplex/Demultiplex Passive Unit, spaced at 50 GHz on even grid
• 15216-MD-40-ODD	Thermal Multiplex/Demultiplex Passive Unit, spaced at 50 GHz on odd grid
• 15216-MD-ID-50	Thermal Interleaver Passive Unit, spaced at 50 GHz grid
• 15216-FLD4-30-3	Edge 4-Ch Bi-Directional OADM Module 1530.33 to 1532.68.
• 15216-FLD4-33-4	Edge 4-Ch Bi-Directional OADM Module 1533.47 to 1535.82.
• 15216-FLD4-36-6	Edge 4-Ch Bi-Directional OADM Module 1536.61 to 1538.98.
• 15216-FLD4-39-7	Edge 4-Ch Bi-Directional OADM Module 1539.77 to 1542.14.
• 15216-FLD4-42-9	Edge 4-Ch Bi-Directional OADM Module 1542.94 to 1545.32.
• 15216-FLD4-46-1	Edge 4-Ch Bi-Directional OADM Module 1546.12 to 1548.51.
• 15216-FLD4-49-3	Edge 4-Ch Bi-Directional OADM Module 1549.32 to 1551.72.
• 15216-FLD4-52-5	Edge 4-Ch Bi-Directional OADM Module 1552.52 to 1554.94.
• 15216-FLD4-55-7	Edge 4-Ch Bi-Directional OADM Module 1555.75 to 1558.17.
• 15216-FLD4-58-9	Edge 4-Ch Bi-Directional OADM Module 1558.98 to 1561.42.
• 32DMX-L	3- channel demultiplexer for L-band
• 32WSS-L	32-channel wavelength switch selector for L-band
• 40-MXP-C	40 Gbit/Sec Multirate Muxponder
• 40-SMR1-C	The single module 40-channel ROADM on C-band
• 40-SMR2-C	The single module 40-channel ROADM with EDFA on C-band
• 40-TXP-C	40 Gigabits per second Multirate Transponder
• 80-WXC-C	80-channel wavelength cross-connect spaced at 100 GHz grid

Table 19-8 **Parameter Support**

Parameter	Description
• AD-1B	OADM 1-Band Filter
• AD-1C	OADM 1-Channel Filter
• AD-2C	OADM 2-Channel Filter
• AD-4B	OADM 4-Band Filter
• AD-4C	OADM 4-Channel Filter
• AICI	AIC-I card
• AIP	Alarm Indication Panel
• ALM-PWR	Alarm Power
• ASAP-4	ASAP carrier card with four PIM slots
• BP	The backplane of the NE
• CE-100T-8	8-port 100T card
• CE-1000-4	4-port GIGE mapper card
• CRFT-TMG	Craft Timing
• DCC	Data Communications Channel
• DCU	Dispersion Compensation Unit
• DMX-32	Optical DMX 32 Channels
• DS3i-N-12	DS3i-N-12 card
• E1	E1 card
• E1-42	42-port E1 card
• E100T-2	2-port interface card supporting 1000BaseT Ethernet facilities
• E100T-12	12-port interface card supporting 100BaseT Ethernet facilities
• E100T-4	Four-port interface card supporting 100BaseT Ethernet facilities
• E1N	E1N card
• E3	E3 card
• EDRA-1-26	EDRA-1-26 amplifier
• EDRA-1-35	EDRA-1-35 amplifier
• EDRA-2-26	EDRA-2-26 amplifier
• EDRA-2-35	EDRA-2-35 amplifier
• FBGDCU-1157	
• FBGDCU-1322	
• FBGDCU-165	
• FBGDCU-1653	
• FBGDCU-1983	
• FBGDCU-331	
• FBGDCU-496	
• FBGDCU-661	

Table 19-8 **Parameter Support**

Parameter	Description
• FBGDCU-826	
• FBGDCU-992	
• FILLER_CARD	Filler card
• FMEC-155E-1TO1	The equipment type for FMEC STM1E12 card
• FMEC-155E-1TO3	The equipment type for FMEC STM1E12 card with 1:3 protection
• FMEC-155E-UNPROT	The equipment type for FMEC STM1E12 card without protection
• FMEC-SMZ-E1	FMEC card corresponding to E1 card
• FMEC-SMZ-E3	FMEC card corresponding to E3 card
• FTA	Fan Tray of the NE
• FTA1	Fan Tray 1 of the NE
• FTA2	Fan Tray 2 of the NE
• G1K-4	G1K-4 card
• MD-4	Optical Multiplexer/Demultiplexer with 4 Channels
• MD-48-CM	
• MD-48-EVEN	
• MD-48-ODD	
• MESH-PP-SMR	The passive unit Patch Panel device used to connect upto four 40-SMR2-C cards
• MF-16AD-CFS	16-channels - 1 direction, colorless, omnidirectional add/drop unit.
• MF-4x4-COFS	4-channels, 4-directions, colorless, omnidirectional add/drop unit.
• MF-AST-EDFA	MF-AST-EDFA unit
• MF-DEG-5	5-degrees mesh patch panel
• MF-MPO-8LC	MPO to 8-LC adapter
• MF-UPG-4	4-degrees upgrade module
• ML100X-8	8-port 100X card with optical interface
• ML-100T-8	8-port 100T card with optical interface
• MMU	Multiring mesh upgrade unit
• MS-ISC-100T	Fast Ethernet switch card used for internal shelf connection
• MUX-32	Optical MUX 32 Channels
• MXP-2.5G-10G	10G (4 * 2.5G) Muxponder card
• MXP-MR-10DME	10 Gbps datamux with enhanced FEC
• OPT-AMP-L	Optical preamplifier for L-band
• OPT-BST	Optical booster amplifier
• OPT-BST-L	Optical booster for L-band
• OPT-EDFA-17	MAL-less EDFA Optical Amplifier - C-band - 17dB Gain
• OPT-EDFA-24	MAL-less EDFA Optical Amplifier - C-band - 24dB Gain
• OPT-PRE	Optical Preamplifier

Table 19-8 **Parameter Support**

Parameter	Description
• OPT-RAMP-C	Raman pump amplifier C-band
• OPT-RAMP-CE	An extended version of Raman pump amplifier
• OPT-RAMP-COP	Raman COP card.
• OPT-RAMP-CTP	Raman CTP card.
• OPT-RAMP-E	Raman pump amplifier E-band
• OSC-CSM	Optical Service Channel with Combiner/Separator Module
• OSCM	Optical Service Channel Module
• OTU2-XP	A 4x10G transponder that is capable to operate with multiple bit rates - 10G FC, 10GE, and OC192/STM64
• PIM-4	Pluggable interface module with 4 PPM slots
• PP-4-SMR	Patch-Panel, 4 degrees, for SMR cards
• PP-MESH-4	Patch-Panel, 4 degrees
• PP-MESH-8	Patch-Panel, 8 degrees
• PPM-1	Pluggable port module with 1-port SFP module
• PSM	Protection Service Module card
• PTF-4	Fabric card.
• PTM-4	Line card.
• PTSA	CPT 50 panel.
• PTSYS- Fan-Out-Group	PTSYS Fan-Out-Group.
• SHELF	Shelf entity
• STM4	An interface card that supports one or more STM4 (622 Mbps) optical facilities
• STM4-4	A four port STM4 card
• STM4-IR-1	An interface card that supports one intermediate range STM4 (622 Mbps) optical facilities
• STM4-LR-1	An interface card that supports one long range STM4 (622 Mbps) optical facilities
• STM4-SR-1	An interface card that supports one short range STM4 (622 Mbps) optical facilities
• STM64-4	A four port STM64 card
• STM64-LR-1	An interface card that supports one or more STM64 optical facilities
• STM1	An interface card that supports multiple STM1 (155 Mbps) optical facilities
• STM1-IR-4	An interface card that supports four intermediate range STM1 (155 Mbps) optical facilities
• STM1-SR-4	An interface card that supports four short range STM1 (155 Mbps) optical facilities
• STM1ATM-IR-6	An interface card that supports six intermediate range STM1 (155 Mbps) ATM optical fibers
• STM1IR-STM1SH-1310-8	An STM1 card which has 8 ports over the lower speed slot with XC-VXL-10G/XC-VXL-2.5G
• STM1POS-SR-4	An interface card that supports four short range STM1 (155 Mbps) POS optical facilities

Table 19-8 **Parameter Support**

Parameter	Description
• STM16	An interface card that supports one or more STM16 (10 Gbps) optical facilities
• STM16-AS-1	An interface card that supports one short range OC-48 (10 Gbps) optical facilities that can be provisioned in any I/O slot
• STM16-ELR-1	An interface card that supports one short range STM16 (2.5 Gbps) optical facility
• STM16-IR-1	An interface card that supports one intermediate range STM16 (10 Gbps) optical facility
• STM16-LR-1	An interface card that supports one long range STM16 (10 Gbps) optical facility
• STM16-SR-1	An interface card that supports one short range STM16 (10 Gbps) optical facilities
• TCC	Timing, Communications, and Control card
• TDC-CC	Coarse tunable dispersion compensation unit
• TDC-FC	Fine tunable dispersion compensation unit
• TXP-MR-10G	10G Multirate Transponder card
• TXP-MR-2.5G	Multirate 2.5G Unprotected
• TXPP-MR-2.5G	Multirate 2.5G Protected
• UNKNOWN	Unknown equipment type
• UNPROVISIONED	Unprovisioned equipment type
• WSE	Wire Speed Encryption (WSE) card
• XC-VXC-10G	XC-VXC-10G cross-connect card
• XCVXL-10G	XC-VXL-10G cross-connect card
• XCVXL-2.5G	XC-VXL-2.5G cross-connect card

19.9 REPT DBCHG

The Report Database Change (REPT DBCHG) message reports any changes on the NE that result from:

- TL1 provisioning commands or their graphical user interface (GUI) equivalents containing the verbs: ALW, DLT, ED, ENT, INH, INIT, OPR, RLS, SET, and SW (for example, DLT-EQPT, ENT-CRS-VC3).
- External event such as a board insertion.

When secondary state is changed from AutomaticInService state to any other state, no REPT DBCHG messages are generated.

Usage Guidelines

The REPT DBCHG is turned off by default. To turn REPT DBCHG on, you must issue the ALW-MSG-DBCHG command.

- <SOURCE> and <USERID> are optional string parameters with a maximum length of 20 characters.
- <COMMAND> is a string parameter with a maximum length of 20 characters.
- <AID> is a string parameter with a maximum length of 64 characters. Any excess characters will be truncated.

19.9 REPT DBCHG

- REPT DBCHG messages will be generated every time a roll is performed. A cross-connect delete and add REPT DBCHG message will not be sent every time a roll is performed.

Category Log

Security Retrieve

Output Format

```

SID DATE TIME
A ATAG REPT DBCHG
  "TIME=<TIME>,DATE=<DATE>,[SOURCE=<SOURCE>],[USERID=<USERID>],
  DBCHGSEQ=<DBCHGSEQ>:<COMMAND>:[<AID>]:::[<PSTPSTQ>],[<SST>"
;

```

Output Example

```

TID-000 1998-06-20 14:30:00
A 100 REPT DBCHG
  "TIME=14-35-46,DATE=99-07-28,SOURCE=123,USERID=CISCO15,DBCHGSEQ=456:
  ENT-CRS-VC4:VC4-4-1-2-6-4:::Locked-Enabled, AutomaticInService"
;

```

Table 19-9 Parameter Support

Parameter	Description
<TIME>	The time of the message triggered by the NE.
<DATE>	The date of the message triggered by the NE.
<SOURCE>	(Optional) An input-command CTAG if present. SOURCE is a string.
<USERID>	(Optional) The user name or user identifier. USERID is a string.
<DBCHGSEQ>	Identifier or range of identifiers to be retrieved. It is a sequential number of the DBCHGSEQ message. DBCHGSEQ is an integer
<COMMAND>	The input command or substitute. COMMAND is a string.
<AID>	Access identifier. AID is a string.
Unlocked-Disabled	Out of service and autonomous
Locked-Disabled	Out of service and autonomous and management
Locked-Enabled	Out of service and management
<SST>	Secondary state. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
AutomaticInService	Automatic in service
Disabled	Disabled
Loopback	Loopback

Table 19-9 **Parameter Support**

Parameter	Description
• MismatchofEquipmentAlarm	Mismatch of equipment and attributes
• Maintenance	Maintenance mode
• OutOfGroup	Out of group
• SoftwareDownload	Software downloading
• Unassigned	Unassigned
• NotInstalled	Unequipped

19.10 REPT EVT <MOD2ALM>

The Report Event for 1GFC, 1GFICON, 2GFC, 2GFICON, CLNT, DS1, E100, E1000, E3, E4, EC1, ETH, FSTE, G1000, GFPOS, GIGE, ILK, ISCCOMPAT, ISC3PEER2R, ISC3PEER1G, ISC3PEER2G, OC12, OC192, OC3, OC48, OCH, OMS, OTS, POS, STM1,STM4,STM16,STM64, T1, T3, UDCDCC, UDCF, VC3, VC4, VC4-2c, VC4-3c, VC4-4c, VC4-8c, VC4-16c,VC4-64c, VC12, VCG, VT1, VT2, WLEN, or RPRIF (REPT EVT <MOD2ALM>) message reports the occurrence of a nonalarmed event. In Software Release 5.0 and later, REPT EVT <MOD2ALM> can report the remote monitoring (RMON)-managed threshold crossing alarm. See [Table 29-1 on page 29-1](#) for supported modifiers by platform.

Usage Guidelines None

Category Fault

Security Retrieve

Output Format SID DATE TIME
 A ATAG REPT EVT <MOD2ALM>
 “<AID>:<CONDTYPE>,<CONDEFF>],,,<LOCN>,<DIRN>,<MONVAL>,<THLEV>],
 [<TMPPER>]:<DESC>,<AIDDET>]”
 ;

Output Example TID-000 1998-06-20 14:30:00
 A 100.100 REPT EVT STM16
 “FAC-5-1:WKSWPR,TC,,,FEND,,12,13,15-MIN:\“WORKING SWITCH TOPROTECTION\”,
 STM16”
 ;

Table 19-10 **Parameter Support**

Parameter	Description
<AID>	Access identifier from the “27.1 ALL” section on page 27-1.
<CONDTYPE>	Condition type for an alarm or a reported event. The parameter type is CONDITION, which is any problem detected on NCS shelf, whether or not the problem is reported (that is, whether or not it generates a trouble notification). Reported conditions include alarms, Not Alarmed (NA) conditions, and Not Reported (NR) conditions. See the Table 28-1 for a list of conditions.
<CONDEFF>	(Optional) The effect of the event on the condition of the NE. The parameter type is COND_EFF, which is the state of the condition upon the affected unit.
• CL	Standing condition cleared
• SC	Standing condition raised
• TC	Transient condition
<LOCN>	(Optional) Location associated with a particular command in reference to the entity identified by the AID. The parameter type is LOCATION, which is the location where the action is to take place.
• FEND	Action occurs on the Far End of the facility.
• NEND	Action occurs on the Near End of the facility.
<DIRN>	Direction relative to the entity identified by the AID. Direction of PM relative to the entity identified by the AID. The parameter type is DIRECTION (transmit and receive directions).
• BTH	Both transmit and receive directions
• RCV	Receive direction only
• TRMT	Transmit direction only
<MONVAL>	(Optional) Monitored value. Value to which the register identified by MONTYPE is to be initialized to or the measured value of a monitored parameter. The value is in the form of numeric counts or rates. MONVAL is a float.
<THLEV>	(Optional) Threshold level. THLEV is a float.
<TMPER>	(Optional) Accumulation time period for performance counters. The parameter type is TMPER, which is the accumulation time period for the performance management center.
• 1-DAY	Performance parameter accumulation interval length; every 24-hours. For NCS PM data only one day of history data is available. For RMON managed PM data seven days of history data are available.
• 1-HR	Performance parameter accumulation interval length; every 1 hour. This is only applicable to RMON managed PM data. There are 24 hours of history data available.
• 1-MIN	Performance parameter accumulation interval length; every 1 minute. This is only applicable to RMON managed PM data. There are 60 minutes of history available.
• 15-MIN	Performance parameter accumulation interval length; every 15 minutes. There are 32 15-MIN buckets of history data available for this accumulation interval length.
• RAW-DATA	Performance parameter accumulation interval length; starting from the last time the counters were cleared. This is only applicable to RMON managed PMs.
<DESC>	(Optional) Condition description.
<AIDDET>	(Optional) AIDDET uses the same addressing rules as the AID, but specifies AID type and additional details about the entity being managed. The parameter type is EQPT_TYPE, which is the type of equipment being provisioned into a slot.
• 100G-LC-C	100G-LC-C card

Table 19-10 **Parameter Support**

Parameter	Description
• 100G-CK-C	100G-CK-C card
• 10X10G-LC	10X10G-LC card
• CFP-LC	CFP-LC card
• AR-MXP	Any rate muxponder
• AR-XP	Any rate xponder
• AR-XPE	Any rate enhanced xponder.
• 16-WXC-FS	16-WXC-FS card.
• 15216-MD-40-EV EN	Thermal Multiplex/Demultiplex Passive Unit, spaced at 50 GHz on even grid
• 15216-MD-40-O DD	Thermal Multiplex/Demultiplex Passive Unit, spaced at 50 GHz on odd grid
• 15216-MD-ID-50	Thermal Interleaver Passive Unit, spaced at 50 GHz grid
• 15216-FLD4-30-3	Edge 4-Ch Bi-Directional OADM Module 1530.33 to 1532.68.
• 15216-FLD4-33-4	Edge 4-Ch Bi-Directional OADM Module 1533.47 to 1535.82.
• 15216-FLD4-36-6	Edge 4-Ch Bi-Directional OADM Module 1536.61 to 1538.98.
• 15216-FLD4-39-7	Edge 4-Ch Bi-Directional OADM Module 1539.77 to 1542.14.
• 15216-FLD4-42-9	Edge 4-Ch Bi-Directional OADM Module 1542.94 to 1545.32.
• 15216-FLD4-46-1	Edge 4-Ch Bi-Directional OADM Module 1546.12 to 1548.51.
• 15216-FLD4-49-3	Edge 4-Ch Bi-Directional OADM Module 1549.32 to 1551.72.
• 15216-FLD4-52-5	Edge 4-Ch Bi-Directional OADM Module 1552.52 to 1554.94.
• 15216-FLD4-55-7	Edge 4-Ch Bi-Directional OADM Module 1555.75 to 1558.17.
• 15216-FLD4-58-9	Edge 4-Ch Bi-Directional OADM Module 1558.98 to 1561.42.
• 32DMX-L	3- channel demultiplexer for L-band
• 32WSS-L	32-channel wavelength switch selector for L-band
• 40-MXP-C	40 Gbit/Sec Multirate Muxponder
• 40-SMR1-C	The single module 40-channel ROADM on C-band
• 40-SMR2-C	The single module 40-channel ROADM with EDFA on C-band
• 40-TXP-C	40 Gigabits per second Multirate Transponder
• 80-WXC-C	80-channel wavelength cross-connect spaced at 100 GHz grid
• AD-1B	OADM 1-Band Filter
• AD-1C	OADM 1-Channel Filter
• AD-2C	OADM 2-Channel Filter
• AD-4B	OADM 4-Band Filter
• AD-4C	OADM 4-Channel Filter
• AICI	AIC-I card
• AIP	Alarm Indication Panel
• ALM-PWR	Alarm Power

Table 19-10 **Parameter Support**

Parameter	Description
• ASAP-4	ASAP carrier card with four PIM slots
• BP	The backplane of the NE
• CE-100T-8	8-port 100T card
• CE-1000-4	4-port GIGE mapper card
• CRFT-TMG	Craft Timing
• DCC	Data Communications Channel
• DCU	Dispersion Compensation Unit
• DMX-32	Optical DMX 32 Channels
• DS3i-N-12	DS3i-N-12 card
• E1	E1 card
• E1-42	42-port E1 card
• E100T-2	2-port interface card supporting 1000BaseT Ethernet facilities
• E100T-12	12-port interface card supporting 100BaseT Ethernet facilities
• E100T-4	Four-port interface card supporting 100BaseT Ethernet facilities
• E1N	E1N card
• E3	E3 card
• EDRA-1-26	EDRA-1-26 amplifier
• EDRA-1-35	EDRA-1-35 amplifier
• EDRA-2-26	EDRA-2-26 amplifier
• EDRA-2-35	EDRA-2-35 amplifier
• FBGDCU-1157	
• FBGDCU-1322	
• FBGDCU-165	
• FBGDCU-1653	
• FBGDCU-1983	
• FBGDCU-331	
• FBGDCU-496	
• FBGDCU-661	
• FBGDCU-826	
• FBGDCU-992	
• FILLER_CARD	Filler card
• FMEC-155E-1TO 1	The equipment type for FMEC STM1E12 card
• FMEC-155E-1TO 3	The equipment type for FMEC STM1E12 card with 1:3 protection
• FMEC-155E-UNP ROT	The equipment type for FMEC STM1E12 card without protection

Table 19-10 **Parameter Support**

Parameter	Description
• FMEC-SMZ-E1	FMEC card corresponding to E1 card
• FMEC-SMZ-E3	FMEC card corresponding to E3 card
• FTA	Fan Tray of the NE
• FTA1	Fan Tray 1 of the NE
• FTA2	Fan Tray 2 of the NE
• G1K-4	G1K-4 card
• MD-4	Optical Multiplexer/Demultiplexer with 4 Channels
• MD-48-CM	
• MD-48-EVEN	
• MD-48-ODD	
• MESH-PP-SMR	The passive unit Patch Panel device used to connect upto four 40-SMR2-C cards
• MF-16AD-CFS	16-channels - 1 direction, colorless, omnidirectional add/drop unit.
• MF-4x4-COFS	4-channels, 4-directions, colorless, omnidirectional add/drop unit.
• MF-AST-EDFA	MF-AST-EDFA unit
• MF-DEG-5	5-degrees mesh patch panel
• MF-MPO-8LC	MPO to 8-LC adapter
• MF-UPG-4	4-degrees upgrade module
• ML100X-8	8-port 100X card with optical interface
• ML-100T-8	8-port 100T card with optical interface
• MMU	Multiring mesh upgrade unit
• MS-ISC-100T	Fast Ethernet switch card used for internal shelf connection
• MUX-32	Optical MUX 32 Channels
• MXP-2.5G-10G	10G (4 * 2.5G) Muxponder card
• MXP-MR-10DM E	10 Gbps datamux with enhanced FEC
• OPT-AMP-L	Optical preamplifier for L-band
• OPT-BST	Optical booster amplifier
• OPT-BST-L	Optical booster for L-band
• OPT-EDFA-17	MAL-less EDFA Optical Amplifier - C-band - 17dB Gain
• OPT-EDFA-24	MAL-less EDFA Optical Amplifier - C-band - 24dB Gain
• OPT-PRE	Optical Preamplifier
• OPT-RAMP-C	Raman pump amplifier C-band
• OPT-RAMP-CE	An extended version of Raman pump amplifier
• OPT-RAMP-COP	Raman COP card.
• OPT-RAMP-CTP	Raman CTP card.
• OPT-RAMP-E	Raman pump amplifier E-band

Table 19-10 **Parameter Support**

Parameter	Description
• OSC-CSM	Optical Service Channel with Combiner/Separator Module
• OSCM	Optical Service Channel Module
• OTU2-XP	A 4x10G transponder that is capable to operate with multiple bit rates - 10G FC, 10GE, and OC192/STM64
• PIM-4	Pluggable interface module with 4 PPM slots
• PP-4-SMR	Patch-Panel, 4 degrees, for SMR cards
• PP-MESH-4	Patch-Panel, 4 degrees
• PP-MESH-8	Patch-Panel, 8 degrees
• PPM-1	Pluggable port module with 1-port SFP module
• PSM	Protection Service Module card
• PTF-4	Fabric card.
• PTM-4	Line card.
• PTSA	CPT 50 panel.
• PTSYS-Fan-Out-Group	PTSYS Fan-Out-Group.
• SHELF	Shelf entity
• STM4	An interface card that supports one or more STM4 (622 Mbps) optical facilities
• STM4-4	A four port STM4 card
• STM4-IR-1	An interface card that supports one intermediate range STM4 (622 Mbps) optical facilities
• STM4-LR-1	An interface card that supports one long range STM4 (622 Mbps) optical facilities
• STM4-SR-1	An interface card that supports one short range STM4 (622 Mbps) optical facilities
• STM64-4	A four port STM64 card
• STM64-LR-1	An interface card that supports one or more STM64 optical facilities
• STM1	An interface card that supports multiple STM1 (155 Mbps) optical facilities
• STM1-IR-4	An interface card that supports four intermediate range STM1 (155 Mbps) optical facilities
• STM1-SR-4	An interface card that supports four short range STM1 (155 Mbps) optical facilities
• STM1ATM-IR-6	An interface card that supports six intermediate range STM1 (155 Mbps) ATM optical fibers
• STM1IR-STM1S H-1310-8	An STM1 card which has 8 ports over the lower speed slot with XC-VXL-10G/XC-VXL-2.5G
• STM1POS-SR-4	An interface card that supports four short range STM1 (155 Mbps) POS optical facilities
• STM16	An interface card that supports one or more STM16 (10 Gbps) optical facilities
• STM16-AS-1	An interface card that supports one short range OC-48 (10 Gbps) optical facilities that can be provisioned in any I/O slot
• STM16-ELR-1	An interface card that supports one short range STM16 (2.5 Gbps) optical facility
• STM16-IR-1	An interface card that supports one intermediate range STM16 (10 Gbps) optical facility
• STM16-LR-1	An interface card that supports one long range STM16 (10 Gbps) optical facility

Table 19-10 **Parameter Support**

Parameter	Description
• STM16-SR-1	An interface card that supports one short range STM16 (10 Gbps) optical facilities
• TCC	Timing, Communications, and Control card
• TDC-CC	Coarse tunable dispersion compensation unit
• TDC-FC	Fine tunable dispersion compensation unit
• TXP-MR-10G	10G Multirate Transponder card
• TXP-MR-2.5G	Multirate 2.5G Unprotected
• TXPP-MR-2.5G	Multirate 2.5G Protected
• UNKNOWN	Unknown equipment type
• UNPROVISIONED	Unprovisioned equipment type
• WSE	Wire Speed Encryption (WSE) card
• XC-VXC-10G	XC-VXC-10G cross-connect card
• XCVXL-10G	XC-VXL-10G cross-connect card
• XCVXL-2.5G	XC-VXL-2.5G cross-connect card

19.11 REPT EVT BITS

The Report Event Building Integrated Timing Supply (REPT EVT BITS) message reports a nonalarmed event against a BITS facility.

Usage Guidelines None

Category Synchronization

Security Retrieve

Output Format SID DATE TIME
 ** ATAG REPT EVT BITS
 "<AID>:<CONDTYPE>,<CONDEFF>],[<LOCN>],[<DIRN>]:<DESC>]"
 ;

Output Example TID-000 1998-06-20 14:30:00
 A 100.100 REPT EVT BITS
 "BITS-1:SSM-STU,TC,,,,,,,,,\"SYNCHRONIZED - TRACEABILITY UNKNOWN\""
 ;

Table 19-11 **Parameter Support**

Parameter	Description
<AID>	Access identifier from the “27.6 BITS” section on page 27-11.
<CONDTYPE>	Condition type for an alarm or a reported event. The parameter type is CONDITION, which is any problem detected on an NCS shelf, whether or not the problem is reported (that is, whether or not it generates a trouble notification). Reported conditions include alarms, Not Alarmed (NA) conditions, and Not Reported (NR) conditions. See the Table 28-1 for a list of conditions.
<CONDEFF>	(Optional) The effect of the event on the condition of the NE. The parameter type is COND_EFF, which is the state of the condition upon the affected unit.
• CL	Standing condition cleared
• SC	Standing condition raised
• TC	Transient condition
<DESC>	(Optional) Condition description.

19.12 REPT EVT COM

The Report Event Common (REPT EVT COM) message reports a nonalarmed event against an NE when there is no AID associated with it.

Usage Guidelines None

Category Fault

Security Retrieve

Output Format

```

SID DATE TIME
A ATAG REPT EVT COM
“[<AID>]:<CONDTYPE>,<CONDEFF>],,,,,,<LOCN>,<DIRN>]:<DESC>]”
;
```

Output Example

```

TID-000 1998-06-20 14:30:00
A 100.100 REPT EVT COM
“COM:CLDRESTART,TC,,,,,,:\“COLD RESTART\”,”
;
```

Table 19-12 *Parameter Support*

Parameter	Description
<AID>	(Optional) Access identifier. Identifies the entity to which the command pertains. AID is a string.
<CONDTYPE>	(Optional) Condition type for an alarm or a reported event. The parameter type is CONDITION, which is any problem detected on an NCS shelf, whether or not the problem is reported (that is, whether or not it generates a trouble notification). Reported conditions include alarms, Not Alarmed (NA) conditions, and Not Reported (NR) conditions. See the Table 28-1 for a list of conditions.
<CONDEFF>	The effect of the event on the condition of the NE. The parameter type is COND_EFF, which is the state of the condition upon the affected unit.
• CL	Standing condition cleared
• SC	Standing condition raised
• TC	Transient condition
<DESC>	(Optional) Condition description.

19.13 REPT EVT ENV

The Report Event Environment (REPT EVT ENV) message reports the occurrence of a nonalarmed event against an environment alarm input.

Usage Guidelines None

Category Environment

Security Retrieve

Output Format

```

SID DATE TIME
A ATAG REPT EVT ENV
"<AID>:<ALMTYPE>,<CONDEFF>],,,,,,<LOCN>,<DIRN>]:<DESC>]"
;
```

Output Example

```

TID-000 1998-06-20 14:30:00
A 100.100 REPT EVT ENV
"ENV-IN-2:OPENDR,TC,,,,,,;\“OPEN DOOR\”"
;
```

Table 19-13 **Parameter Support**

Parameter	Description
<AID>	Access identifier from the “ 27.12 ENV ” section on page 27-20 . Identifies an environmental input.
<ALMTYPE>	Abbreviated code identifying the alarm. The parameter type is ENV_ALM, which is the environmental alarm type.
• AIRCOMPR	Air compressor failure
• AIRCOND	Air conditioning failure
• AIRDRYR	Air dryer failure
• BATDSCHRG	Battery discharging
• BATTERY	Battery failure
• CLFAN	Cooling fan failure
• CPMajor	Centralized power major failure
• INTRUDER	Intrusion
• LEVELCON	Level converter
• LVDADSL	Secondary ADSL low voltage disconnect
• LVDBYPAS	Low voltage disconnect bypass
• LWBATVG	Low battery voltage
• LWFUEL	Low fuel
• LWHUM	Low humidity
• LWPRES	Low cable pressure
• LWTEMP	Low temperature
• LWWTR	Low water
• MISC	Miscellaneous
• OPENDR	Open door
• POWER	Commercial power failure
• PUMP	Pump failure
• PWR-48	48 V power supply failure
• PWR-139	–139 V power converter
• PWR-190	–190 V power converter
• PWRMJ	Power supply major
• PWRMN	Power supply minor
• RECT	Rectifier failure
• RECTHI	Rectifier high voltage
• RECTLO	Rectifier low voltage
• RINGGENMJ	Ring generator major
• RINGGENMN	Ring generator minor
• RTACADSL	AC or AC/rectifier power fail ADSL equipment

Table 19-13 **Parameter Support**

Parameter	Description
• RTACCRIT	AC or AC/rectifier power fail DCL equipment critical site
• RTACPWR	AC or AC/rectifier power fail DCL equipment
• RTACPWRENG	Commercial AC fail, site equipped with standby engine
• RTBAYPWR	AC power loss distributed power RT bay
• RTRVENG	Retrieve standby engine, commercial AC restored
• SMOKE	Smoke
• TEMP	High-low temperature
• TOXICGAS	Toxic gas
• TREPEATER	T-repeater shelf
• VENTN	Ventilation system failure
<CONDEFF>	(Optional) The effect of the event on the condition of the NE. The parameter type is COND_EFF, which is the state of the condition upon the affected unit.
• CL	Standing condition cleared
• SC	Standing condition raised
• TC	Transient condition
<DESC>	(Optional) Condition description.

19.14 REPT EVT EQPT

The Report Event Equipment (REPT EVT EQPT) message reports the occurrence of a nonalarmed event against an equipment unit or slot.

Usage Guidelines None

Category Equipment

Security Retrieve

Output Format SID DATE TIME
 A ATAG REPT EVT EQPT
 “<AID>:<CONDDTYPE>,[<CONDEFF>],,,,,,[<LOCN>],[<DIRN>]:[<DESC>],[<AIDDET>]”
 ;

Output Example

```
TID-000 1998-06-20 14:30:00
A 100.100 REPT EVT EQPT
  "SLOT-7:PLUGIN,TC,,,,,,,,,\\"EQUIPMENT PLUG-IN\\",TCC"
;
```

Table 19-14 Parameter Support

Parameter	Description
<AID>	Access identifier from the “27.13 EQPT” section on page 27-21. Equipment AID SLOT-{1-17}.
<CONDTYPE>	Condition type for an alarm or a reported event. The parameter type is CONDITION, which is any problem detected on an NCS shelf, whether or not the problem is reported (that is, whether or not it generates a trouble notification). Reported conditions include alarms, Not Alarmed (NA) conditions, and Not Reported (NR) conditions. See the Table 28-1 for a list of conditions.
<CONDEFF>	(Optional) The effect of the event on the condition of the NE. The parameter type is COND_EFF, which is the state of the condition upon the affected unit.
• CL	Standing condition cleared
• SC	Standing condition raised
• TC	Transient condition
<DESC>	(Optional) Condition description.
<AIDDET>	(Optional) AIDDET uses the same addressing rules as the AID, but specifies AID type and additional details about the entity being managed. The parameter type is EQPT_TYPE, which is the type of equipment being provisioned into a slot.
• 100G-LC-C	100G-LC-C card
• 100G-CK-C	100G-CK-C card
• 10X10G-LC	10X10G-LC card
• CFP-LC	CFP-LC card
• AR-MXP	Any rate muxponder
• AR-XP	Any rate xponder
• AR-XPE	Any rate enhanced xponder.
• 16-WXC-FS	16-WXC-FS card.
• 15216-MD-40-EVEN	Thermal Multiplex/Demultiplex Passive Unit, spaced at 50 GHz on even grid
• 15216-MD-40-ODD	Thermal Multiplex/Demultiplex Passive Unit, spaced at 50 GHz on odd grid
• 15216-MD-ID-50	Thermal Interleaver Passive Unit, spaced at 50 GHz grid
• 15216-FLD4-30-3	Edge 4-Ch Bi-Directional OADM Module 1530.33 to 1532.68.
• 15216-FLD4-33-4	Edge 4-Ch Bi-Directional OADM Module 1533.47 to 1535.82.
• 15216-FLD4-36-6	Edge 4-Ch Bi-Directional OADM Module 1536.61 to 1538.98.
• 15216-FLD4-39-7	Edge 4-Ch Bi-Directional OADM Module 1539.77 to 1542.14.
• 15216-FLD4-42-9	Edge 4-Ch Bi-Directional OADM Module 1542.94 to 1545.32.
• 15216-FLD4-46-1	Edge 4-Ch Bi-Directional OADM Module 1546.12 to 1548.51.
• 15216-FLD4-49-3	Edge 4-Ch Bi-Directional OADM Module 1549.32 to 1551.72.
• 15216-FLD4-52-5	Edge 4-Ch Bi-Directional OADM Module 1552.52 to 1554.94.

Table 19-14 **Parameter Support**

Parameter	Description
• 15216-FLD4-55-7	Edge 4-Ch Bi-Directional OADM Module 1555.75 to 1558.17.
• 15216-FLD4-58-9	Edge 4-Ch Bi-Directional OADM Module 1558.98 to 1561.42.
• 32DMX-L	3- channel demultiplexer for L-band
• 32WSS-L	32-channel wavelength switch selector for L-band
• 40-MXP-C	40 Gbit/Sec Multirate Muxponder
• 40-SMR1-C	The single module 40-channel ROADM on C-band
• 40-SMR2-C	The single module 40-channel ROADM with EDFA on C-band
• 40-TXP-C	40 Gigabits per second Multirate Transponder
• 80-WXC-C	80-channel wavelength cross-connect spaced at 100 GHz grid
• AD-1B	OADM 1-Band Filter
• AD-1C	OADM 1-Channel Filter
• AD-2C	OADM 2-Channel Filter
• AD-4B	OADM 4-Band Filter
• AD-4C	OADM 4-Channel Filter
• AICI	AIC-I card
• AIP	Alarm Indication Panel
• ALM-PWR	Alarm Power
• ASAP-4	ASAP carrier card with four PIM slots
• BP	The backplane of the NE
• CE-100T-8	8-port 100T card
• CE-1000-4	4-port GIGE mapper card
• CRFT-TMG	Craft Timing
• DCC	Data Communications Channel
• DCU	Dispersion Compensation Unit
• DMX-32	Optical DMX 32 Channels
• DS3i-N-12	DS3i-N-12 card
• E1	E1 card
• E1-42	42-port E1 card
• E1000T-2	2-port interface card supporting 1000BaseT Ethernet facilities
• E100T-12	12-port interface card supporting 100BaseT Ethernet facilities
• E100T-4	Four-port interface card supporting 100BaseT Ethernet facilities
• E1N	E1N card
• E3	E3 card
• EDRA-1-26	EDRA-1-26 amplifier
• EDRA-1-35	EDRA-1-35 amplifier
• EDRA-2-26	EDRA-2-26 amplifier

Table 19-14 **Parameter Support**

Parameter	Description
• EDRA-2-35	EDRA-2-35 amplifier
• FBGDCU-1157	
• FBGDCU-1322	
• FBGDCU-165	
• FBGDCU-1653	
• FBGDCU-1983	
• FBGDCU-331	
• FBGDCU-496	
• FBGDCU-661	
• FBGDCU-826	
• FBGDCU-992	
• FILLER_CARD	Filler card
• FMEC-155E-1TO1	The equipment type for FMEC STM1E12 card
• FMEC-155E-1TO3	The equipment type for FMEC STM1E12 card with 1:3 protection
• FMEC-155E-UNPROT	The equipment type for FMEC STM1E12 card without protection
• FMEC-SMZ-E1	FMEC card corresponding to E1 card
• FMEC-SMZ-E3	FMEC card corresponding to E3 card
• FTA	Fan Tray of the NE
• FTA1	Fan Tray 1 of the NE
• FTA2	Fan Tray 2 of the NE
• G1K-4	G1K-4 card
• MD-4	Optical Multiplexer/Demultiplexer with 4 Channels
• MD-48-CM	
• MD-48-EVEN	
• MD-48-ODD	
• MESH-PP-SMR	The passive unit Patch Panel device used to connect upto four 40-SMR2-C cards
• MF-16AD-CFS	16-channels - 1 direction, colorless, omnidirectional add/drop unit.
• MF-4x4-COFS	4-channels, 4-directions, colorless, omnidirectional add/drop unit.
• MF-AST-EDFA	MF-AST-EDFA unit
• MF-DEG-5	5-degrees mesh patch panel
• MF-MPO-8LC	MPO to 8-LC adapter
• MF-UPG-4	4-degrees upgrade module
• ML100X-8	8-port 100X card with optical interface
• ML-100T-8	8-port 100T card with optical interface
• MMU	Multiring mesh upgrade unit
• MS-ISC-100T	Fast Ethernet switch card used for internal shelf connection

Table 19-14 **Parameter Support**

Parameter	Description
• MUX-32	Optical MUX 32 Channels
• MXP-2.5G-10G	10G (4 * 2.5G) Muxponder card
• MXP-MR-10DME	10 Gbps datamux with enhanced FEC
• OPT-AMP-L	Optical preamplifier for L-band
• OPT-BST	Optical booster amplifier
• OPT-BST-L	Optical booster for L-band
• OPT-EDFA-17	MAL-less EDFA Optical Amplifier - C-band - 17dB Gain
• OPT-EDFA-24	MAL-less EDFA Optical Amplifier - C-band - 24dB Gain
• OPT-PRE	Optical Preamplifier
• OPT-RAMP-C	Raman pump amplifier C-band
• OPT-RAMP-CE	An extended version of Raman pump amplifier
• OPT-RAMP-COP	Raman COP card.
• OPT-RAMP-CTP	Raman CTP card.
• OPT-RAMP-E	Raman pump amplifier E-band
• OSC-CSM	Optical Service Channel with Combiner/Separator Module
• OSCM	Optical Service Channel Module
• OTU2-XP	A 4x10G transponder that is capable to operate with multiple bit rates - 10G FC, 10GE, and OC192/STM64
• PIM-4	Pluggable interface module with 4 PPM slots
• PP-4-SMR	Patch-Panel, 4 degrees, for SMR cards
• PP-MESH-4	Patch-Panel, 4 degrees
• PP-MESH-8	Patch-Panel, 8 degrees
• PPM-1	Pluggable port module with 1-port SFP module
• PSM	Protection Service Module card
• PTF-4	Fabric card.
• PTM-4	Line card.
• PTSA	CPT 50 panel.
• PTSYS-Fan-Out-Group	PTSYS Fan-Out-Group.
• SHELF	Shelf entity
• STM4	An interface card that supports one or more STM4 (622 Mbps) optical facilities
• STM4-4	A four port STM4 card
• STM4-IR-1	An interface card that supports one intermediate range STM4 (622 Mbps) optical facilities
• STM4-LR-1	An interface card that supports one long range STM4 (622 Mbps) optical facilities
• STM4-SR-1	An interface card that supports one short range STM4 (622 Mbps) optical facilities
• STM64-4	A four port STM64 card
• STM64-LR-1	An interface card that supports one or more STM64 optical facilities

Table 19-14 **Parameter Support**

Parameter	Description
• STM1	An interface card that supports multiple STM1 (155 Mbps) optical facilities
• STM1-IR-4	An interface card that supports four intermediate range STM1 (155 Mbps) optical facilities
• STM1-SR-4	An interface card that supports four short range STM1 (155 Mbps) optical facilities
• STM1ATM-IR-6	An interface card that supports six intermediate range STM1 (155 Mbps) ATM optical fibers
• STM1IR-STM1SH-1310-8	An STM1 card which has 8 ports over the lower speed slot with XC-VXL-10G/XC-VXL-2.5G
• STM1POS-SR-4	An interface card that supports four short range STM1 (155 Mbps) POS optical facilities
• STM16	An interface card that supports one or more STM16 (10 Gbps) optical facilities
• STM16-AS-1	An interface card that supports one short range OC-48 (10 Gbps) optical facilities that can be provisioned in any I/O slot
• STM16-ELR-1	An interface card that supports one short range STM16 (2.5 Gbps) optical facility
• STM16-IR-1	An interface card that supports one intermediate range STM16 (10 Gbps) optical facility
• STM16-LR-1	An interface card that supports one long range STM16 (10 Gbps) optical facility
• STM16-SR-1	An interface card that supports one short range STM16 (10 Gbps) optical facilities
• TCC	Timing, Communications, and Control card
• TDC-CC	Coarse tunable dispersion compensation unit
• TDC-FC	Fine tunable dispersion compensation unit
• TXP-MR-10G	10G Multirate Transponder card
• TXP-MR-2.5G	Multirate 2.5G Unprotected
• TXPP-MR-2.5G	Multirate 2.5G Protected
• UNKNOWN	Unknown equipment type
• UNPROVISIONED	Unprovisioned equipment type
• WSE	Wire Speed Encryption (WSE) card
• XC-VXC-10G	XC-VXC-10G cross-connect card
• XCVXL-10G	XC-VXL-10G cross-connect card
• XCVXL-2.5G	XC-VXL-2.5G cross-connect card

19.15 REPT EVT FXFR

The Report Event Software Download (REPT EVT FXFR) message reports the FTP software download status of the start, completion, and completed percentage.

Usage Guidelines

- The FXFR_RSLT is only sent when the FXFR_STATUS is COMPLD.
- The PRCNT_XFRD is only sent when the FXFR_STATUS is IP or COMPLD.

Category

File Transfer

Security

Retrieve

Output Format

```

SID DATE TIME
A ATAG REPT EVT FXFR
  "<FILENAME>,<FXFR_STATUS>,<FXFR_RSLT>],[<PRCNT_XFRD>]"
;

```

Output Example

```

TID-000 1998-06-20 14:30:00
A 100.100 REPT EVT FXFR
  "NEW.PKG,COMPLD,SUCCESS,21215147"
;

```

Table 19-15 **Parameter Support**

Parameter	Description
<FILENAME>	When a package is being transferred between the FTP server and the controller cards, the filename field will contain the string ACTIVE. Following this transfer, if there is a second controller card on the NE, the file will be copied over to the second card during which time REPT EVT FXFR messages will be generated with a filename of STANDBY. FILENAME is a string.
<FXFR_STATUS>	The status of the file transfer: Start, IP (in progress), or COMPLD. The parameter type is TX_STATUS, which is the status of the file transfer.
• COMPLD	The file transmission is completed.
• IP	The file transmission is in progress.
• START	The file transmission is started.
<FXFR_RSLT>	(Optional) The result of the file transfer: Success or Failure. The parameter type is TX_RSLT, which is the result of the file transfer.
• FAILURE	A failed result
• SUCCESS	A successful result
<PRCNT_XFRD>	(Optional) The percentage transfer complete. PRCNT_XFRD is a string.

19.16 REPT EVT IOSCFG

The Report Event Cisco IOS Configuration File (REPT EVT IOSCFG) message reports the status of copying the Cisco IOS configuration file when the COPY-IOSCFG command is issued.

Usage Guidelines

- You can identify if this message is caused by a Cisco IOS configuration file downloading, uploading or merging by looking at the SRC and DEST field in the message. Refer to the COPY-IOSCFG command for more details.
- There is no success/failure in the message to indicate the success or failure of the merge process when merging the startup Cisco IOS configuration file to the running configuration file.

Category

File Transfer

Security

Retrieve

Output Format

```
SID DATE TIME
A ATAG REPT EVT IOSCFG
  "<AID>:<SRC>,<DEST>,<STATUS>,[<RESULT>]"
;
```

Output Example

```
TID-000 1998-06-20 14:30:00
A 100.100 REPT EVT IOSCFG
  "SLOT-1:STARTUP,IOS-CONFIG-FILE-IN-NETWORK,COMPLD,SUCCESS"
;
```

Table 19-16 **Parameter Support**

Parameter	Description
<AID>	Access identifier from the “27.13 EQPT” section on page 27-21 . Slot AID for the equipment.
<SRC>	Source access identifier. Specifies where the Cisco IOS config file is copied from. SRC is a string.
<DEST>	Destination. Specifies where the Cisco IOS config file is copied to. DEST is a string.
<STATUS>	The status of COPY-IOSCFG: Start, IP, or COMPLD. The parameter type is TX_STATUS, which is the status of the file transfer.
• COMPLD	The file transmission is completed.
• IP	The file transmission is in progress.
• START	The file transmission is started.
<RESULT>	(Optional) The result of the file transfer: Success or Failure. the parameter type is TX_RSLT, which is the result of the file transfer.
• FAILURE	A failed result
• SUCCESS	A successful result

19.17 REPT EVT SECU

The Report Event Security (REPT-EVT-SECU) message reports the occurrence of a nonalarmed security event against the NE. Based on Telcordia TR-NWT-000835.

Usage Guidelines

- The AID of the security alarm should be the CID, which is not supported in this release. The COM or UID is an acceptable substitute for the AID here. CIDs will be supported in a future release.
- For the rule of single failure, single message/alarm, the security alarm will not be reported as REPT ALM COM, because it is reported as REPT ALM SECU.
- Because the NE sends this security message as a transient message, to make all TL1 autonomous messages consistent, the TL1 agent reports the security message into REPT EVT SECU.
- This message is inhibited by default. A Superuser will have to issue the ALW-MSG-SECU to see this message.

Category

Security

Security

Superuser

Output Format

```
SID DATE TIME
A ATAG REPT EVT SECU
"<AID>:<DNFIELD>,<CONDEFF>],[<LOCN>],[<DIRN>],,,:<SECURITY>:<DNFIELD1>"
;
```

Output Example

```
TID-000 1998-06-20 14:30:00
A 100.100 REPT EVT SECU
"COM:LOGIN-FAILURE-PSWD,TC,,,,,,:\\"SECURITY:
INVALID LOGIN - PASSWORD - SEE AUDIT LOG\\"
;
```

Table 19-17 **Parameter Support**

Parameter	Description
<AID>	Access identifier. Identifies an entity with the condition. Defaults to COM. AID is a string.
<DNFIELD>	String.
<CONDEFF>	(Optional) The effect of the event on the condition of the NE. The parameter type is COND_EFF, which is the state of the condition upon the affected unit.
• CL	Standing condition cleared
• SC	Standing condition raised
• TC	Transient condition

Table 19-17 **Parameter Support**

Parameter	Description
• RCV	Receive direction only
• TRMT	Transmit direction only
<SECURITY>	The category of condition. SECURITY is a string.
<DNFIELD1>	DNFIELD1 is a string.

19.18 REPT EVT SESSION

The Report Event Session (REPT EVT SESSION) message reports a nonalarmed event related to establishing a session with the NE.

Usage Guidelines

The WARN field might contain different information depending on the type of session-related event.

- If the password aging feature has not been enabled (or the feature is enabled but the password is not close to expiring):
/*USER <UID> LOGGED IN <IP/SERIAL PORT*/
- If the forced password feature is enforced and the user is logging in for the first time (or the password has expired):
/*PLEASE CHANGE PASSWORD BEFORE CONTINUING*/
- If a session is terminated for any reason (except a user timeout), the reason for the session termination is indicated in the warning (<WARN>).

Category

Security

Security

Retrieve

Output Format

```
SID DATE TIME
A ATAG REPT EVT SESSION
  "<AID>:<EXP>,<PCN>"
  "<WARN>"
;
```

Output Example

```
TID-000 1998-06-20 14:30:00
A 100.100 REPT EVT SESSION
  "TCCP:YES,5-DAY"
  "/* USER TERRI LOGGED IN TO TCCP */"
;
```


Table 19-18 **Parameter Support**

Parameter	Description
<AID>	Access identifier. Identifies the NE with which a session is established. AID is a string.
<EXP>	Indicates whether the password is alive (for example, no password updating is required at the moment), expired, or is about to expire. the parameter type is YES_NO, which indicates whether the user's password is about to expire, the user is logged into the NE or the user is locked out of the NE.
• NO	No
• YES	Yes
<PCN>	The number of days still remaining before the existing password expires. PCN is a string. PCN appears only if EXP=YES and one of the following conditions exists: - The warning period has not been exhausted - The user is a new user establishing a session for the first time and the forced password change policy has been activated.
<WARN>	Free format text containing additional information about the security event. WARN is a string.

19.19 REPT EVT SYNCN

The Report Event Synchronization (REPT EVT SYNCN) message reports the occurrence of a non-alarmed event against a synchronization entity.

Usage Guidelines None

Categories Synchronization

Security Retrieve

Output Format

```

SID DATE TIME
A ATAG REPT EVT SYNCN
"<AID>:<CONDDTYPE>,<CONDEFF>],,,,,,<LOCN>],[<DIRN>]:<DESC>],[<AIDDET>]"
;
```

Output Example

```

TID-000 1998-06-20 14:30:00
A 100.100 REPT EVT SYNCN
"SYNC-NE:SWTOINT,SC,,,,,;:"SWITCH TO INTERNAL CLOCK",TCC";
```

Table 19-19 **Parameter Support**

Parameter	Description
<AID>	Access identifier from the “27.1 ALL” section on page 27-1.
<CONDDTYPE>	Condition type for an alarm or a reported event. The parameter type is CONDITION, which is any problem detected on NCS shelf, whether or not the problem is reported (that is, whether or not it generates a trouble notification). Reported conditions include alarms, Not Alarmed (NA) conditions, and Not Reported (NR) conditions. See the Table 28-1 for a list of conditions.
<CONDEFF>	(Optional) The effect of the event on the condition of the NE. The parameter type is COND_EFF, which is the state of the condition upon the affected unit.
• CL	Standing condition cleared
• SC	Standing condition raised
• TC	Transient condition
<DESC>	(Optional) Condition description.
<AIDDET>	(Optional) AIDDET uses the same addressing rules as the AID, but specifies AID type and additional details about the entity being managed. The parameter type is EQPT_TYPE, which is the type of equipment being provisioned into a slot.
• 100G-LC-C	100G-LC-C card
• 100G-CK-C	100G-CK-C card
• 10X10G-LC	10X10G-LC card
• CFP-LC	CFP-LC card
• AR-MXP	Any rate muxponder
• AR-XP	Any rate xponder
• AR-XPE	Any rate enhanced xponder.
• 16-WXC-FS	16-WXC-FS card.
• 15216-MD-40-EVEN	Thermal Multiplex/Demultiplex Passive Unit, spaced at 50 GHz on even grid
• 15216-MD-40-ODD	Thermal Multiplex/Demultiplex Passive Unit, spaced at 50 GHz on odd grid
• 15216-MD-ID-50	Thermal Interleaver Passive Unit, spaced at 50 GHz grid
• 15216-FLD4-30-3	Edge 4-Ch Bi-Directional OADM Module 1530.33 to 1532.68.
• 15216-FLD4-33-4	Edge 4-Ch Bi-Directional OADM Module 1533.47 to 1535.82.
• 15216-FLD4-36-6	Edge 4-Ch Bi-Directional OADM Module 1536.61 to 1538.98.
• 15216-FLD4-39-7	Edge 4-Ch Bi-Directional OADM Module 1539.77 to 1542.14.
• 15216-FLD4-42-9	Edge 4-Ch Bi-Directional OADM Module 1542.94 to 1545.32.
• 15216-FLD4-46-1	Edge 4-Ch Bi-Directional OADM Module 1546.12 to 1548.51.
• 15216-FLD4-49-3	Edge 4-Ch Bi-Directional OADM Module 1549.32 to 1551.72.
• 15216-FLD4-52-5	Edge 4-Ch Bi-Directional OADM Module 1552.52 to 1554.94.
• 15216-FLD4-55-7	Edge 4-Ch Bi-Directional OADM Module 1555.75 to 1558.17.
• 15216-FLD4-58-9	Edge 4-Ch Bi-Directional OADM Module 1558.98 to 1561.42.
• 32DMX-L	3- channel demultiplexer for L-band
• 32WSS-L	32-channel wavelength switch selector for L-band

Table 19-19 **Parameter Support**

Parameter	Description
• 40-MXP-C	40 Gbit/Sec Multirate Muxponder
• 40-SMR1-C	The single module 40-channel ROADM on C-band
• 40-SMR2-C	The single module 40-channel ROADM with EDFA on C-band
• 40-TXP-C	40 Gigabits per second Multirate Transponder
• 80-WXC-C	80-channel wavelength cross-connect spaced at 100 GHz grid
• AD-1B	OADM 1-Band Filter
• AD-1C	OADM 1-Channel Filter
• AD-2C	OADM 2-Channel Filter
• AD-4B	OADM 4-Band Filter
• AD-4C	OADM 4-Channel Filter
• AICI	AIC-I card
• AIP	Alarm Indication Panel
• ALM-PWR	Alarm Power
• ASAP-4	ASAP carrier card with four PIM slots
• BP	The backplane of the NE
• CE-100T-8	8-port 100T card
• CE-1000-4	4-port GIGE mapper card
• CRFT-TMG	Craft Timing
• DCC	Data Communications Channel
• DCU	Dispersion Compensation Unit
• DMX-32	Optical DMX 32 Channels
• DS3i-N-12	DS3i-N-12 card
• E1	E1 card
• E1-42	42-port E1 card
• E1000T-2	2-port interface card supporting 1000BaseT Ethernet facilities
• E100T-12	12-port interface card supporting 100BaseT Ethernet facilities
• E100T-4	Four-port interface card supporting 100BaseT Ethernet facilities
• E1N	E1N card
• E3	E3 card
• EDRA-1-26	EDRA-1-26 amplifier
• EDRA-1-35	EDRA-1-35 amplifier
• EDRA-2-26	EDRA-2-26 amplifier
• EDRA-2-35	EDRA-2-35 amplifier
• FBGDCU-1157	
• FBGDCU-1322	
• FBGDCU-165	

Table 19-19 **Parameter Support**

Parameter	Description
• FBGDCU-1653	
• FBGDCU-1983	
• FBGDCU-331	
• FBGDCU-496	
• FBGDCU-661	
• FBGDCU-826	
• FBGDCU-992	
• FILLER_CARD	Filler card
• FMEC-155E-1TO1	The equipment type for FMEC STM1E12 card
• FMEC-155E-1TO3	The equipment type for FMEC STM1E12 card with 1:3 protection
• FMEC-155E-UNPROT	The equipment type for FMEC STM1E12 card without protection
• FMEC-SMZ-E1	FMEC card corresponding to E1 card
• FMEC-SMZ-E3	FMEC card corresponding to E3 card
• FTA	Fan Tray of the NE
• FTA1	Fan Tray 1 of the NE
• FTA2	Fan Tray 2 of the NE
• G1K-4	G1K-4 card
• MD-4	Optical Multiplexer/Demultiplexer with 4 Channels
• MD-48-CM	
• MD-48-EVEN	
• MD-48-ODD	
• MESH-PP-SMR	The passive unit Patch Panel device used to connect upto four 40-SMR2-C cards
• MF-16AD-CFS	16-channels - 1 direction, colorless, omnidirectional add/drop unit.
• MF-4x4-COFS	4-channels, 4-directions, colorless, omnidirectional add/drop unit.
• MF-AST-EDFA	MF-AST-EDFA unit
• MF-DEG-5	5-degrees mesh patch panel
• MF-MPO-8LC	MPO to 8-LC adapter
• MF-UPG-4	4-degrees upgrade module
• ML100X-8	8-port 100X card with optical interface
• ML-100T-8	8-port 100T card with optical interface
• MMU	Multiring mesh upgrade unit
• MS-ISC-100T	Fast Ethernet switch card used for internal shelf connection
• MUX-32	Optical MUX 32 Channels
• MXP-2.5G-10G	10G (4 * 2.5G) Muxponder card
• MXP-MR-10DME	10 Gbps datamux with enhanced FEC
• OPT-AMP-L	Optical preamplifier for L-band

Table 19-19 **Parameter Support**

Parameter	Description
• OPT-BST	Optical booster amplifier
• OPT-BST-L	Optical booster for L-band
• OPT-EDFA-17	MAL-less EDFA Optical Amplifier - C-band - 17dB Gain
• OPT-EDFA-24	MAL-less EDFA Optical Amplifier - C-band - 24dB Gain
• OPT-PRE	Optical Preamplifier
• OPT-RAMP-C	Raman pump amplifier C-band
• OPT-RAMP-CE	An extended version of Raman pump amplifier
• OPT-RAMP-COP	Raman COP card.
• OPT-RAMP-CTP	Raman CTP card.
• OPT-RAMP-E	Raman pump amplifier E-band
• OSC-CSM	Optical Service Channel with Combiner/Separator Module
• OSCM	Optical Service Channel Module
• OTU2-XP	A 4x10G transponder that is capable to operate with multiple bit rates - 10G FC, 10GE, and OC192/STM64
• PIM-4	Pluggable interface module with 4 PPM slots
• PP-4-SMR	Patch-Panel, 4 degrees, for SMR cards
• PP-MESH-4	Patch-Panel, 4 degrees
• PP-MESH-8	Patch-Panel, 8 degrees
• PPM-1	Pluggable port module with 1-port SFP module
• PSM	Protection Service Module card
• PTF-4	Fabric card.
• PTM-4	Line card.
• PTSA	CPT 50 panel.
• PTSYS- Fan-Out-Group	PTSYS Fan-Out-Group.
• SHELF	Shelf entity
• STM4	An interface card that supports one or more STM4 (622 Mbps) optical facilities
• STM4-4	A four port STM4 card
• STM4-IR-1	An interface card that supports one intermediate range STM4 (622 Mbps) optical facilities
• STM4-LR-1	An interface card that supports one long range STM4 (622 Mbps) optical facilities
• STM4-SR-1	An interface card that supports one short range STM4 (622 Mbps) optical facilities
• STM64-4	A four port STM64 card
• STM64-LR-1	An interface card that supports one or more STM64 optical facilities
• STM1	An interface card that supports multiple STM1 (155 Mbps) optical facilities
• STM1-IR-4	An interface card that supports four intermediate range STM1 (155 Mbps) optical facilities
• STM1-SR-4	An interface card that supports four short range STM1 (155 Mbps) optical facilities
• STM1ATM-IR-6	An interface card that supports six intermediate range STM1 (155 Mbps) ATM optical fibers

Table 19-19 **Parameter Support**

Parameter	Description
• STM1IR-STM1SH-1310-8	An STM1 card which has 8 ports over the lower speed slot with XC-VXL-10G/XC-VXL-2.5G
• STM1POS-SR-4	An interface card that supports four short range STM1 (155 Mbps) POS optical facilities
• STM16	An interface card that supports one or more STM16 (10 Gbps) optical facilities
• STM16-AS-1	An interface card that supports one short range OC-48 (10 Gbps) optical facilities that can be provisioned in any I/O slot
• STM16-ELR-1	An interface card that supports one short range STM16 (2.5 Gbps) optical facility
• STM16-IR-1	An interface card that supports one intermediate range STM16 (10 Gbps) optical facility
• STM16-LR-1	An interface card that supports one long range STM16 (10 Gbps) optical facility
• STM16-SR-1	An interface card that supports one short range STM16 (10 Gbps) optical facilities
• TCC	Timing, Communications, and Control card
• TDC-CC	Coarse tunable dispersion compensation unit
• TDC-FC	Fine tunable dispersion compensation unit
• TXP-MR-10G	10G Multirate Transponder card
• TXP-MR-2.5G	Multirate 2.5G Unprotected
• TXPP-MR-2.5G	Multirate 2.5G Protected
• UNKNOWN	Unknown equipment type
• UNPROVISIONED	Unprovisioned equipment type
• WSE	Wire Speed Encryption (WSE) card
• XC-VXC-10G	XC-VXC-10G cross-connect card
• XCVXL-10G	XC-VXL-10G cross-connect card
• XCVXL-2.5G	XC-VXL-2.5G cross-connect card

19.20 REPT PM <MOD2>

The Report Performance Monitoring for 10GFC, 10GIGE, 1GFC, 1GFICON, 2GFC, 2GFICON, CLNT, D1VIDEO, DS3I, DV6000, E1, E3, E4, ESCON, ETRCLO, ETH, FSTE, G1000, GFPOS, GIGE, HDTV, ISC1, ILK, ISCCOMPAT, ISC3PEER2R, ISC3PEER1G, ISC3PEER2G, STM4, STM64, STM1, STM16, OCH, OMS, OTS, 10GFC, 8GFC, 10GIGE, 100GIGE, 40GIGE, OC192, OTU1, OTU2, OTU3, OTU4, POS, STM1E, VC3, VC44C, VC38C, VC464C, VC48C, STS36C, VC4, VC416C, VC42C, VC43C, or VC12 (REPT PM <MOD2>) message reports autonomous monitoring statistics as a result of the schedule created by SCHED-PMREPT.

Usage Guidelines

See [Table 29-1](#) on page 29-1 for supported modifiers by platform.



Note

Autonomous performance monitoring (Auto PM) report will have all PM paths reported without any filtering. If a particular parameter is not applicable to that card or circuit, then the value of MONVAL and VLDTY will be NA.

Category Performance

Security Retrieve

Output Format SID DATE TIME
 A ATAG REPT PM <MOD2>
 “<AID>:<MONTYPE>,<MONVAL>,<VLDTY>,<ISTM>,<DIRN>,<TMPER>,<MONDAT>,<MONTM>”
 ;

Output Example TID-000 1998-06-20 14:30:00
 A 100 REPT PM 10GFC
 “FAC-3-1:CVL,10,PRTL,NEND,BTH,15-MIN,05-25,14-46”
 ;

Table 19-20 Parameter Support

Parameter	Description
<AID>	Access identifier from the “27.1 ALL” section on page 27-1 .
<MONTYPE>	Monitored type. The parameter type is ALL_MONTYPE, which is the monitoring type list.
• AISSP	Alarm Indication Signal Seconds—Path
• ALL	All possible values
• BBEP	NCS Background Block Errors Path
• BBE-PM	OTN—Background Block Errors—Path Monitor Point
• BBER	NCS Background Block Error Ratio
• BBER-PM	OTN—Background Block Error Ratio—Path Monitor Point expressed as one tenth of a percentage.
• BBER-SM	OTN—Background Block Error Ratio—Section Monitor Point expressed as one tenth of a percentage
• BBE-SM	OTN—Background Block Errors—Section Monitor Point
• BIEC	FEC—Bit Errors Corrected
• CGV	8B10B—Code Group Violations
• CVCPP	Coding Violations—CP-Bit Path
• CVL	Coding Violations—Line
• CVP	Coding Violations—Path
• CVS	Coding Violations—Section
• CVV	Coding Violations—Section
• DCG	8B10B—Data Code Groups
• ESCPP	Errored Seconds—CP—Bit Path
• ESL	Errored Seconds—Line
• ESP	Errored Seconds—Path
• ES-PM	OTN—Errored Seconds—Path Monitor Point

Table 19-20 **Parameter Support**

Parameter	Description
• ESR	Errored Second—Ratio
• ESR-PM	Errored Seconds Ratio—Path monitor Point expressed as one tenth of a percentage
• ESR-SM	Errored Seconds Ratio—Section monitor Point expressed as one tenth of a percentage
• ESS	Errored Seconds—Section
• ES-SM	OTN—Errored Seconds—Section Monitor Point
• ESV	Errored Seconds—VC Path
• etherStatsBroadcastPkts	The total number of good packets received that were directed to a multicast address
• etherStatsCollisions	Number of transmit packets that are collisions
• etherStatsCRCAlignmentErrors	The total number of packets received that have a length (excluding framing bits, but including FCS octets) of between 64 and 1518 octets
• etherStatsDropEvents	Number of received frames dropped at the port level
• etherStatsFragments	The total number of packets received that were less than 64 octets
• etherStatsJabbers	The total number of packets received that are longer than 1518 octets
• etherStatsOctets	The total number of octets of data
• etherStatsOversizePkts	The total number of packets received that are longer than 1518 octets
• etherStatsPkts	The total number of packets (including bad packets, broadcast packets, and multicast packets) received
• etherStatsUndersizePkts	The total number of packets received that are less than 64 octets
• FCP	Failure Count—Line
• FC-PM	OTN—Failure Count—Path Monitor Point
• FC-SM	OTN—Failure Count—Section Monitor Point
• HP-AR	Availability Ratio
• HP-BBE	High-Order Path Background Block Error
• HP-BBER	High-Order Path Background Block Error Ratio
• HP-EB	High-Order Path Errored Block
• HP-ES	High-Order Path Errored Second
• HP-ESA	High-Order Path Errored Seconds—A
• HP-ESB	High-Order Path Errored Seconds—B
• HP-ESR	High-Order Path Errored Second Ratio
• HP-FC	High-Order Path Failure Count
• HP-NPJC-PDET	High-Order Path Negative Pointer Justification Count, Path Detected
• HP-NPJC-PGEN	High-Order Path Pointer Justification Count, Path Generated
• HP-OI	Outage Intensity

Table 19-20 **Parameter Support**

Parameter	Description
• HP-PJCDIFF	High-Order Path Pointer Justification Count Difference
• HP-PJCS-PDET	High-Order Path Pointer Justification Count Seconds, Path Detected
• HP-PPJC-PDET	High-Order Path Positive Pointer Justification Count, Path Detected
• HP-PPJC-PGEN	High-Order Path Positive Pointer Justification Count, Path Generated
• HP-SEPI	The number of SEP events in available time
• HP-SES	High-Order Path Severely Errored Seconds
• HP-SESR	High-Order Path Severely Errored Second Ratio
• HP-UAS	High-Order Path Unavailable Seconds
• ifInBroadcastPkts	Number of broadcast packets received since the last counter reset
• ifInDiscards	The number of inbound packets
• ifInErrorBytePkts	Receive Error Byte
• ifInErrors	The number of inbound packets (or transmission units) that contained errors
• ifInFramingErrorPkts	Receive Framing Error
• ifInJunkInterPkts	Receive Interpacket Junk
• ifInMulticastPkts	Number of multicast packets received since the last counter reset
• ifInOctets	Number of bytes transmitted since the last counter reset
• ifInUcastPkts	Number of unicast packets received since the last counter reset
• ifOutBroadcastPkts	Number of broadcast packets transmitted
• ifOutDiscards	The number of outbound packets
• ifOutErrors	The number of outbound packets (or transmission units) that could not be transmitted because of errors
• ifOutMulticastPkts	Number of multicast packets transmitted
• ifOutPayloadCrcErrors	Received payload CRC errors
• ifOutUcastPkts	Number of unicast packets transmitted
• IOS	8B10B—Idle Ordered Sets
• IPC	Invalid Packet Count
• LBCL-AVG	Average Laser Bias current in microA
• LBCL-MAX	Maximum Laser Bias current in microA
• LBCL-MIN	Minimum Laser Bias current in microA
• LBCN	Normalized Laser Bias Current for STM1-8
• LBCN-HWT	Laser Bias current
• LBCN-LWT	Laser Bias current
• LOSSL	Loss of Signal Seconds—Line

Table 19-20 **Parameter Support**

Parameter	Description
• LP-BBE	Low-Order Path Background Block Error
• LP-BBER	Low-Order Path Background Block Error Ratio
• LP-EB	Low-Order Path Errored Block
• LP-ES	Low-Order Path Errored Second
• LP-ESA	Low-Order Path Errored Seconds—A
• LP-ESB	Low-Order Path Errored Seconds—B
• LP-ESR	Low-Order Path Errored Second Ratio
• LP-FC	Low-Order Path Failure Count
• LP-NPJC-DET	Low-Order Negative Pointer Justification Count, Detected
• LP-NPJC-GEN	Low-Order Negative Pointer Justification Count, Generated
• LP-PPJC-DET	Low-Order Positive Pointer Justification Count, Detected
• LP-PPJC-GEN	Low-Order positive Pointer Justification Count, Generated
• LP-SEP	A sequence of between 3 to 9 consecutive SES
• LP-SEPI	Low-Order Path Severely Errored Period Intensity
• LP-SES	Low-Order Path Severely Errored Seconds
• LP-UAS	Low-Order Path Unavailable Seconds
• MS-PSC	Protection switch count
• MS-PSD	Protection switch duration
• NIOS	8B10B—Non Idle Ordered Sets
• NPJC-PDET	Negative Pointer Justification Count, Path Detected
• NPJC-PGEN	Negative Pointer Justification Count, Path Generated
• OPR-AVG	Average Receive Power in tenths of a microW
• OPR-MAX	Maximum Receive Power in tenths of a microW
• OPR-MIN	Minimum Receive Power in tenths of a microW
• OPRN	Normalized Optical Receive Power for STM1-8
• OPRN-MAX	Maximum value for OPRN
• OPRN-MIN	Minimum value for OPRN
• OPT-AVG	Average Transmit Power in tenths of a microW
• OPT-MAX	Maximum Transmit Power in tenths of a microW
• OPT-MIN	Minimum Transmit Power in tenths of a microW
• OPTN	Normalized value for Optical Power Transmitted for STM1-8 card
• OPTN-MAX	Maximum value for OPTN
• OPTN-MIN	Minimum value for OPTN
• OPWR-AVG	Optical Power—Average Interval Value in tenths of a dBm
• OPWR-MAX	Optical Power—Maximum Interval Value in tenths of a dBm
• OPWR-MIN	Optical Power—Minimum Interval Value in tenths of a dBm

Table 19-20 **Parameter Support**

Parameter	Description
• PPJC-PDET	Positive Pointer Justification Count - Path Detected
• PPJC-PGEN	Positive Pointer Justification Count - Path Generated
• PRE-FECBER	Enum to hold PRE-FECBER value
• PSC	Protection Switching Count
• PSC-R	Protection Switching Count—Ring
• PSC-S	Protection Switching Count—Span
• PSC-W	Protection Switching Count—Working
• PSD	Protection Switching Duration
• PSD-R	Protection Switching Duration—Ring
• PSD-S	Protection Switching Duration—Span
• PSD-W	Protection Switching Duration—Working
• SASCPP	Severely Errored Framing/AIS Second—CP-Bit Path
• SASP	Severely Errored Framing/AIS Seconds Path
• SEFS	Severely Errored Framing Seconds
• SESCOPP	Severely Errored Second—CP-Bit Path
• SESL	Severely Errored Second—Line
• SESP	Severely Errored Second—Path
• SES-PM	OTN—Severely Errored Second—Path
• SESR	Severely Errored Second—Ratio
• SESR-PM	OTN—Severely Errored Second Ratio—Path Monitor Point expressed as one tenth of a percentage
• SESR-SM	OTN—Severely Errored Second Ratio—Section Monitor Point expressed as one tenth of a percentage
• SESS	Severely Errored Second—Section
• SES-SM	OTN—Severely Errored Second—Section Monitor Point
• SESV	Severely Errored Second—VC Path
• UASCPP	Unavailable Second—CP-Bit Path
• UASL	Unavailable Second—Line
• UASP	Unavailable Second—Path
• UAS-PM	OTN—Unavailable Second—Path Monitor Point
• UAS-SM	OTN—Unavailable Second—Section Monitor Point
• UASV	Unavailable Second—VC Path
• UNC-WORDS	FEC—Uncorrectable Words
• VPC	Valid Packet Count
<MONVAL>	The value to which the register identified by MONTYPE is to be initialized to or the measured value of a monitored parameter. The value is in the form of numeric counts or rates. MONVAL is a string.
<VLDTY>	Indicates whether the information for the specified time period was accumulated over the entire time period or some portion thereof. Validity indicator for the reported PM data. The parameter type is VALIDITY, which is the response validity.

Table 19-20 **Parameter Support**

Parameter	Description
• COMPL	Complete response
• PRTL	Partial response
<ISTM>	Location associated with a particular command in reference to the entity identified by the AID. The parameter type is LOCATION, which is the location where the action is to take place.
• FEND	Action occurs on the Far End of the facility.
• NEND	Action occurs on the Near End of the facility.
<DIRN>	Direction relative to the entity identified by the AID. Direction of PM relative to the entity identified by the AID. The parameter type is DIRECTION (transmit and receive directions).
• BTH	Both transmit and receive directions
• RCV	Receive direction only
• TRMT	Transmit direction only
<TMPER>	Accumulation time period for performance counters. The parameter type is TMPER, which is the accumulation time period for the performance management center.
• 1-DAY	Performance parameter accumulation interval length; every 24-hours. For NCS PM data only one day of history data is available. For RMON managed PM data, seven days of history data are available.
• 1-HR	Performance parameter accumulation interval length; every 1 hour. This is only applicable to RMON managed PM data. There are 24 hours of history data available.
• 1-MIN	Performance parameter accumulation interval length; every 1 minute. This is only applicable to RMON managed PM data. There are 60 minutes of history available.
• 15-MIN	Performance parameter accumulation interval length; every 15 minutes. There are 32 15-MIN buckets of history data available for this accumulation interval length.
• RAW-DATA	Performance parameter accumulation interval length; starting from the last time the counters were cleared. This is only applicable to RMON managed PMs.
<MONDAT>	The beginning date of the PM or storage register period specified in TMPER. The format is MM-DD. MONDAT is a string.
<MONTM>	The beginning time of day of the PM or storage register period specified in TMPER. The format is HH-MM. MONTM is a string.

19.21 REPT SW

The Report Switch (REPT SW) message reports the autonomous switching of a unit in a duplex equipment pair to the standby state and its mate unit to the active state. An automatic report for the occurrence or clearance of an alarm or event that triggers the switch might be associated with the message.

Usage Guidelines None

Category Protection

Security Retrieve

Output Format
SID DATE TIME
A ATAG REPT SW
“<ACTID>,<STDBYID>”
;

Output Example
TID-000 1998-06-20 14:30:00
A 100.100 REPT SW
“SLOT-8,SLOT-10”
;**Table 19-21** **Parameter Support**

Parameter	Description
<ACTID>	Identifies the equipment unit from the “27.13 EQPT” section on page 27-21 that was placed in the active state. Parameter grouping cannot be used with this parameter.
<STDBYID>	Identifies the equipment unit from the “27.13 EQPT” section on page 27-21 that was placed in the standby state. Parameter grouping cannot be used with this parameter.



RLS Commands

This chapter provides release (RLS) commands for the Cisco NCS 2002 and Cisco NCS 2006.

20.1 RLS-CPS

The Release Control Plane Service (RLS-CPS) command is used to deactivate a Control Plane Service parameter.

Usage Guidelines

- Specify only the source port to identify the CPS
- Specify both the source AIDs, if the CPS is of type ADD 2WAY
- If the AID is invalid, an IIAC (invalid AID) error message is returned
- The ALL AID is invalid for this command
- CLIENT cps type support FAC and VFAC AID type.
- TRUNK cps type support CHAN AID type.
- ADD cps type support CHAN, PCHAN, and LINEWL AID type.

Category

NCS

Security

Provisioning

Input Format

RLS-CPS:[<TID>]:<SRC>:<CTAG>::[:CKTID=<CKTID>]][:];

Input Example

RLS-CPS::PCHAN-8-8-RX&PCHAN-8-8-TX:8::;

Input Parameters

<SRC>	Source AID from the “27.11 CrossConnectId1” section on page 27-16.
<CKTID>	Circuit identification parameter can be used to filter this command

20.2 RLS-EXT-CONT

The Release External Control (RLS-EXT-CONT) command releases a forced contact state and returns the control of the contact to an AUTOMATIC control state.

Usage Guidelines

- In AUTOMATIC control state, the contact can be opened or closed depending on triggers that might or might not be provisioned in the NE. Therefore, issuing a RLS might not produce any contact state change.
- The NE defaults to having no triggers provisioned for external controls, which consequently produces default open contacts. An NE with this default provisioning will always produce an open contact with a RLS-EXT-CONT command.
- The duration is not supported; it defaults to CONTS.
- In an automatic state, the contact could be opened or closed depending on the provisioned trigger. Therefore, issuing an OPR-EXT-CONT command followed by an RLS-EXT-CONT command might not produce any contact state change.
- The RLS-EXT-CONT is not allowed during the MNTRY duration. The command is allowed for the CONTS duration. The length of MNTRY duration is set to be 2 seconds.
- RLS-EXT-CONT cannot change the contact state to Automatic if the existing state is Manual Open.

Category

Environment

Security

Maintenance

Input Format

RLS-EXT-CONT:[<TID>]:<AID>:<CTAG>[:.];

Input Example

RLS-EXT-CONT:CISCO:ENV-OUT-2:123;

Input Parameters

<AID>	Access identifier from the “27.12 ENV” section on page 27-20 . Identifies the external control being released.

20.3 RLS-LPBK-<MOD2NCSPAYLOAD>

The Release Loopback for 10GFC, 10GIGE, 40GIGE, 100GIGE, 1GFC, 1GFICON, 2GFC, 4GFC, 2GFICON, 5GIB, 8GFC, CLNT, D1VIDEO, DS3I, DV6000, E1, E3, E4, ESCON, ETRCLO, ETH, EQPT, FSTE, G1000, GFPOS, GIGE, HDTV, ISC1, ISCCOMPAT, ISC3PEER2R, ISC3PEER1G, ISC3PEER2G, STM4, STM64, STM1, STM16, OCH, OMS, OTS, OTU3, POS, STM1E, 3GVIDEO, SDSDI, HDSDI, AUTO, OTU1, OTU2, OTU4, ISC3STP1G, or ISC3STP2G (RLS-LPBK-<MOD2>) command releases a signal loopback on an I/O card or a cross-connect. See [Table 29-1 on page 29-1](#) for supported modifiers by platform.

Usage Guidelines

The command supports the modifier 3GVIDEO, SDSDI, HDSDI, AUTO, OTU1, ISC3STP1G, and ISC3STP2G.

- The value CRS for the LPBKTYPE parameter is applicable only for the VC modifier. The FACILITY and TERMINAL values for LPBKTYPE parameter are applicable to the ports.
- The optional [<LPBKTYPE>] field defaults to the current existing loopback type.
- FEAC loopbacks can be released by specifying LINE as the loopback type and FEND as the location.
- FEAC loopbacks on the DS1 interface of a DS3XM card can be applied only if a Virtual Tributary (VT) connection has been created on it. An attempt to operate or release FEAC loopbacks in the absence of a VT connection will result in an error message.
- Only the following MOD2 fields are supported in this release: DS1 EC1, G1000, FSTE, OC12, OC192, OC3, OC48, OCH, T1, T3, STS1, STS12C, STS192C, STS24C, STS3C, STS36C, STS48C, STS6C, STS9C, E1, 1GFC, 2GFC, 4GFC, 10GFC, 1GFICON, 2GFICON, 4GFICON, GIGE, 10GIGE, ESCON, STS18C, DV6000, ETRCLO, ISCCOMPAT, ISC3PEER1G, ISC3PEER2R, PASSTHRU, ISC3PEER2G.
- RLS-LPBK-EQPT uses the backplane loopback type to unprovision the loopback provisioned.
- You can run the command even if the loopback type is not specified in the command.
- When the backplane loopback provisioned on the equipment is released, it unprovisions all the ports present on the equipment loopback.

Category

Troubleshooting and Test Access

Security

Maintenance

Input Format

RLS-LPBK-<MOD2>:[<TID>]:<SRC>:<CTAG>::[<LOCATION>],,,[<LPBKTYPE>];

Input Example

RLS-LPBK-3GVIDEO:PTREYES:VFAC-1-2-5-1:203::NEND,,,FACILITY;
RLS-LPBK-EQPT::SLOT-2:1::NEND,,,BACKPLANE-TERMINAL;

Table 20-1 **Parameter Support**

Parameter	Description
<SRC>	Source access identifier from the “27.1 ALL” section on page 27-1 . The valid values for AID are FACILITY, DS1, and STS. The AR-MXP, AR-XP, and AR-XPE cards use the VFAC Access Identifier.
<LOCATION>	(Optional) The location where the operation is to be carried out. LOCATION defaults to NEND. The parameter type is LOCATION, which is the location where the action is to take place.
• FEND	Action occurs on the far end of the facility.
• NEND	Action occurs on the near end of the facility.
<LPBKTYPE>	(Optional) Type of loopback signal. The parameter type is LPBK_TYPE, which indicates the type of loopback that is to be operated or released.

Table 20-1 **Parameter Support**

Parameter	Description
• BACKPLANE-FACILITY	Puts the 100G-LC-C, 10x10G-LC, and CFP-LC cards in facility loopback.
• BACKPLANE-TERMINAL	Puts the 100G-LC-C, 10x10G-LC, and CFP-LC cards in Terminal loopback.
• CRS	Path-level loopback that is established at the cross-connect matrix level. A VC level cross-connect loopback causes an AIS-P to be sent on the outgoing direction of transmission.
• FACILITY	Type of loopback that connects the incoming received signal immediately following the optical-to-electrical conversion (after descrambling) to the associated transmitter in the return direction.
• TERMINAL	A loopback that connects the signal that is about to be transmitted (after scrambling but before the electrical-to-optical conversion) and is connected to the associated, incoming receiver.

20.4 RLS-LPBK-EFM

The Release Loopback Ethernet in the First Mile (RLS-LPBK-EFM) command releases the loopback that is provisioned on the Ethernet in the First Mile (EFM) enabled port.

Usage Guidelines

- This command is applicable only to GE_XP and 10GE_XP cards.
- The card should be in Layer2 over DMDM mode.

Category

Ports

Security

Provisioning

Input Format

RLS-LPBK-EFM:[<TID>]:<AID>:<CTAG>;

Input Example

RLS-LPBK-EFM::ETH-12-1-1:1;

Table 20-2 **REP-LPBK-EFM Command - Parameter Support**

Input Parameters	Description
<AID>	Access identifier from the “27.14 ETH” section on page 27-23.

20.5 RLS-PROTNSW-<MOD2NCSPAYLOAD>

The Release Protection Switch for 10GFC, 10GIGE, 40GIGE, 100GIGE, 1GFC, 1GFICON, 2GFC, 2GFICON, 8GFC, D1VIDEO, DV6000, DVBASI, ETRCLO, FSTE, GIGE, HDTV, ISC1, ISC3, OTU3, OTU4, PASSTHRU, 3GVIDEO, SDSDI, HSDSI, AUTO, OTU1, ISC3STP1G, or ISC3STP2G (RLS-PROTNSW-<MOD2NCSPAYLOAD>) command releases a SONET line protection switch request.

Usage Guidelines	The command supports the modifier 3GVIDEO, SDSDI, HSDSI, AUTO, OTU1, ISC3STP1G, and ISC3STP2G.
Category	NCS
Security	Maintenance
Input Format	RLS-PROTNSW-<MOD2NCSPAYLOAD>[:<TID>]:<SRC>:<CTAG>[:];
Input Example	RLS-PROTNSW-3GVIDEO:CISCO:VFAC-1-1-1:100;
Input Parameters	<SRC> Source access identifier from the “27.15 FACILITY” section on page 27-23. The AR-MXP, AR-XP, and AR-XPE cards use the VFAC Access Identifier.

20.6 RLS-PROTNSW-<PATH>

The Release Protection Switch for VC3, VC44C, VC464C, VC48C, VC4, VC412C, VC46C, VC416C, VC42C, VC43C, or VC11 (RLS-PROTNSW-<PATH>) command releases an NCS path protection switch request that was established with the OPR-PROTNSW-<PATH> command. This command assumes that only one user-initiated switch is active per AID. See [Table 29-1 on page 29-1](#) for supported modifiers by platform.

Usage Guidelines	• This command applies to subnetwork connection protection (SNCP) configurations only. • The VTAID should be working or protect AID only. • Sending this command on the Drop AID will return a DENY (Invalid AID, should use working/protect AID) message. • Use the RTRV-COND-ALL or RTRV-ALM-ALL command to retrieve the protection switching state (manual, lockout, forced).

Category	Protection		
Security	Maintenance		
Input Format	RLS-PROTNSW-<PATH>[:<TID>]:<SRC>:<CTAG>[:];		
Input Example	RLS-PROTNSW-VC3:CISCO:VC3-2-1-1:123;		
Input Parameters	<table> <tr> <td><SRC></td><td>Source access identifier from the “27.10 CrossConnectId” section on page 27-15.</td></tr> </table>	<SRC>	Source access identifier from the “27.10 CrossConnectId” section on page 27-15.
<SRC>	Source access identifier from the “27.10 CrossConnectId” section on page 27-15.		

20.7 RLS-PROTNSW-<STM_TYPE>

The Release Protection Switch (STM1, STM4, STM16, STM64) command releases a protection switch request. See [Table 29-1 on page 29-1](#) for supported modifiers by platform.

Usage Guidelines

- The release of a protection switch request is applicable only to the OPR-PROTNSW protection switch commands, the user-initiated switch protection commands.
- Use the RTRV-COND-ALL or RTRV-ALM-ALL command to retrieve the protection switching state (manual, lockout, forced).
- DIRN is an optional parameter. A NULL value defaults to BTH for a MS-SPRing protection, BTH for 1+1 bidirectional protection group, and RCV for 1+1 unidirectional protection group.
DIRN follows these rules: TRMT will always fail for any kind of protection groups. For two-fiber and four-fiber MS-SPRing protection groups, both the RCV and TRMT directions will fail.
- DIRN is applicable for both 1+1 and MS-SPRing protection groups. OPR-PROTNSW applies to a MS-SPRing span/ring as shown by the following command:

```
RLS-PROTNSW-STM16::FAC-5-1:A::BTH;
```

This command instructs the NE to release a line protection switch request between a working line and a protection line.

The following actions will return error messages:

- This command is not used for the common control (TCC2, TCC2P, TCC3, XC-VXL-10G, XC-VXL-2.5G, or XC-VXC-10G) cards. Sending a command on a common control card will return an Input, Invalid Access Identifier (IIAC) error message. To switch common control cards, use the SW-DX-EQPT and ALW-SWDX-EQPT commands.
- Sending this command to non-NCS (STM) cards will return an Input, Invalid Access Identifier (IIAC) error message. To switch a non-NCS card, use the ALW-SWTOPROTN-EQPT, ALS-SWTOWKG-EQPT, INH-SWTOPROTN-EQPT, and INH-SWTOWKG-EQPT commands.
- Sending this command to query on a card that is not in a protection group will return the Status, Not in Valid State (SNVS) error message.

- Sending this command to a working card that is failed or missing will return the Status, Working Unit Failed (SWFA) error message.
- Sending this command to a protect card that is failed or missing will return the Status, Protection Unit Failed (SPFA) error message.
- Sending this command to a card that is not in protection will return the Status, Not in Protection State (SNPR) error message.
- Sending this command to an STM line that is already in clear mode will return an Already in Clear Maintenance State (SAMS) error message.

Category

Protection

Security

Maintenance

Input Format

RLS-PROTNSW-<STM_TYPE>[:<TID>]:<AID>:<CTAG>[:<DIRECTION>];

Input Example

RLS-PROTNSW-STM16:PETALUMA:FAC-6-1:209::BTH;

Table 20-3 **Parameter Support**

Parameter	Description
<AID>	Access identifier from the “27.15 FACILITY” section on page 27-23 . Identifies the facility in the NE to which the switch request is directed.
<DIRECTION>	(Optional) Direction. Defaults to RCV. The parameter type is DIRECTION (transmit and receive direction).
• BTH	Both transmit and receive directions
• RCV	Receive direction only
• TRMT	Transmit direction only

20.8 RLS-PROTNSW-<OCN_TYPE>

The Release Protection Switch for OC3, OC12, OC48, OC192, or OC768 (RLS-PROTNSW-<OCN_TYPE>) command releases a SONET line protection switch request.

Usage Guidelines

See [Table 29-1 on page 29-1](#) for supported modifiers by platform.

The release of a protection switch request is applicable only to the OPR-PROTNSW protection switch commands, which are the user-initiated switch protection commands.

The following actions will return error messages:

- This command is not used for the common control (TCC2/TCC2P/TCC3 or XCVT/XC10G) cards. Sending a command on a common control card will return an IIAC (Input, Invalid Access Identifier) error message. To query the common control card switching commands, use the SW-DX-EQPT and ALW-SWDX-EQPT commands.
- Sending this command to electrical cards will return an IIAC (Input, Invalid Access Identifier) error message. For electrical card switching, use the ALW-SWTOPROTN/SWTOWKG-EQPT and INH-SWTOPROTN/SWTOWKG-EQPT commands.
- Sending this command to query on a card that is not in a protection group will return the SNVS (Status, Not in Valid State) error message.
- Sending this command to a working card that is failed or missing will return the SWFA (Status, Working unit Failed) error message.
- Sending this command to a protect card that is failed or missing will return the SPFA (Status, Protection unit Failed) error message.
- Sending this command to a card that is not in protection will return the SNPR (Status, Not in Protection State) error message.
- Sending this command to an OC-N line that is already in clear mode will return a SAMS (Already in Clear Maintenance State) error message.

**Note**

- To get the protection switching state (manual, lockout, forced), use the RTRV-COND-ALL or RTRV-ALM-ALL command.
- DIRN is an optional parameter. A NULL value defaults to BTH for a bidirectional line switched ring (BLSR), BTH for a 1+1 bidirectional protection group, and RCV for 1+1 unidirectional protection group.

DIRN follows these rules: TRMT will always fail for any kind of protection groups. For two-fiber and four-fiber BLSR protection groups, both the RCV and TRMT directions will fail.

- DIRN is applicable for both 1+1 and BLSR protection groups. OPR-PROTNSW applies to a BLSR span/ring as shown by the following command:

```
RLS-PROTNSW-OC48::FAC-5-1:A::BTH;
```

This command instructs the NE to release a line protection switch request between a working line and a protection line

Category

Protection

Security

Maintenance

Input Format

```
RLS-PROTNSW-<OCN_TYPE>[:<TID>]:<AID>:<CTAG>[:<DIRECTION>];
```

Input Example

```
RLS-PROTNSW-OC48:PETALUMA:FAC-6-1:209::BTH;
```

Input Parameters	<AID>	Access identifier from the “ 27.15 FACILITY ” section on page 27-23 . Identifies the facility in the NE to which the switch request is directed.
	<DIRECTION>	Direction. Defaults to RCV. The parameter type is DIRECTION (transmit and receive direction)
	• BTH	Both transmit and receive directions
	• RCV	Receive direction only
	• TRMT	Transmit direction only

20.9 RLS-PROTNSW-OCH

The Release Protection Switch Optical Channel (RLS-PROTNSW-OCH) command releases the protection switch on a TXPP_MR_2.5G card.

Usage Guidelines None

Category NCS

Security Maintenance

Input Format RLS-PROTNSW-OCH:[<TID>]:<AID>:<CTAG>;

Input Example RLS-PROTNSW-OCH:VA454-22:CHAN-2-2:1;

Input Parameters

<AID>	Access identifier from the “ 27.7 CHANNEL ” section on page 27-12 .

20.10 RLS-PROTNSW-OTS

The Release Protection Switch OTS (RLS-PROTNSW-OTS) command releases the protection switch on a TXPP_MR_2.5G card or a protection switch unit or a OTU2-XP card.

When Y-cable protection is provisioned on the OTU2-XP, this command releases a Y-cable protection switch.

Usage Guidelines None

Category NCS

Security	Maintenance
Input Format	RLS-PROTNSW-OTS:[<TID>]:<AID>:<CTAG>;
Input Example	RLS-PROTNSW-OTS:VA454-22:CHAN-2-2:1;
Input Parameters	<AID> Access identifier from the “27.7 CHANNEL” section on page 27-12.

20.11 RLS-SYNCNSW

The Release Synchronization Switch (RLS-SYNCHSW) command releases the previous synchronization reference provided by the OPR-SYNCNSW command.

Usage Guidelines	In a nonrevertive system, the use of the RLS-SYNCNSW command might not be appropriate. All the switching between synchronization references should be initiated with the OPR-SYNCNSW command. After a switch is released, a minor alarm, Manual Switch to Primary Reference or Secondary (MANSWTOPRI) or Forced Switch to Primary Reference or Secondary (FRDCSWTOPRI), will be cleared.
Category	Synchronization
Security	Maintenance
Input Format	RLS-SYNCNSW:[<TID>]:[<AID>]:<CTAG>;
Input Example	RLS-SYNCNSW:CISCO:SYNC-NE:3;
Input Parameters	<AID> (Optional) Access identifier from the “27.29 SYNC_REF” section on page 27-34 Defaults to SYNC-NE.



RMV Commands

This chapter provides remove (RMV) commands for the Cisco NCS 2002 and Cisco NCS 2006.

21.1 RMV-<MOD2>

The Remove 10GFC, 10GIGE, 40GIGE, 100GIGE, 1GFC, 1GFICON, 2GFC, 2GFICON, 5GIB, 8GFC, CLNT, D1VIDEO, DS1, DV6000, DVBASI, E1, E3, E4, EC1, ESCON, ETRCLO, ETH, FSTE, G1000, GFPOS, GIGE, HDTV, ISC1, ILK, ISCCOMPAT, ISC3PEER2R, ISC3PEER1G, ISC3PEER2G, OC12, OC192, OC3, OC48, OC768, OCH, OMS, OTS, OTU3, OTU4, POS, STS1, STS12C, STS18C, STS192C, STS24C, STS36C, STS3C, STS48C, STS96C, STS6C, STS9C, T1, T3, VC12, VC3, VT1, VT2, 3GVIDEO, SDSDI, HDSDI, AUTO, OTU1, ISC3STP1G, or ISC3STP2G (RMV-<MOD2>) command removes a facility from service. See [Table 29-1 on page 29-1](#) for supported modifiers by platform.

Usage Guidelines	The command supports the modifier 3GVIDEO, SDSDI, HDSDI, AUTO, OTU1, ISC3STP1G, and ISC3STP2G.	
Category	Ports	
Security	Maintenance	
Input Format	RMV-<MOD2>:[<TID>]:<AID>:<CTAG>[:];	
Input Example	RMV-OTU1:ROCCIANERA:VFAC-14-3-1:123;	
Input Parameters	<AID>	Access identifier from the “ 27.1 ALL ” section on page 27-1. The AR-MXP, AR-XP, and AR-XPE cards use the VFAC Access Identifier.

21.2 RMV-EQPT

The Remove Equipment (RMV-EQPT) command removes equipment from the In Service state and places it into the Maintenance state.

Usage Guidelines

This command is applicable only to equipment that is in transition from the In-Service state to the Maintenance state.



Note

This command can be executed only if the equipment is in the unlocked, unlocked-disabled, mismatchOfequipment or unlocked-disabled,notInstalled state.

Category

Equipment

Security

Maintenance

Input Format

RMV-EQPT:[<TID>]:<AID>:<CTAG>[:];

Input Example

RMV-EQPT:CISCO:SLOT-1:1;

Input Parameters

<AID> Access identifier from the “27.13 EQPT” section on page 27-21.



RST Commands

This chapter provides restore (RST) commands for the Cisco NCS 2002 and Cisco NCS 2006.

22.1 RST-<MOD2>

The Restore 10GFC, 10GIGE, 40GIGE, 100GIGE, 1GFC, 1GFICON, 2GFC, 2GFICON, 5GIB, 8GFC, CLNT, D1VIDEO, DS1, DV6000, DVBA5I, E1, E3, E4, EC1, ESCON, ETRCLO, ETH, FSTE, G1000, GFPOS, GIGE, HDTV, ISC1, ILK, ISCCOMPAT, ISC3PEER2R, ISC3PEER1G, ISC3PEER2G, OC12, OC192, OC3, OC48, OC768, OCH, OMS, OTS, OTU3, OTU4, POS, STS1, STS12C, STS18C, STS192C, STS24C, STS36C, STS3C, STS48C, STS96C, STS6C, STS9C, T1, T3, VC12, VC3, VT1, VT2, 3GVIDEO, SDSDI, HDSDI, AUTO, OTU1, ISC3STP1G, and ISC3STP2G (RST-<MOD2>) command provisions a facility as In-Service (IS).

Usage Guidelines	The command supports the modifier 3GVIDEO, SDSDI, HDSDI, AUTO, OTU1, ISC3STP1G, and ISC3STP2G. See Table 29-1 on page 29-1 for supported modifiers by platform.
 Note	This command can only be executed when the port is in the Locked and Maintenance state.
Category	Ports
Security	Maintenance
Input Format	RST-<MOD2>[:<TID>]:<AID>:<CTAG>::::[<PST>[,<SST>]];
Input Example	RST-OTU1:ROCCIANERA:VFAC-14-3-1:123::::IS,AINS;

Table 22-1 **Parameter Support**

Parameter	Description
<AID>	Access identifier from the “ 27.1 ALL ” section on page 27-1. The AR-MXP, AR-XP, and AR-XPE cards use the VFAC Access Identifier.
<PST>	(Optional) Primary state. The parameter type is PST, which indicates the current overall service condition of an entity.
• Unlocked	In service
• Locked	Out of service
<SST>	(Optional) Secondary state. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AutomaticInService	Automatic in service
• Disabled	Disabled
• Loopback	Loopback
• MismatchofEquipmentAlarm	Mismatch of equipment and attributes
• Maintenance	Maintenance mode
• OutOfGroup	Out of group
• SoftwareDownload	Software downloading
• Unassigned	Unassigned
• NotInstalled	Unequipped

22.2 RST-EQPT

The Restore Equipment (RST-EQPT) command provisions equipment into the In-Service state from the Maintenance state.

Usage Guidelines This command is only applicable to equipment that is in transition from the Maintenance state to the In-Service state.

Category Equipment

Security Maintenance

Input Format RST-EQPT:[<TID>]:<AID>:<CTAG>[:];

Input Example RST-EQPT:CISCO:SLOT-1:1;

Input Parameters <AID> Access identifier from the [“27.13 EQPT”](#) section on page 27-21.



RTRV Commands

This chapter provides retrieve (RTRV) commands for the Cisco NCS 2002 and Cisco NCS 2006.

23.1 RTRV-100GIGE

The retrieve 100GIGE (RTRV-100GIGE) command retrieves the attributes of provisioned 100GIGE facility.

Usage Guidelines	The new parameter NUMOFLANESis added for payloads provisioned on CFP-LC cards.			
Category	Ports			
Security	Retrieve			
Input Format	RTRV-100GIGE:[<TID>]:<AID>:<CTAG>[:];			
Input Example	RTRV-100GIGE::VFAC-5-1-1:1;			
Input Parameters	<table><tr><td><AID></td><td>Access Identifier - VFAC[-{1-50}]-{2-7}-{1-2}-1 - AGGR[-{1-50}]-{2-7}-{1-2}-1 - VCFAC[-{1-50}]-{2-7}-{1-2} </td></tr></table>		<AID>	Access Identifier - VFAC[-{1-50}]-{2-7}-{1-2}-1 - AGGR[-{1-50}]-{2-7}-{1-2}-1 - VCFAC[-{1-50}]-{2-7}-{1-2}
<AID>	Access Identifier - VFAC[-{1-50}]-{2-7}-{1-2}-1 - AGGR[-{1-50}]-{2-7}-{1-2}-1 - VCFAC[-{1-50}]-{2-7}-{1-2}			
Output Format	SID DATE TIME M CTAG COMPLD “<AID>;, [<ROLE>], [<STATUS>]: [<MTU>], [NAME=<NAME>], [MACADDR=<MACADDR>], [LBCL=<LBCL>], [OPT=<OPT>], [OPR=<OPR>], [FREQ=<FREQ>], [LOSSB=<LOSSB>], [<SOAK>]			

```
,[<SYNCSMSG>],[<SENDDUS>],[<ADMSSM>],[<PROVIDESYNC>],[<SQUELCHMODE>]:<PST>
,[<SST>]"
;
```

Output Example

```
100g 2012-05-21 12:11:02
```

```
M 1 COMPLD
```

```
"VFAC-1-3-1-1:.,WORK,STBY:SOAK=32,SYNCSMSG=N,SENDDUS=N,ADMSSM=STU,PROVIDE
SYNC=N,NUMOFLANES=4:OOS-MA,DSBLD"
```

Output Parameters

<AID>	Access Identifiers - VFAC[-{1-50}]-{2-7}-{1-2}-1 - AGGR[-{1-50}]-{2-7}-{1-2}-1 - VCFAC[-{1-50}]-{2-7}-{1-2}
<ROLE>	(Optional) The port role in a Y-cable protection scheme. The parameter type is SIDE, which is the role the unit is playing in the protection group.
- PROT - WORK	The entity is a protection unit in the protection group. The entity is a working unit in the protection group.
<STATUS>	(Optional) The port status in a Y-cable protection scheme. The parameter type is STATUS, which is the status of the unit in the protection pair.
- ACT - NA - STBY	The entity is the active unit in the shelf. Status is unavailable. The entity is the standby unit in the shelf.
<SOAK>	(Optional) Locked-Automatic In Service to Unlocked transition soak time as measured in 15-minute intervals. SOAK is an integer.
<SYNCSMSG>	(Optional) Synchronization status message. The parameter type is EXT_RING, which indicates if the ring supports the extended K1/K2/K3 protocol.
- N - Y	The ring does not support the extended K1/K2/K3 protocol. The ring does support the extended K1/K2/K3 protocol.
<SENDDUS>	(Optional) The facility will send the Do Not Use for Synchronization (DUS) value in 0x0f bit pattern as the synchronization status message for that facility. Defaults to N. The parameter type is ON_OFF (disable or enable an attribute)
- N - Y	Disable an attribute. Enable an attribute.
<ADMSSM>	(Optional) SSM selectable value. Only displayed when SSM is disabled. The parameter type is SYNC_CLOCK_REF_QUALITY_LEVEL, which is the clock source quality level for NCS.
DUS_NCS	Do Not Use For Synchronization

• G811	G811 Standard
• RES_NCS	Reserved For Network Synchronization Use
• G812T	G812T Standard
• STU_NCS	Synchronized, Traceability Unknown
• G812TL	G812TL Standard
• SETS	Synchronous Equipment Timing Source
<PROVIDESYNC>	(Optional) Indicates whether the facility provides synchronization. Defaults to N.
• Y	Yes
• N	No
<NUMOFLANES>	Identifies the number of sublanes provisioned on the main Aggregate port. Values are 1 or 4.

23.2 RTRV-CPS

This command can be used to retrieve Control Plane Service parameter. The user needs to specify only the source port to identify the CPS. ALL and group AID are allowed.

Usage Guidelines

- If the AID is invalid, an IIAC (invalid AID) error message is returned
- The ALL AID and group AID are valid for this command
- In case of ADD 2-WAY with two source AIDs use only one aid to avoid a double response: one for each AID specified
- CLIENT cps type support FAC and VFAC AID type.
- TRUNK cps type support CHAN AID type.
- ADD cps type support CHAN, PCHAN, and LINEWL AID type.
- In case of 1WAY, unidirectional connection, SRC and DST are single AIDs. In case of 2WAY, bidirectional connection, SRC and DST are double AIDs. However, in case of CLIENT or TRUNK cpstype, src and dst are single AID and the connection is of type 2WAY because of bidirectional ports hence this rule is not applicable.

Category NCS

Security provisioning

Input Format RTRV-CPS:[<TID>]:<SRC>:<CTAG>::[:CKTID=<CKTID>][:];

Input Example RTRV-CPS::PCHAN-1-1-RX:8::;

Input Parameters

<SRC>	Source AID from the “ 27.11 CrossConnectId1 ” section on page 27-16.
<CKTID>	Circuit identification parameter can be used to filter this command

Output Format

SID DATE TIME

M CTAG COMPLD

“<SRCAID>:<DSTADDR>,<DSTCID>,<WCT>,<CPSTYPE>:<CKTID>,<VALMODE>,<VALZONE>,<VALMODESEC>,<VALZONESEC>,<CPSSTATUS>,<ACTVALZONE>,<RESTTYPE>,<REVERTMODE>,<SOAKTIME>,<RESTSTS>,<CKTLABEL>,<FREQ>,<WIDTH>,<CKTPRI>,<ALWRGN>,<PATHPOLICY>,<DNSTRMPWR>,<UPSTRMPWR>:<PST>,<SST>”;

Output Example

tcc232 2011-08-05 16:37:44

M 8 COMPLD

“CHAN-4-2:10.64.107.36,CHAN-7-2,1WAY,ADD:CKTID=,VALMODE=NONE,CPSSTATUS=INACTIVE,RESTTYPE=NONE,RESTSTATUS=NONE:OOS,DSBLD”

;

Output Parameters

<SRC>	Source access identifier from the “ 27.1 ALL ” section on page 27-1. Listable.
<DSTADDR>	Identifies the destination node IP address.
<DST>	Destination AID from the “ 27.1 ALL ” section on page 27-1.
<WCT>	Identifies the wavelength connection type.
1WAY	A unidirectional connection from a source to a destination port. Default is 1WAY
2WAY	A bidirectional connection between the two ports.
<CPSTYPE>	Identifies the type of CPS.
CLIENT	CPS End Point are client ports
TRUNK	CPS End Point are trunk ports
ADD	CPS Source End Point is an ADD port
DROP	Not applicable
TNA	Not applicable
<CKTID>	(Optional) Circuit identification parameter contains the Common Language Circuit ID or other alias of the circuit being provisioned. Does not contain blank spaces. CKTID is a string of ASCII characters. The maximum length of CKTID can be 48.
<VALMODE>	Identifies the validation mode.
NONE	No Optical validation is performed.
FULL	The optical validation is performed as indicated in VALZONE parameter.
<VALZONE>	Identifies the validation operate zone.

• UNKNOWN	Not evaluated
• GREEN	Margin > 3 sigma
• YELLOW	1 < margin < 3 sigma
• ORANGE	0 < margin < 1 sigma
• RED	-3 < margin < 0 sigma
• OUT	Margin < -3 sigma
<CPSSTATUS>	Identifies the Control Plane Service status.
• INACTIVE	CPS is not active
• ACTIVE	CPS is active
• ACTIVATING	CPS activation is started
• DEACTIVATING	CPS deactivation is started
• FAILED	CPS circuit failed (i.e. link down, node down)
• DEGRADED	CPS trail failed (i.e. PSM working or protected is down or fail)
• RECOVERING	temporary reboot status at CPS restart
• HANDOVER	Not applicable
• REPAIRING	CPS repair is started (i.e. node IP changed)
<ACTVALZONE>	Identifies the actual validation operate zone.
• UNKNOWN	Not evaluated
• GREEN	Margin > 3 sigma
• YELLOW	1 < margin < 3 sigma
• ORANGE	0 < margin < 1 sigma
• RED	-3 < margin < 0 sigma
• OUT	Margin < -3 sigma
<VALMODESEC>	Identifies the validation mode for secondary circuit
<VALZONESEC>	Identifies the validation operate zone for secondary circuit
<<RESTTYPE>>	Specifies the restoration type on CPS circuit or UNI configuration. Parameter type is RESTTYPE.
• NONE	The circuit restoration type is none for WSON circuits.
• RESTORE	The circuit restoration type is Restore for WSON circuits.
• REVERT	The circuit restoration type is Revert for WSON circuits.
< RESTSTS>	Specifies the restoration status. Parameter type is RESTSTS.
• FAILED	Restoration failed.
• NONE	Restoration none.
• RESTORED	The circuit is restored.
• RESTORING	The circuit is in restoring state.
• REVERTIBLE	The circuit is revertible.
• REVERTING	The circuit is reverting back to the original path.
<REVERTMODE>	Specifies the revertive mode type. Parameter type is REVERTMODE.
• AUTO	Automatic revertive mode.
• MANUAL	Manual revertive mode.
• NONE	None.

<SOAKTIME>	Time after which the circuit switches back to the original circuit.
<PATHPOLICY>	Path selection policy.
• ANY	No path selection policy selected.
• LOGO	Path selection policy restricted to LOGO domain.
<CKTLABEL>	Circuit label.
<FREQ>	Optical wavelength
<WIDTH>	Width
<CKTPRIORITY>	Circuit priority
<ALLOWRGN>	Allow RGN. It can be ON/OFF.
<DSPWROFS>	Down stream power offset.
<USPWROFS>	Up stream power offset.

23.3 RTRV-HOP-CPS

The Retrieve HOP Control Plane Service (RTRV-HOP-CPS) command is used to retrieve the HOPs route constraint of the Control Plane Services.

Usage Guidelines

- Specify only the source port to identify the CPS.
- ALL and group AID are allowed.
- Optional parameters can be used as filter to the command.
- CLIENT cps type support FAC and VFAC AID type.
- TRUNK cps type support CHAN AID type.
- ADD cps type support CHAN, PCHAN, and LINEWL AID type.
- In case of 1WAY, unidirectional connection, SRC and DST are single AIDs. In case of 2WAY, bidirectional connection, SRC and DST are double AIDs. However, in case of CLIENT or TRUNK cpstype, src and dst are single AID and the connection is of type 2WAY because of bidirectional ports hence this rule is not applicable.

Category

NCS

Security

Provisioning

Input Format

RTRV-HOP-CPS:[<TID>]:<SRC>:<CTAG>::[<CIRCUITTYPE>],[<ROUTETYPE>],[<HOPTYPE>],[<HOPNODE>],[<HOPSIDE>][:];

Input Example

> RTRV-HOP-CPS::ALL:333;

tcc232 2011-08-02 16:27:24

M 333 COMPLD

"CHAN-1-15-10-RX&CHAN-1-14-10-TX:10.20.30.40,CHAN-10-1-10-TX&CHAN-10-1-10-RX,PRI
MARY,MAINROUTE,1,LOOSE,10.20.33.44,"

"CHAN-1-15-10-RX&CHAN-1-14-10-TX:10.20.30.40,CHAN-10-1-10-TX&CHAN-10-1-10-RX,PRI
MARY,MAINROUTE,2,LOOSE,10.20.33.45,"

"CHAN-1-15-10-RX&CHAN-1-14-10-TX:10.20.30.40,CHAN-10-1-10-TX&CHAN-10-1-10-RX,PRI
MARY,MAINROUTE,3,LOOSE,10.20.33.46,"

"VFAC-1-5-2:10.20.30.40,,PRIMARY,MAINROUTE,1,LOOSE,10.20.33.44,"

;

Input Parameters

<SRC>	Source AID from the “27.11 CrossConnectId1” section on page 27-16 .
<CIRCUITTYPE>	Identifies the target circuit. Allowed values are PRIMARY, SECONDARY.
<ROUTETYPE>	Identifies the target circuit route. Allowed values are MAINROUTE and BRIDGEROUTE.
<POSITION>	Identifies the position of the hop in the item list. Default value is 0. • If action=ADD and position=0 then append at the end; • If action=REMOVE and position=0 then remove all matching items; • If action=REMOVE and position<>0 then hop values are ignored; • If action=MODIFY and position<>0 then replace the item in the position indicated; • If action=CLEARALL then clears the list ignoring position and other parameters;
<HOPTYPE>	Type of hop constraint. Allowed values are STRICT, LOOSE, EXCLUDE
• STRICT	The next hop of the path must be the indicated node and side
• LOOSE	The path must cross the indicated node and side
• EXCLUDE	The path must exclude the indicated node
<HOPNODE>	IP address of the target node.
<HOPSIDE>	Hop constraint target WDM side.

Output Format

SID DATE TIME

M CTAG COMPLD

"<SRC>:<DSTADDR>,<DST>,<CIRCUITTYPE>,<ROUTETYPE>,<POSITION><HOPTYPE>,<HO
PNODE>,<HOPSIDE>";

Output Example

```
tcc232 2011-08-02 16:27:24
```

```
M 333 COMPLD
```

```
"CHAN-1-15-10-RX&CHAN-1-14-10-TX:10.20.30.40,CHAN-10-1-10-TX&CHAN-10-1-10-RX,PRI
MARY,MAINROUTE,1,LOOSE,10.20.33.44,"
```

```
"CHAN-1-15-10-RX&CHAN-1-14-10-TX:10.20.30.40,CHAN-10-1-10-TX&CHAN-10-1-10-RX,PRI
MARY,MAINROUTE,2,LOOSE,10.20.33.45,"
```

```
"CHAN-1-15-10-RX&CHAN-1-14-10-TX:10.20.30.40,CHAN-10-1-10-TX&CHAN-10-1-10-RX,PRI
MARY,MAINROUTE,3,LOOSE,10.20.33.46,"
```

```
"VFAC-1-5-2:10.20.30.40,,PRIMARY,MAINROUTE,1,LOOSE,10.20.33.44,"
```

```
;
```

```
tcc232 2011-08-02 16:27:37
```

```
M 333 COMPLD
```

```
"CHAN-1-15-10-RX&CHAN-1-14-10-TX:10.20.30.40,CHAN-10-1-10-TX&CHAN-10-1-10-RX,PRI
MARY,MAINROUTE,1,LOOSE,10.20.33.44,"
```

```
"CHAN-1-15-10-RX&CHAN-1-14-10-TX:10.20.30.40,CHAN-10-1-10-TX&CHAN-10-1-10-RX,PRI
MARY,MAINROUTE,2,LOOSE,10.20.33.45,"
```

```
"CHAN-1-15-10-RX&CHAN-1-14-10-TX:10.20.30.40,CHAN-10-1-10-TX&CHAN-10-1-10-RX,PRI
MARY,MAINROUTE,3,LOOSE,10.20.33.46,"
```

```
;
```

Output Parameters

<SRC>	Source access identifier from the “27.1 ALL” section on page 27-1 . Listable.
<DSTADDR>	Identifies the destination node IP address.
<DST>	Destination AID from the “27.1 ALL” section on page 27-1 .
<CIRCUITTYPE>	Identifies the target circuit. Allowed values are PRIMARY,SECONDARY.
<ROUTETYPE>	Identifies the target circuit route. Allowed values are MAINROUTE, BRIDGEROUTE.
<POSITION>	Identifies the position of the hop in the item list.
<HOPTYPE>	Type of hop constraint. Allowed values are STRICT, LOOSE, EXCLUDE.
• STRICT	The next hop of the path must be the indicated node and side.
• LOOSE	The path must cross the indicated node and side.
• EXCLUDE	The path must exclude the indicated node.

<HOPNODE>	IP address of the target node.
<HOPSIDE>	Hop constraint target WDM side.

23.4 RTRV-<MOD1FCPAYLOAD>

The Retrieve 1GFC, 2GFC, 4 GFC, 5GIB, 8GFC, or 10 GFC (RTRV-<MOD1FCPAYLOAD>) command retrieves the attributes related with the Fibre Channel port. See [Table 29-1 on page 29-1](#) for supported modifiers by platform.

Usage Guidelines None

Category Ports

Security Retrieve

Input Format RTRV-<MOD1FCPAYLOAD>:[<TID>]:<AID>:<CTAG>[:];

Input Example RTRV-1GFC:CISCO:FAC-6-1:888;

Input Parameters <AID> Access identifier from the [27.15 FACILITY, page 27-23](#).

Output Format

```

SID DATE TIME
M CTAG COMPLD
  "<AID>:.,[<ROLE>],[<STATUS>]:LINKRATE=<LINKRATE>,LINKSTATE=<LINKSTATE>,
  [LINKRCVRY=<LINKRCVRY>],[DISTEXTN=<DISTEXTN>],
  [LINKCREDITS=<LINKCREDITS>],[MFS=<MFS>],[ENCAP=<ENCAP>],[NAME=<NAME>],
  [SOAK=<SOAK>],[SOAKLEFT=<SOAKLEFT>],[FREQ=<FREQ>],[LOSSB=<LOSSB>],
  [SQUELCHMODE=<SQUELCHMODE>]:<PSTPSTQ>,[<SST>]"
;
```

Output Example

```

TID-000 1998-06-20 14:30:00
M 001 COMPLD
  "FAC-1-1:.,WORK,ACT:LINKRATE=1GFC,LINKSTATE=UP,LINKRCVRY=Y,
  DISTEXTN=NONE,LINKCREDITS=0,MFS=2148,ENCAP=GFP-T,
  NAME="\FC PORT",SOAK=32,SOAKLEFT="\12-25",FREQ=1550,
  LOSSB=LR-1:LOCKED-ENABLED,MAINTENANCE",
  SQUELCHMODE=SQUELCH:OOS-MA,DSBLD"
;
```

Table 23-1 **Output Parameter Support**

Parameter	Description
<AID>	Access identifier from the “27.15 FACILITY” section on page 27-23.
<ROLE>	(Optional) The port role in a Y-cable protection scheme. The parameter type is SIDE, which is the role the unit is playing in the protection group.
• PROT	The entity is a protection unit in the protection group.
• WORK	The entity is a working unit in the protection group.
<STATUS>	(Optional) The port status in a Y-cable protection scheme. The parameter type is STATUS, which is the status of the unit in the protection pair.
• ACT	The entity is the active unit in the shelf.
• NA	Status is unavailable.
• STBY	The entity is the standby unit in the shelf.
MFS	(Optional) Maximum frame size. MFS is an integer.
• GFP_F	Generic framing procedure (GFP) frame mode
• GFP_T	GFP transparent mode
• HDLC	High-level data link control (HDLC) frame mode
• HDLC_LEX	HDLC LAN extension frame mode
• HDLC_X86	HDLC X.86 frame mode
<ENCAP>	(Optional) Frame encapsulation type. The parameter type is ENCAP, which is the frame encapsulation type.
• GFP	GFP frame mode.
• CBR	Constant Bit Rate mode.
• TRP	Transparent mode.
• GMP	GMP mapping mode.
<SOAK>	(Optional) Locked-Automatic In Service to Unlocked transition soak time as measured in 15-minute intervals. SOAK is an integer.
<SOAKLEFT>	(Optional) Time remaining for the transition from Locked-Automatic In Service to Unlocked measured in 1 minute intervals. The format is HH-MM where HH ranges from 00 to 48 and MM ranges from 00 to 59. The rules for SOAKLEFT are: - When the port is in Locked, Locked_Maintenance or Unlocked state, the parameter will not appear. - When the port is in Locked_AutomaticInService but the countdown has not started due to fault signal, the value will be SOAKLEFT=NOT-STARTED. - When the port is in Locked_AutomaticInService state and the countdown has started, the value will be shown in HH-MM format.
<FREQ>	(Optional) The parameter type is OPTICAL_WLEN, which is the optical wavelength.
• 1310	Wavelength 1310
• 1470	Wavelength 1470
• 1490	Wavelength 1490
• 1510	Wavelength 1510

Table 23-1 **Output Parameter Support**

Parameter	Description
• 1528.77	Wavelength 1528.77
• 1529.16	Wavelength 1529.16
• 1529.55	Wavelength 1529.55
• 1529.94	Wavelength 1529.94
• 1530	Wavelength 1530
• 1530.33	Wavelength 1530.33
• 1530.73	Wavelength 1530.73
• 1531.12	Wavelength 1531.12
• 1531.51	Wavelength 1531.51
• 1531.90	Wavelength 1531.90
• 1532.29	Wavelength 1532.29
• 1532.68	Wavelength 1532.68
• 1533.07	Wavelength 1533.07
• 1533.47	Wavelength 1533.47
• 1533.86	Wavelength 1533.86
• 1534.25	Wavelength 1534.25
• 1534.64	Wavelength 1534.64
• 1535.04	Wavelength 1535.04
• 1535.43	Wavelength 1535.43
• 1535.82	Wavelength 1535.82
• 1536.22	Wavelength 1536.22
• 1536.61	Wavelength 1536.61
• 1537	Wavelength 1537
• 1537.40	Wavelength 1537.40
• 1537.79	Wavelength 1537.79
• 1538.19	Wavelength 1538.19
• 1538.58	Wavelength 1538.58
• 1538.98	Wavelength 1538.98
• 1539.37	Wavelength 1539.37
• 1539.77	Wavelength 1539.77
• 1540.16	Wavelength 1540.16
• 1540.56	Wavelength 1540.56
• 1540.95	Wavelength 1540.95
• 1541.35	Wavelength 1541.35
• 1541.75	Wavelength 1541.75
• 1542.14	Wavelength 1542.14

Table 23-1 **Output Parameter Support**

Parameter	Description
• 1542.35	Wavelength 1542.35
• 1542.54	Wavelength 1542.54
• 1542.94	Wavelength 1542.94
• 1543.33	Wavelength 1543.33
• 1543.73	Wavelength 1543.73
• 1544.13	Wavelength 1544.13
• 1544.53	Wavelength 1544.53
• 1544.92	Wavelength 1544.92
• 1545.32	Wavelength 1545.32
• 1545.72	Wavelength 1545.72
• 1546.12	Wavelength 1546.12
• 1546.52	Wavelength 1546.52
• 1546.92	Wavelength 1546.92
• 1547.32	Wavelength 1547.32
• 1547.72	Wavelength 1547.72
• 1548.12	Wavelength 1548.12
• 1548.51	Wavelength 1548.51
• 1548.92	Wavelength 1548.92
• 1549.32	Wavelength 1549.32
• 1549.71	Wavelength 1549.71
• 1550	Wavelength 1500
• 1550.12	Wavelength 1550.12
• 1550.52	Wavelength 1550.52
• 1550.92	Wavelength 1550.92
• 1551.32	Wavelength 1551.32
• 1551.72	Wavelength 1551.72
• 1552.12	Wavelength 1552.12
• 1552.52	Wavelength 1552.52
• 1552.93	Wavelength 1552.93
• 1553.33	Wavelength 1553.33
• 1553.73	Wavelength 1553.73
• 1554.13	Wavelength 1554.13
• 1554.13	Wavelength 1554.13
• 1554.94	Wavelength 1554.94
• 1555.34	Wavelength 1555.34
• 1555.75	Wavelength 1555.75

Table 23-1 **Output Parameter Support**

Parameter	Description
• 1556.15	Wavelength 1556.15
• 1556.55	Wavelength 1556.55
• 1556.96	Wavelength 1556.96
• 1557.36	Wavelength 1557.36
• 1557.77	Wavelength 1557.77
• 1558.17	Wavelength 1558.17
• 1558.58	Wavelength 1558.58
• 1558.98	Wavelength 1558.98
• 1559.39	Wavelength 1559.39
• 1559.79	Wavelength 1559.79
• 1560.20	Wavelength 1560.20
• 1560.61	Wavelength 1560.61
• 1561.01	Wavelength 1561.01
• 1561.42	Wavelength 1561.42
• 1561.83	Wavelength 1561.83
• 1562.23	Wavelength 1562.23
• 1562.64	Wavelength 1562.64
• 1563.05	Wavelength 1563.05
• 1563.45	Wavelength 1563.45
• 1563.86	Wavelength 1563.86
• 1564.27	Wavelength 1564.27
• 1564.68	Wavelength 1564.68
• 1565.09	Wavelength 1565.09
• 1565.50	Wavelength 1565.50
• 1565.90	Wavelength 1565.90
• 1566.31	Wavelength 1566.31
• 1566.72	Wavelength 1566.72
• 1570	Wavelength 1570
• 1570.83	Wavelength 1570.83
• 1571.24	Wavelength 1571.24
• 1571.65	Wavelength 1571.65
• 1572.06	Wavelength 1572.06
• 1572.48	Wavelength 1572.48
• 1572.89	Wavelength 1572.89
• 1573.30	Wavelength 1573.30
• 1573.71	Wavelength 1573.71

Table 23-1 **Output Parameter Support**

Parameter	Description
• 1574.13	Wavelength 1574.13
• 1574.54	Wavelength 1574.54
• 1574.95	Wavelength 1574.95
• 1575.37	Wavelength 1575.37
• 1575.78	Wavelength 1575.78
• 1576.20	Wavelength 1576.20
• 1576.61	Wavelength 1576.61
• 1577.03	Wavelength 1577.03
• 1577.44	Wavelength 1577.44
• 1577.86	Wavelength 1577.86
• 1578.27	Wavelength 1578.27
• 1578.69	Wavelength 1578.69
• 1579.10	Wavelength 1579.10
• 1579.52	Wavelength 1579.52
• 1579.93	Wavelength 1579.93
• 1580.35	Wavelength 1580.35
• 1580.77	Wavelength 1580.77
• 1581.18	Wavelength 1581.18
• 1581.60	Wavelength 1581.60
• 1582.02	Wavelength 1582.02
• 1582.44	Wavelength 1582.44
• 1582.85	Wavelength 1582.85
• 1583.27	Wavelength 1583.27
• 1583.69	Wavelength 1583.69
• 1584.11	Wavelength 1584.11
• 1584.53	Wavelength 1584.53
• 1584.95	Wavelength 1584.95
• 1585.36	Wavelength 1585.36
• 1585.78	Wavelength 1585.78
• 1586.20	Wavelength 1586.20
• 1586.62	Wavelength 1586.62
• 1587.04	Wavelength 1587.04
• 1587.46	Wavelength 1587.46
• 1587.88	Wavelength 1587.88
• 1588.30	Wavelength 1588.30
• 1588.73	Wavelength 1588.73

Table 23-1 **Output Parameter Support**

Parameter	Description
• 1589.15	Wavelength 1589.15
• 1589.57	Wavelength 1589.57
• 1589.99	Wavelength 1589.99
• 1590	Wavelength 1590
• 1590.41	Wavelength 1590.41
• 1590.83	Wavelength 1590.83
• 1591.26	Wavelength 1591.26
• 1591.68	Wavelength 1591.68
• 1592.10	Wavelength 1592.10
• 1592.52	Wavelength 1592.52
• 1592.95	Wavelength 1592.95
• 1593.37	Wavelength 1593.37
• 1593.79	Wavelength 1593.79
• 1594.22	Wavelength 1594.22
• 1594.64	Wavelength 1594.64
• 1595.06	Wavelength 1595.06
• 1595.49	Wavelength 1595.49
• 1596.34	Wavelength 1596.34
• 1596.76	Wavelength 1596.76
• 1597.19	Wavelength 1597.19
• 1597.62	Wavelength 1597.62
• 1598.04	Wavelength 1598.04
• 1598.47	Wavelength 1598.47
• 1598.89	Wavelength 1598.89
• 1599.32	Wavelength 1599.32
• 1599.75	Wavelength 1599.75
• 1600.06	Wavelength 1600.06
• 1601.03	Wavelength 1601.03
• 1601.46	Wavelength 1601.46
• 1601.88	Wavelength 1601.88
• 1602.31	Wavelength 1602.31
• 1602.74	Wavelength 1602.74
• 1603.17	Wavelength 1603.17
• 1603.60	Wavelength 1603.60
• 1604.03	Wavelength 1604.03
• 1610	Wavelength 1610

Table 23-1 **Output Parameter Support**

Parameter	Description
• USE-TWL1	Use Tunable Wavelength 1
<LOSSB>	The parameter type is REACH, which is the reach value.
• AUTOPROV	Autoprovisioning
• 40GBASE-SR4	Reach supported on 40GIGE payload on CFP-LC card.
• CX	Reach CX
• CX1	Reach CX1
• DX	Reach DX
• HX	Reach HX
• I1	Reach I1
• IR-1	Reach IR-1
• IR-2	Reach IR-2
• L1	Reach L1
• L2	Reach L2
• L3	Reach L3
• LR-1	Reach LR-1
• LR-2	Reach LR-2
• LR-3	Reach LR-3
• LX	Reach LX
• S1	Reach S1
• S2	Reach S2
• SR	Reach SR
• SR-1	Reach SR-1
• SX	Reach SX
• T	Reach T
• TEN-GE-ER	10 GE extended range
• TEN-GE-LR	10 GE long range
• TEN-GE-SR	10 GE short range
• VX	Reach VX
• ZX	Reach ZX
<SQUELCHMODE>	Shuts down the far-end laser in response to certain defects.
• SQUELCH	Squelch is enabled.
• NONE	No Squelch.
• NOS	Squelch is disabled.
<PSTPSTQ>	Primary state of the entity. The parameter type is PST_PSTQ, which is the service state of the entity described by the primary state (PST) and primary state qualifier (PSTQ).
• Unlocked-Enabled	In service and normal

Table 23-1 **Output Parameter Support**

Parameter	Description
• Unlocked-Disabled	Out of service and autonomous
• Locked-Disabled	Out of service, autonomous and management
• Locked-Enabled	Out of service and management
<SST>	(Optional) Secondary state of the entity. The parameter type is secondary state (SST), which provides additional information pertaining to PST and PSTQ.
• AutomaticInService	Automatic in service
• Disabled	Disabled
• Loopback	Loopback
• MismatchofEquipmentAlarm	Mismatch of equipment and attributes
• Maintenance	Maintenance mode
• OutOfGroup	Out of group
• SoftwareDownload	Software downloading
• Unassigned	Unassigned
• NotInstalled	Unequipped

23.5 RTRV-<MOD1FICONPAYLOAD>

The Retrieve 1GFICON, 2GFICON, or 4GFICON (RTRV-MOD1FICONPAYLOAD>) command returns Fibre-Channel-specific settings for ports that have been configured to carry fiber connectivity (FICON) traffic using the ENT-FICON command. The MXP_MR_2.5G and MXPP_MR_2.5G cards only support the GFP-T frame type. See [Table 29-1 on page 29-1](#) for supported modifiers by platform.

Usage Guidelines None

Category Ports

Security Retrieve

Input Format RTRV-<MOD1FICONPAYLOAD>:[<TID>]:<AID>:<CTAG>;

Input Example RTRV-1GFICON:CISCO:FAC-1-1:123;

Input Parameters <AID> Access identifier from the [“27.15 FACILITY” section on page 27-23](#).

Output Format

```

SID DATE TIME
M CTAG COMPLD
"<AID>:.,[<ROLE>],[<STATUS>]:[LINKRATE=<LINKRATE>],[LINKSTATE=<LINKSTATE>],
[LINKRCVRY=<LINKRCVRY>],[DISTEXTN=<DISTEXTN>],
[LINKCREDITS=<LINKCREDITS>],[MFS=<MFS>],[ENCAP=<ENCAP>],[NAME=<NAME>],
[SOAK=<SOAK>],[SOAKLEFT=<SOAKLEFT>],[FREQ=<FREQ>],[LOSSB=<LOSSB>]:
<PSTPSTQ>,<SST>"
;

```

Output Example

```

TID-000 1998-06-20 14:30:00
M 001 COMPLD
"FAC-1-1:.,WORK,ACT:LINKRATE=1GFICON,LINKSTATE=UP,LINKRCVRY=Y,
DISTEXTN=NONE,LINKCREDITS=0,MFS=2148,ENCAP=GFP-T,NAME="FC PORT",
SOAK=32,SOAKLEFT="\12-25",FREQ=1550,LOSSB=LR-1:LOCKED-ENABLED,
MAINTENANCE"
;

```

Table 23-2 Output Parameter Support

Parameter	Description
<AID>	Access identifier from the “27.15 FACILITY” section on page 27-23 .
<ROLE>	(Optional) The port role in a Y-cable protection scheme. The parameter type is SIDE, which is the role the unit is playing in the protection group.
• PROT	The entity is a protection unit in the protection group.
• WORK	The entity is a working unit in the protection group.
<STATUS>	(Optional) Port status in a Y-cable protection scheme. The parameter type is STATUS, which is the status of the unit in the protection pair.
• ACT	The entity is the active unit in the shelf.
• NA	Status is unavailable.
• STBY	The entity is the standby unit in the shelf.
<LINKRATE>	(Optional) The actual rate running on the Fibre Channel port. It can differ from the payload type provisioned. The parameter type is LINKRATE, which is the link rate on a Fibre Channel port.
• 1GFC	1-Gigabit Fibre Channel payload
• 1GFICON	1-Gigabit fiber connectivity payload
• 2GFC	2-Gigabit Fibre Channel payload
• 2GFICON	2-Gigabit fiber connectivity payload
• UNKNOWN	The rate is unknown.
• UNPLUGGED	The SFP is not plugged into the Fibre Channel port, so the link rate cannot be detected.
<LINKSTATE>	(Optional) Link state. The parameter type is DIRN, which specifies the discriminating level for the requested monitored parameter.
• DN	Monitored parameter with values equal to or greater than the level of LEV will be reported.
• UP	Monitored parameter with values equal or less than the value of LEV will be reported.

• DN	Monitored parameter with values equal to or greater than the level of LEV will be reported.
• UP	Monitored parameter with values equal or less than the value of LEV will be reported.

Table 23-2 **Output Parameter Support**

Parameter	Description
• 1529.94	Wavelength 1529.94
• 1530	Wavelength 1530
• 1530.33	Wavelength 1530.33
• 1530.73	Wavelength 1530.73
• 1531.12	Wavelength 1531.12
• 1531.51	Wavelength 1531.51
• 1531.90	Wavelength 1531.90
• 1532.29	Wavelength 1532.29
• 1532.68	Wavelength 1532.68
• 1533.07	Wavelength 1533.07
• 1533.47	Wavelength 1533.47
• 1533.86	Wavelength 1533.86
• 1534.25	Wavelength 1534.25
• 1534.64	Wavelength 1534.64
• 1535.04	Wavelength 1535.04
• 1535.43	Wavelength 1535.43
• 1535.82	Wavelength 1535.82
• 1536.22	Wavelength 1536.22
• 1536.61	Wavelength 1536.61
• 1537	Wavelength 1537
• 1537.40	Wavelength 1537.40
• 1537.79	Wavelength 1537.79
• 1538.19	Wavelength 1538.19
• 1538.58	Wavelength 1538.58
• 1538.98	Wavelength 1538.98
• 1539.37	Wavelength 1539.37
• 1539.77	Wavelength 1539.77
• 1540.16	Wavelength 1540.16
• 1540.56	Wavelength 1540.56
• 1540.95	Wavelength 1540.95
• 1541.35	Wavelength 1541.35
• 1541.75	Wavelength 1541.75
• 1542.14	Wavelength 1542.14
• 1542.35	Wavelength 1542.35
• 1542.54	Wavelength 1542.54
• 1542.94	Wavelength 1542.94

Table 23-2 **Output Parameter Support**

Parameter	Description
• 1543.33	Wavelength 1543.33
• 1543.73	Wavelength 1543.73
• 1544.13	Wavelength 1544.13
• 1544.53	Wavelength 1544.53
• 1544.92	Wavelength 1544.92
• 1545.32	Wavelength 1545.32
• 1545.72	Wavelength 1545.72
• 1546.12	Wavelength 1546.12
• 1546.52	Wavelength 1546.52
• 1546.92	Wavelength 1546.92
• 1547.32	Wavelength 1547.32
• 1547.72	Wavelength 1547.72
• 1548.12	Wavelength 1548.12
• 1548.51	Wavelength 1548.51
• 1548.92	Wavelength 1548.92
• 1549.32	Wavelength 1549.32
• 1549.71	Wavelength 1549.71
• 1550	Wavelength 1500
• 1550.12	Wavelength 1550.12
• 1550.52	Wavelength 1550.52
• 1550.92	Wavelength 1550.92
• 1551.32	Wavelength 1551.32
• 1551.72	Wavelength 1551.72
• 1552.12	Wavelength 1552.12
• 1552.52	Wavelength 1552.52
• 1552.93	Wavelength 1552.93
• 1553.33	Wavelength 1553.33
• 1553.73	Wavelength 1553.73
• 1554.13	Wavelength 1554.13
• 1554.13	Wavelength 1554.13
• 1554.94	Wavelength 1554.94
• 1555.34	Wavelength 1555.34
• 1555.75	Wavelength 1555.75
• 1556.15	Wavelength 1556.15
• 1556.55	Wavelength 1556.55
• 1556.96	Wavelength 1556.96

Table 23-2 **Output Parameter Support**

Parameter	Description
• 1557.36	Wavelength 1557.36
• 1557.77	Wavelength 1557.77
• 1558.17	Wavelength 1558.17
• 1558.58	Wavelength 1558.58
• 1558.98	Wavelength 1558.98
• 1559.39	Wavelength 1559.39
• 1559.79	Wavelength 1559.79
• 1560.20	Wavelength 1560.20
• 1560.61	Wavelength 1560.61
• 1561.01	Wavelength 1561.01
• 1561.42	Wavelength 1561.42
• 1561.83	Wavelength 1561.83
• 1570	Wavelength 1570
• 1570.83	Wavelength 1570.83
• 1571.24	Wavelength 1571.24
• 1571.65	Wavelength 1571.65
• 1572.06	Wavelength 1572.06
• 1572.48	Wavelength 1572.48
• 1572.89	Wavelength 1572.89
• 1573.30	Wavelength 1573.30
• 1573.71	Wavelength 1573.71
• 1574.13	Wavelength 1574.13
• 1574.54	Wavelength 1574.54
• 1574.95	Wavelength 1574.95
• 1575.37	Wavelength 1575.37
• 1575.78	Wavelength 1575.78
• 1576.20	Wavelength 1576.20
• 1576.61	Wavelength 1576.61
• 1577.03	Wavelength 1577.03
• 1577.44	Wavelength 1577.44
• 1577.86	Wavelength 1577.86
• 1578.27	Wavelength 1578.27
• 1578.69	Wavelength 1578.69
• 1579.10	Wavelength 1579.10
• 1579.52	Wavelength 1579.52
• 1579.93	Wavelength 1579.93

Table 23-2 **Output Parameter Support**

Parameter	Description
• 1580.35	Wavelength 1580.35
• 1580.77	Wavelength 1580.77
• 1581.18	Wavelength 1581.18
• 1581.60	Wavelength 1581.60
• 1582.02	Wavelength 1582.02
• 1582.44	Wavelength 1582.44
• 1582.85	Wavelength 1582.85
• 1583.27	Wavelength 1583.27
• 1583.69	Wavelength 1583.69
• 1584.11	Wavelength 1584.11
• 1584.53	Wavelength 1584.53
• 1584.95	Wavelength 1584.95
• 1585.36	Wavelength 1585.36
• 1585.78	Wavelength 1585.78
• 1586.20	Wavelength 1586.20
• 1586.62	Wavelength 1586.62
• 1587.04	Wavelength 1587.04
• 1587.46	Wavelength 1587.46
• 1587.88	Wavelength 1587.88
• 1588.30	Wavelength 1588.30
• 1588.73	Wavelength 1588.73
• 1589.15	Wavelength 1589.15
• 1589.57	Wavelength 1589.57
• 1589.99	Wavelength 1589.99
• 1590	Wavelength 1590
• 1590.41	Wavelength 1590.41
• 1590.83	Wavelength 1590.83
• 1591.26	Wavelength 1591.26
• 1591.68	Wavelength 1591.68
• 1592.10	Wavelength 1592.10
• 1592.52	Wavelength 1592.52
• 1592.95	Wavelength 1592.95
• 1593.37	Wavelength 1593.37
• 1593.79	Wavelength 1593.79
• 1594.22	Wavelength 1594.22
• 1594.64	Wavelength 1594.64

Table 23-2 **Output Parameter Support**

Parameter	Description
• 1595.06	Wavelength 1595.06
• 1595.49	Wavelength 1595.49
• 1596.34	Wavelength 1596.34
• 1596.76	Wavelength 1596.76
• 1597.19	Wavelength 1597.19
• 1597.62	Wavelength 1597.62
• 1598.04	Wavelength 1598.04
• 1598.47	Wavelength 1598.47
• 1598.89	Wavelength 1598.89
• 1599.32	Wavelength 1599.32
• 1599.75	Wavelength 1599.75
• 1600.06	Wavelength 1600.06
• 1601.03	Wavelength 1601.03
• 1601.46	Wavelength 1601.46
• 1601.88	Wavelength 1601.88
• 1602.31	Wavelength 1602.31
• 1602.74	Wavelength 1602.74
• 1603.17	Wavelength 1603.17
• 1603.60	Wavelength 1603.60
• 1604.03	Wavelength 1604.03
• 1610	Wavelength 1610
• USE-TWL1	Use Tunable Wavelength 1
<LOSSB>	(Optional) The parameter type is REACH, which is the reach value.
• AUTOPROV	Autoprovisioning
• 40GBASE-SR4	Reach supported on 40GIGE payload on CFP-LC card.
• CX	Reach CX
• CX1	Reach CX1
• DX	Reach DX
• HX	Reach HX
• I1	Reach I1
• IR-1	Reach IR-1
• IR-2	Reach IR-2
• L1	Reach L1
• L2	Reach L2
• L3	Reach L3
• LR-1	Reach LR-1

Table 23-2 **Output Parameter Support**

Parameter	Description
• LR-2	Reach LR-2
• LR-3	Reach LR-3
• LX	Reach LX
• S1	Reach S1
• S2	Reach S2
• SR	Reach SR
• SR-1	Reach SR-1
• SX	Reach SX
• T	Reach T
• TEN-GE-ER	10 GE extended range
• TEN-GE-LR	10 GE long range
• TEN-GE-SR	10 GE short range
• VX	Reach VX
• ZX	Reach ZX
<PSTPSTQ>	Primary state of the entity. The parameter type is PST_PSTQ, which is the service state of the entity described by the PST and PSTQ.
• Unlocked-Enabled	In service and normal
• Unlocked-Disabled	Out of service and autonomous
• Locked-Disabled	Out of service, autonomous and management
• Locked-Enabled	Out of service and management
<SST>	Secondary state of the entity. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AutomaticInService	Automatic in service
• Disabled	Disabled
• Loopback	Loopback
• MismatchofEquipmentAlarm	Mismatch of equipment and attributes
• Maintenance	Maintenance mode
• OutOfGroup	Out of group
• SoftwareDownload	Software downloading
• Unassigned	Unassigned
• NotInstalled	Unequipped

23.6 RTRV-<MOD2NCSPAYLOAD>

The Retrieve D1VIDEO, DV6000, DVBASI, ETRCLO, HDTV, ISCCOMPAT, ISC1, ISC3PEER2R, ISC3PEER1G, ISC3PEER2G, PASSTHRU, 3GVIDEO, SDSDI, HDSDI, AUTO, OTL, OTU1, ISC3STP1G, and ISC3STP2G (RTRV-<MOD2NCSPAYLOAD>) command retrieves the configuration parameter of a NCS client. See [Table 29-1 on page 29-1](#) for supported modifiers by platform.

Usage Guidelines

The command supports the modifier 3GVIDEO, SDSDI, HDSDI, AUTO, OTU1, ISC3STP1G, and ISC3STP2G. The RTRV-OTL command retrieves the Current values on sublanes of 100G-LC-C and retrieves only state of the facility on CFP-LC cards.

Category

Ports

Security

Maintenance

Input Format

RTRV-<MOD2NCSPAYLOAD>:[<TID>]:<AID>:<CTAG>[:];

Input Example

RTRV-SDSDI::VFAC-3-2-1:321;

Input Parameters

<AID> Access identifier from the [“27.15 FACILITY” section on page 27-23](#). The AR-MXP, AR-XP, and AR-XPE cards use the VFAC Access Identifier.

Output Format

SID DATE TIME M CTAG COMPLD
 "<AIDUNIONID>,<AIDTYPE>:;,<ROLE>,<STATUS>]:[NAME=<NAME>],[LBCL=<LBCL>],
 [OPT=<OPT>],[OPR=<OPR>],[FREQ=<FREQ>],[LOSSB=<LOSSB>],[SQUELCHMODE=,SQUEL
 CHMODE.]:<PSTPSTQ>,<SST>]" ;

Output Example

TID-000 1998-06-20 14:30:00
 M 321 COMPLD
 "VFAC-3-2-1,SDSDI::,WORK,ACT:NAME=\"NY PORT\",LBCL=10.0,OPT=10.0,OPR=10.0,
 FREQ=1550,LOSSB=LR-1,SQUELCHMODE=SQUELCH:OOS-AU,AINS" ;

Table 23-3 Output Parameter Support

Parameter	Description
<AIDUNIONID>	Access identifier from the “27.2 AidUnionId” section on page 27-7 .
<AIDTYPE>	A type of access identifier. The parameter type is MOD2NCSPAYLOAD, which is the payload types applicable to NCS ports.
• 100GIGE	100 Gigabit Ethernet.

Table 23-3 **Output Parameter Support**

Parameter	Description
• 10GFC	10-Gigabit Fibre Channel payload
• 10GIGE	10-Gigabit Ethernet
• 40GIGE	40-Gigabit Ethernet
• 1GFC	1-Gigabit Fibre Channel payload
• 1GFICON	1-Gigabit fiber connectivity payload
• 2GFC	2-Gigabit Fibre Channel payload
• 2GFICON	2-Gigabit fiber connectivity payload
• 5GIB	5Gbps InfiniBand (IB_5G) payload
• 8GFC	8-Gigabit Fibre Channel payload
• D1VIDEO	D1Video payload
• DV6000	DV6000 payload
• DVBASI	DVBASI payload
• ETRCLO	ETR_CLO payload
• GIGE	Gigabit Ethernet payload
• HDTV	High definition television (HDTV) payload
• ISC1	ISC1 payload
• ISC3	ISC3 payload
• OTL	Optical Channel Transport Lane.
• OTU1	Optical Transport Unit Level 1
• OTU3	Optical Transport Unit Level 3
• OTU4	Optical Transport Unit Level 4
• PASSTHRU	Any pass-through (2R) payload
• 10GFC	10-Gigabit Fibre Channel payload
<ROLE>	(Optional) The port role in a Y-cable protection scheme. The parameter type is SIDE, which is the role the unit has in the protection group.
• PROT	The entity is a protection unit in the protection group.
• WORK	The entity is a working unit in the protection group.
<STATUS>	(Optional) Port status in a Y-cable protection scheme. The parameter type is STATUS, which is the status of the unit in the protection pair.
• ACT	The entity is the active unit in the shelf.
• NA	Status is unavailable.
• STBY	The entity is the standby unit in the shelf.
<NAME>	(Optional) Identifies the port name. NAME is a string.
<LBCL>	(Optional) Displays the current value of the laser current. LBCL is a float.
<OPT>	(Optional) Displays the current value of the transmitted optical power. OPT is a float.
<OPR>	(Optional) Displays the current value of the received optical power. OPR is a float.
<FREQ>	(Optional) The parameter type is OPTICAL_WLEN, which is the optical wavelength.

Table 23-3 **Output Parameter Support**

Parameter	Description
• 1310	Wavelength 1310
• 1470	Wavelength 1470
• 1490	Wavelength 1490
• 1510	Wavelength 1510
• 1528.77	Wavelength 1528.77
• 1529.55	Wavelength 1529.55
• 1529.94	Wavelength 1529.94
• 1530	Wavelength 1530
• 1530.33	Wavelength 1530.33
• 1530.73	Wavelength 1530.73
• 1531.12	Wavelength 1531.12
• 1531.51	Wavelength 1531.51
• 1531.90	Wavelength 1531.90
• 1532.29	Wavelength 1532.29
• 1532.68	Wavelength 1532.68
• 1533.07	Wavelength 1533.07
• 1533.47	Wavelength 1533.47
• 1533.86	Wavelength 1533.86
• 1534.25	Wavelength 1534.25
• 1534.64	Wavelength 1534.64
• 1535.04	Wavelength 1535.04
• 1535.43	Wavelength 1535.43
• 1535.82	Wavelength 1535.82
• 1536.22	Wavelength 1536.22
• 1536.61	Wavelength 1536.61
• 1537	Wavelength 1537
• 1537.40	Wavelength 1537.40
• 1537.79	Wavelength 1537.79
• 1538.19	Wavelength 1538.19
• 1538.58	Wavelength 1538.58
• 1538.98	Wavelength 1538.98
• 1539.37	Wavelength 1539.37
• 1539.77	Wavelength 1539.77
• 1540.16	Wavelength 1540.16
• 1540.56	Wavelength 1540.56
• 1540.95	Wavelength 1540.95

Table 23-3 **Output Parameter Support**

Parameter	Description
• 1541.35	Wavelength 1541.35
• 1541.75	Wavelength 1541.75
• 1542.14	Wavelength 1542.14
• 1542.35	Wavelength 1542.35
• 1542.54	Wavelength 1542.54
• 1542.94	Wavelength 1542.94
• 1543.33	Wavelength 1543.33
• 1543.73	Wavelength 1543.73
• 1544.13	Wavelength 1544.13
• 1544.53	Wavelength 1544.53
• 1544.92	Wavelength 1544.92
• 1545.32	Wavelength 1545.32
• 1545.72	Wavelength 1545.72
• 1546.12	Wavelength 1546.12
• 1546.52	Wavelength 1546.52
• 1546.92	Wavelength 1546.92
• 1547.32	Wavelength 1547.32
• 1547.72	Wavelength 1547.72
• 1548.12	Wavelength 1548.12
• 1548.51	Wavelength 1548.51
• 1548.92	Wavelength 1548.92
• 1549.32	Wavelength 1549.32
• 1549.71	Wavelength 1549.71
• 1550	Wavelength 1500
• 1550.12	Wavelength 1550.12
• 1550.52	Wavelength 1550.52
• 1550.92	Wavelength 1550.92
• 1551.32	Wavelength 1551.32
• 1551.72	Wavelength 1551.72
• 1552.12	Wavelength 1552.12
• 1552.52	Wavelength 1552.52
• 1552.93	Wavelength 1552.93
• 1553.33	Wavelength 1553.33
• 1553.73	Wavelength 1553.73
• 1554.13	Wavelength 1554.13
• 1554.13	Wavelength 1554.13

Table 23-3 **Output Parameter Support**

Parameter	Description
• 1554.94	Wavelength 1554.94
• 1555.34	Wavelength 1555.34
• 1555.75	Wavelength 1555.75
• 1556.15	Wavelength 1556.15
• 1556.55	Wavelength 1556.55
• 1556.96	Wavelength 1556.96
• 1557.36	Wavelength 1557.36
• 1557.77	Wavelength 1557.77
• 1558.17	Wavelength 1558.17
• 1558.58	Wavelength 1558.58
• 1558.98	Wavelength 1558.98
• 1559.39	Wavelength 1559.39
• 1559.79	Wavelength 1559.79
• 1560.20	Wavelength 1560.20
• 1560.61	Wavelength 1560.61
• 1561.01	Wavelength 1561.01
• 1561.42	Wavelength 1561.42
• 1561.83	Wavelength 1561.83
• 1570	Wavelength 1570
• 1570.83	Wavelength 1570.83
• 1571.24	Wavelength 1571.24
• 1571.65	Wavelength 1571.65
• 1572.06	Wavelength 1572.06
• 1572.48	Wavelength 1572.48
• 1572.89	Wavelength 1572.89
• 1573.30	Wavelength 1573.30
• 1573.71	Wavelength 1573.71
• 1574.13	Wavelength 1574.13
• 1574.54	Wavelength 1574.54
• 1574.95	Wavelength 1574.95
• 1575.37	Wavelength 1575.37
• 1575.78	Wavelength 1575.78
• 1576.20	Wavelength 1576.20
• 1576.61	Wavelength 1576.61
• 1577.03	Wavelength 1577.03
• 1577.44	Wavelength 1577.44

Table 23-3 **Output Parameter Support**

Parameter	Description
• 1577.86	Wavelength 1577.86
• 1578.27	Wavelength 1578.27
• 1578.69	Wavelength 1578.69
• 1579.10	Wavelength 1579.10
• 1579.52	Wavelength 1579.52
• 1579.93	Wavelength 1579.93
• 1580.35	Wavelength 1580.35
• 1580.77	Wavelength 1580.77
• 1581.18	Wavelength 1581.18
• 1581.60	Wavelength 1581.60
• 1582.02	Wavelength 1582.02
• 1582.44	Wavelength 1582.44
• 1582.85	Wavelength 1582.85
• 1583.27	Wavelength 1583.27
• 1583.69	Wavelength 1583.69
• 1584.11	Wavelength 1584.11
• 1584.53	Wavelength 1584.53
• 1584.95	Wavelength 1584.95
• 1585.36	Wavelength 1585.36
• 1585.78	Wavelength 1585.78
• 1586.20	Wavelength 1586.20
• 1586.62	Wavelength 1586.62
• 1587.04	Wavelength 1587.04
• 1587.46	Wavelength 1587.46
• 1587.88	Wavelength 1587.88
• 1588.30	Wavelength 1588.30
• 1588.73	Wavelength 1588.73
• 1589.15	Wavelength 1589.15
• 1589.57	Wavelength 1589.57
• 1589.99	Wavelength 1589.99
• 1590	Wavelength 1590
• 1590.41	Wavelength 1590.41
• 1590.83	Wavelength 1590.83
• 1591.26	Wavelength 1591.26
• 1591.68	Wavelength 1591.68
• 1592.10	Wavelength 1592.10

Table 23-3 **Output Parameter Support**

Parameter	Description
• 1592.52	Wavelength 1592.52
• 1592.95	Wavelength 1592.95
• 1593.37	Wavelength 1593.37
• 1593.79	Wavelength 1593.79
• 1594.22	Wavelength 1594.22
• 1594.64	Wavelength 1594.64
• 1595.06	Wavelength 1595.06
• 1595.49	Wavelength 1595.49
• 1596.34	Wavelength 1596.34
• 1596.76	Wavelength 1596.76
• 1597.19	Wavelength 1597.19
• 1597.62	Wavelength 1597.62
• 1598.04	Wavelength 1598.04
• 1598.47	Wavelength 1598.47
• 1598.89	Wavelength 1598.89
• 1599.32	Wavelength 1599.32
• 1599.75	Wavelength 1599.75
• 1600.06	Wavelength 1600.06
• 1601.03	Wavelength 1601.03
• 1601.46	Wavelength 1601.46
• 1601.88	Wavelength 1601.88
• 1602.31	Wavelength 1602.31
• 1602.74	Wavelength 1602.74
• 1603.17	Wavelength 1603.17
• 1603.60	Wavelength 1603.60
• 1604.03	Wavelength 1604.03
• 1610	Wavelength 1610
• USE-TWL1	Use Tunable Wavelength 1
<LOSSB>	(Optional) The parameter type is REACH, which is the reach value.
• 100GBASE-LR4	100GBASE-LR4
• 100GBASE-SR10	100GBASE-SR10
• 40GBASE-FR	40GBASE-FR
• 40GBASE-LR4	40GBASE-LR4
• 40GBASE-SR4	Reach supported on 40GIGE payload on CFP-LC card.
• 4I1-9D1F	4I1-9D1F
• C4S1-2D1	C4S1-2D1

Table 23-3 **Output Parameter Support**

Parameter	Description
• FE-BX	FE-BX
• FX	FX
• GE-BX	GE-BX
• GE-EX	GE-EX
• LX-10	LX-10
• TEN-GE-LRM	TEN-GE-LRM
• TEN-GE-ZR	TEN-GE-ZR
• VSR2000-3R2	VSR2000-3R2
• AUTOPROV	Autoprovisioning
• CX	Reach CX
• CX1	Reach CX1
• DX	Reach DX
• HX	Reach HX
• I1	Reach I1
• IR-1	Reach IR-1
• IR-2	Reach IR-2
• L1	Reach L1
• L2	Reach L2
• L3	Reach L3
• LR-1	Reach LR-1
• LR-2	Reach LR-2
• LR-3	Reach LR-3
• LX	Reach LX
• S1	Reach S1
• S2	Reach S2
• SR	Reach SR
• SR-1	Reach SR-1
• SX	Reach SX
• T	Reach T
• TEN-GE-ER	10 GE extended range
• TEN-GE-LR	10 GE long range
• TEN-GE-SR	10 GE short range
• VX	Reach VX
• ZX	Reach ZX
<SQUELCHMODE>	Shuts down the far-end laser in response to certain defects.
• SQUELCH	Squelch is enabled.

Table 23-3 **Output Parameter Support**

Parameter	Description
• NONE	No Squelch.
• ODU-AIS	ODU AIS.
<PSTPSTQ>	Primary state of the entity. The parameter type is PST_PSTQ, which is the service state of the entity described by the PST and PSTQ.
• Unlocked-Enabled	In service and normal
• Unlocked-Disabled	Out of service and autonomous
• Locked-Disabled	Out of service, autonomous and management
• Locked-Enabled	Out of service and management
<SST>	(Optional) Secondary state of the entity. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AutomaticInService	Automatic in service
• Disabled	Disabled
• Loopback	Loopback
• MismatchofEquipmentAlarm	Mismatch of equipment and attributes
• Maintenance	Maintenance mode
• OutOfGroup	Out of group
• SoftwareDownload	Software downloading
• Unassigned	Unassigned
• NotInstalled	Unequipped

23.7 RTRV-<MOD_RING>

The Retrieve Multiplex Section Shared Protection Ring (RTRV-<MOD_RING>) command retrieves the multiplex section-shared protection ring (MS-SPRing) information of the network element (NE). A two-fiber or four-fiber MS-SPRing can be retrieved.

Usage Guidelines

Error conditions:

- Only ALL, NULL, MSSPR-ALL, or MSSPR-RINGID is allowed for this command.
- A NULL AID defaults to the AID ALL.
- The list AID format is supported.
- If the system fails on getting information object repository (IOR), a Get IOR Failed (SROF) error message is returned.
- If the AID is invalid, an Invalid AID (IIAC) error message is returned.
- If the MS-SPRing does not exist, a MSSPR Does Not Exist (SRQN) error message is returned.

Category

MS-SPRing

Security	Retrieve
Input Format	RTRV-<MOD_RING>:[<TID>]:[<AID>]:<CTAG>[:...];
Input Example	RTRV-MSSPR:PETALUMA:ALL:123;
Input Parameters	<AID> (Optional) Access identifier from the “27.3 AidUnionId1” section on page 27-10. Identifies the MS-SPRing of the NE. Only ALL, null or a list of MSSPR-# in AID are allowed. A null value is equivalent to ALL.
Output Format	SID DATE TIME M CTAG COMPLD “[<AID>]:[RINGID=<RINGID>],[NODEID=<NODEID>],[MODE=<MODE>], [RVRTV=<RVRTV>],[RVTM=<RVTM>],[SRVRTV=<SRVRTV>],[SRVTM=<SRVTM>], [EASTWORK=<EASTWORK>],[WESTWORK=<WESTWORK>],[EASTPROT=<EASTPROT>], [WESTPROT=<WESTPROT>]” ;
Output Example	4F MS-SPRing TID-000 1998-06-20 14:30:00 M 001 COMPLD “MSSPR-43::RINGID=43,NODEID=3,MODE=4F,RVRTV=Y,RVTM=5.0, SRVRTV=Y,SRVTM=5.0,EASTWORK=FAC-5-1,WESTWORK=FAC-6-1, EASTPROT=FAC-12-1,WESTPROT=FAC-13-1” ; 2F MS-SPRing TID-000 1998-06-20 14:30:00 M 001 COMPLD “MSSPR-N12EF::RINGID=N12EF,NODEID=2,MODE=2F,RVRTV=Y,RVTM=5.0, EASTWORK=FAC-5-1,WESTWORK=FAC-6-1” ;

Table 23-4 Output Parameter Support

Parameter	Description
<AID>	(Optional) Access identifier from the “27.3 AidUnionId1” section on page 27-10. Identifies the MS-SPRing of the NE.
<RINGID>	(Optional) The MS-SPRing ID of the NE up to six characters. Valid characters are A-Z and 0-9. RINGID is a string.
<NODEID>	(Optional) The MS-SPRing node ID of the NE. NODEID ranges from 0 to 31. NODEID is a string.

Table 23-4 Output Parameter Support

Parameter	Description
<MODE>	(Optional) Mode with which the command is to be implemented. Identifies the MS-SPRing mode; either two-fiber or four-fiber. The parameter type is MSSPR_MODE, which is the MS-SPRing mode.
• 2F	Two-fiber MS-SPRing
• 4F	Four-fiber MS-SPRing
<RVRTV>	(Optional) Revertive mode. The value Y indicates that protection switching system reverts service to the original line after restoration. The value N indicates that protection switching system does not revert service to the original line after restoration. RVRTV is applicable only for 1+1 protection switching. Null defaults to N. The parameter type is ON_OFF (disable or enable an attribute).
• N	Does not revert service to original line after restoration.
• Y	Reverts service to original line after restoration.
<RVTM>	(Optional) Revertive time. RVTM is not allowed to be set while RVRTV is N. The parameter type is REVERTIVE_TIME (revertive time).
• 0.5 to 12.0	Revertive time is 0.5 to 12.0 minutes.
<SRVRTV>	(Optional) The span revertive mode for four-fiber MS-SPRing only. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<SRVTM>	(Optional) The span revertive time for four-fiber MS-SPRing only. SRVTM is not allowed to be set while SRVRTV is N. The parameter type is REVERTIVE_TIME (revertive time).
• 0.5 to 12.0	Revertive time is 0.5 to 12.0 minutes.
<EASTWORK>	(Optional) East working facility. AID from the “ 27.15 FACILITY ” section on page 27-23.
<WESTWORK>	(Optional) West working facility. AID from the “ 27.15 FACILITY ” section on page 27-23.
<EASTPROT>	(Optional) East protecting facility. AID from the “ 27.15 FACILITY ” section on page 27-23.
<WESTPROT>	(Optional) West protecting facility. AID from the “ 27.15 FACILITY ” section on page 27-23.

23.8 RTRV-<OCN_TYPE>

The Retrieve OC3, OC12, OC48, or OC192 command retrieves the attributes (for example, service parameters) and the state of an OC-N facility.

Usage Guidelines

See [Table 29-1 on page 29-1](#) for supported modifiers by platform.

Both RINGID and BLSRTYPE identify the OC-N port connected with a BLSR. These attributes are only presented for the OC-12, OC-48, and OC-192 ports within a BLSR connection. The RTRV-<MOD_RING> command with the AID BLSR-RINGID can provide more information about a BLSR.



Note

This command does not show the WVLEN attribute if the OC-N port has a zero value.

Category Ports

Security Retrieve

Input Format RTRV-<OCN_TYPE>[:<TID>]:<AID>:<CTAG>[:::];

Input Example RTRV-OC48:PENNGROVE:FAC-6-1:236;

Input Parameters	<AID>	Access identifier from the “27.15 FACILITY” section on page 27-23.

Output Format

```

SID DATE TIME
M CTAG COMPLD
“<AID>:.,[<ROLE>],[<STATUS>]:[DCC=<DCC>],[AREA=<AREA>],[TMGREF=<TMGREF>],
[SYNCSMSG=<SYNCSMSG>],[SENDDUS=<SENDDUS>],[PJMON=<PJMON>],
[SFBER=<SFBER>],[SDBER=<SDBER>],[MODE=<MODE>],[WVLEN=<WVLEN>],
[RINGID=<RINGID>],[BLSRTYPE=<BLSRTYPE>],[MUX=<MUX>],[UNIC=<UNIC>],
[SOAK=<SOAK>],[SOAKLEFT=<SOAKLEFT>],[SSMRCV=<SSMRCV>],[OSPF=<OSPF>],
[LDCC=<LDCC>],[NAME=<NAME>],[LBCL=<LBCL>],[OPT=<OPT>],[OPR=<OPR>],
[EXPTRC=<EXPTRC>],[TRC=<TRC>],[TRCMODE=<TRCMODE>],
[TRCFORMAT=<TRCFORMAT>],[ADMSSM=<ADMSSM>],
[SENDDUSFF=<SENDDUSFF>],[AISONLPBK=<AISONLPBK>],
[FREQ=<FREQ>],[LOSSB=<LOSSB>],[FOREIGNFEND=<FOREIGNFEND>],
[FOREIGNIPADDRESS=<FOREIGNIPADDRESS>],[SQUELCHMODE=<SQUELCHMODE>]:<PS
TPSTQ>,[<SSTQ>]”
;

```

Output Example

```

TID-000 1998-06-20 14:30:00
M 001 COMPLD
“FAC-6-1:.,WORK,ACT:DCC=Y,AREA=10.92.63.1,TMGREF=N,SYNCSMSG=N,SENDDUS=N,
PJMON=48,SFBER=1E-4,SDBER=1E-6,MODE=SINGLESHELF,WVLEN=1310.00,RINGID=43,
BLSRTYPE=WESTWORK,MUX=E2,UNIC=Y,
SOAKLEFT="12-25",SSMRCV=STU,OSPF=Y,LDCC=Y,NAME="OCN PORT",LBCL=10.0,
OPT=10.0,OPR=10.0,EXPTRC="AAA",TRC="AAA",TRCMODE=MAN,
TRCFORMAT=16-BYTE,ADMSSM=PRS,SENDDUSFF=N,AISONLPBK=AIS_ON_LPBK_ALL,
FREQ=1550,LOSSB=LR-1,FOREIGNFEND=Y,
FOREIGNIPADDRESS=10.92.63.44,:OOS-AU,AINS",SQUELCHMODE=SQUELCH”
;

```

Output Parameters	<AID>	Access identifier from the “27.15 FACILITY” section on page 27-23.
	<ROLE>	(Optional) An OC-N port role. The parameter type is SIDE, which is the role the unit is playing in the protection group.

• PROT	The entity is a protection unit in the protection group.
• WORK	The entity is a working unit in the protection group.
<STATUS>	(Optional) An OC-N port status. The parameter type is STATUS, which is the status of the unit in the protection pair.
• ACT	The entity is the active unit in the shelf.
• NA	Status is unavailable.
• STBY	The entity is the standby unit in the shelf.
<DCC>	(Optional) Indicates whether or not the Section data communications channel (DCC) is to be used. The parameter type is EXT_RING, which indicates whether the ring supports the extended K1/K2/K3 protocol.
• N	The ring does not support the extended K1/K2/K3 protocol.
• Y	The ring does support the extended K1/K2/K3 protocol.
<AREA>	(Optional) Area ID. Shows up only if the DCC is enabled. AREA is a string.
<TMGREF>	(Optional) The termination to be used, whether primary or secondary. Identifies if an OC-N port has a timing reference. Defaults to N. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<SYNMSG>	Synchronization status message. The parameter type is EXT_RING, which indicates whether the ring supports the extended K1/K2/K3 protocol.
• N	The ring does not support the extended K1/K2/K3 protocol.
• Y	The ring does support the extended K1/K2/K3 protocol.
<SENDDUS>	(Optional) The facility will send the DUS (Do not use for Synchronization) value in 0x0f bits pattern as the synchronization status message for that facility. Defaults to N. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<PJMON>	(Optional) Identifies an OC-N port PJMON. Defaults to 0 (zero). PJMON is an integer. Set a valid STS number of the optical port. Note The PJMON number displayed in TL1 interface does not correspond to the PJVC4MON number in CTC, but instead corresponds to the STS number of the optical port.
<SFBER>	(Optional) An OC-N port signal failure threshold. Defaults to 1E-4. The parameter type is SF_BER, which is the threshold for declaring signal failure on a facility or path.
• 1E-3	SFBER is 1E-3.
• 1E-4	SFBER is 1E-4.
• 1E-5	SFBER is 1E-5.
<SDBER>	(Optional) An OC-N port signal degrade threshold. Defaults 1E-7. The parameter type is SD_BER, which is the threshold for declaring signal degrade on a facility or path.

• 1E-5	SDBER is 1E-5.
• 1E-6	SDBER is 1E-6.
• 1E-7	SDBER is 1E-7.
• 1E-8	SDBER is 1E-8.
• 1E-9	SDBER is 1E-9.
<MODE>	(Optional) OC-N port mode. Defaults to SONET. The parameter type is OPTICAL_MODE, which is the facility's optical mode.
• SINGLESHELF	The NE contains only one shelf and the AID representation does not consider the shelf identifier for command requests/response and autonomous reports.
• MULTISHELF	The AID representation considers the shelf identifier for command requests/response and autonomous reports. This means the NE has more than one shelf configured or the user wants to use the new AID style.
• MULTISHELFETH	The AID representation considers the shelf identifier for command requests/response and autonomous reports. This means the NE has more than one shelf configured or the user wants to use the new AID style. The shelves are connected by means of an external Ethernet switch.
<WVLEN>	(Optional) An OC-N port wavelength in nanometers. For example, WVLEN=1310.00 means it operates at 1310 nm in the DWDM application. WVLEN is a float.
<RINGID>	(Optional) The BLSR RINGID with which the port is connected. RINGID ranges from 0 to 9999. RINGID is an integer.
<BLSRTYPE>	(Optional) The BLSR type with which the port is connected. The parameter type is BLSR_TYPE, which is the BLSR type of an OC-N port.
• EASTPROT	The OC-N port is an east protecting port.
• EASTWORK	The OC-N port is an east working port.
• WESTPROT	The OC-N port is an west protecting port.
• WESTWORK	The OC-N port is an west working port.
<MUX>	(Optional) BLSR extension byte. The parameter type is MUX_TYPE, which is the BLSR extension byte.
• E2	E2 byte (orderwire)
• F1	F1 byte (user)
• K3	K3 byte
• Z2	Z2 byte
<UNIC>	(Optional) Indicates if the port connects to the UCP. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<SOAK>	(Optional) OOS-AINS to IS transition soak time as measured in 15-minute intervals. SOAK is an integer.

<SOAKLEFT>	(Optional) Time remaining for the transition from OOS-AINS to IS measured in 1-minute intervals. The format is HH-MM where HH ranges from 00 to 48 and MM ranges from 00 to 59. Rules for <SOAKLEFT> are as follows: - When the port is in OOS, OOS_MT, or IS state, the parameter will not appear. - When the port is in OOS_AINS but the countdown has not started due to a fault signal, the value will be SOAKLEFT=NOT-STARTED. - When the port is in OOS_AINS state and the countdown has started, the value will be shown in HH-MM format.
<SSMRCV>	(Optional) Displays the quality of the individual port. The parameter type is SYNC_CLOCK_REF_QUALITY_LEVEL, which is the clock source quality level for SONET.
• DUS	Do Not Use For Synchronization
• PRS	Primary Reference Source, Stratum 1 Traceable
• RES	Reserved For Network Synchronization Use
• SMC	SONET Minimum Clock Traceable
• ST2	Stratum 2 Traceable
• ST3	Stratum 3 Traceable
• ST3E	Stratum 3E Traceable
• ST4	Stratum 4 Traceable
• STU	Synchronized, Traceability Unknown
• TNC	Transit Node Clock (2nd Generation Only)
<OSPF>	(Optional) The Open Shortest Path First protocol. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<LDCC>	(Optional) The Line DCC connection on the port. The parameter type is EXT_RING, which indicates if the ring supports the extended K1/K2/K3 protocol.
• N	The ring does not support the extended K1/K2/K3 protocol.
• Y	The ring does support the extended K1/K2/K3 protocol.
<NAME>	(Optional) Port Name. NAME is a string.
<LBCL>	(Optional) Displays the current value of the laser current. LBCL is a float.
<OPT>	(Optional) Displays the current value of the transmitted optical power. OPT is only displayed for DWDM cards. OPT is a float.
<OPR>	(Optional) Received optical power. OPR is a float.
<EXPTRC>	(Optional) Expected path trace content. EXPTRC is a string.
<TRC>	(Optional) Path trace message to be transmitted. TRC is a string.
<TRCMODE>	(Optional) Path trace mode. Applicable only to STS-level Paths in SONET. Defaults to the OFF mode. The parameter type is TRCMODE (trace mode).

• AUTO	Use the previously received path trace string as the expected string. Not applicable to MXP/TXP cards.
• AUTO-NO-AIS	Use the previously received path trace string as the expected string and do not turn on alarm indication signal (AIS) and remote defect indication (RDI) if TIM-P is detected.
• MAN	Use the provisioned expected string as the expected string.
• MAN-NO-AIS	Use the provisioned expected string as the expected string and do not turn on AIS and RDI if TIM-P is detected.
• OFF	Turn off path trace capability. Nothing will be reported.
<TRCFORMAT>	(Optional) Trace message size. The parameter type is TRCFORMAT (trace format).
• 1-BYTE	1-byte trace message
• 16-BYTE	16-byte trace message
• 64-BYTE	64-byte trace message
• Y	Enable an attribute.
<ADMSSM>	(Optional) SSM selectable value. Only displayed when SSM is disabled. The parameter type is SYNC_CLOCK_REF_QUALITY_LEVEL, which is the clock source quality level for SONET.
• DUS	Do Not Use For Synchronization
• PRS	Primary Reference Source, Stratum 1 Traceable
• RES	Reserved For Network Synchronization Use
• SMC	SONET Minimum Clock Traceable
• ST2	Stratum 2 Traceable
• ST3	Stratum 3 Traceable
• ST3E	Stratum 3E Traceable
• ST4	Stratum 4 Traceable
• STU	Synchronized, Traceability Unknown
• TNC	Transit Node Clock (2nd Generation Only)
<SENDDUSFF>	(Optional) Indicates that the facility will send the DUS value in 0xff bits pattern as the synchronization status message for that facility. Defaults to N. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<AISONLPBK>	(Optional) AIS on loopback. The parameter type is AIS_ON_LPBK, which indicates whether AIS is sent on a loopback.
• AIS_ON_LPBK_FACILITY	AIS is sent on facility loopbacks.
• AIS_ON_LPBK_ALL	AIS is sent on all loopbacks.
• AIS_ON_LPBK_OFF	AIS is not sent on loopbacks.
• AIS_ON_LPBK_TERMINAL	AIS is sent on terminal loopbacks.
<FREQ>	(Optional) Parameter type is OPTICAL_WLEN (optical wavelength).

23.8 RTRV-<OCN_TYPE>

• 1310	Wavelength 1310
• 1470	Wavelength 1470
• 1490	Wavelength 1490
• 1510	Wavelength 1510
• 1528.77	Wavelength 1528.77
• 1529.16	Wavelength 1529.16
• 1529.55	Wavelength 1529.55
• 1529.94	Wavelength 1529.94
• 1530	Wavelength 1530
• 1530.33	Wavelength 1530.33
• 1530.73	Wavelength 1530.73
• 1531.12	Wavelength 1531.12
• 1531.51	Wavelength 1531.51
• 1531.90	Wavelength 1531.90
• 1532.29	Wavelength 1532.29
• 1532.68	Wavelength 1532.68
• 1533.07	Wavelength 1533.07
• 1533.47	Wavelength 1533.47
• 1533.86	Wavelength 1533.86
• 1534.25	Wavelength 1534.25
• 1534.64	Wavelength 1534.64
• 1535.04	Wavelength 1535.04
• 1535.43	Wavelength 1535.43
• 1535.82	Wavelength 1535.82
• 1536.22	Wavelength 1536.22
• 1536.61	Wavelength 1536.61
• 1537	Wavelength 1537
• 1537.40	Wavelength 1537.40
• 1537.79	Wavelength 1537.79
• 1538.19	Wavelength 1538.19
• 1538.58	Wavelength 1538.58
• 1538.98	Wavelength 1538.98
• 1539.37	Wavelength 1539.37
• 1539.77	Wavelength 1539.77
• 1540.16	Wavelength 1540.16
• 1540.56	Wavelength 1540.56
• 1540.95	Wavelength 1540.95
• 1541.35	Wavelength 1541.35
• 1541.75	Wavelength 1541.75
• 1542.14	Wavelength 1542.14
• 1542.35	Wavelength 1542.35

• 1542.54	Wavelength 1542.54
• 1542.94	Wavelength 1542.94
• 1543.33	Wavelength 1543.33
• 1543.73	Wavelength 1543.73
• 1544.13	Wavelength 1544.13
• 1544.53	Wavelength 1544.53
• 1544.92	Wavelength 1544.92
• 1545.32	Wavelength 1545.32
• 1545.72	Wavelength 1545.72
• 1546.12	Wavelength 1546.12
• 1546.52	Wavelength 1546.52
• 1546.92	Wavelength 1546.92
• 1547.32	Wavelength 1547.32
• 1547.72	Wavelength 1547.72
• 1548.12	Wavelength 1548.12
• 1548.51	Wavelength 1548.51
• 1548.92	Wavelength 1548.92
• 1549.32	Wavelength 1549.32
• 1549.71	Wavelength 1549.71
• 1550	Wavelength 1500
• 1550.12	Wavelength 1550.12
• 1550.52	Wavelength 1550.52
• 1550.92	Wavelength 1550.92
• 1551.32	Wavelength 1551.32
• 1551.72	Wavelength 1551.72
• 1552.12	Wavelength 1552.12
• 1552.52	Wavelength 1552.52
• 1552.93	Wavelength 1552.93
• 1553.33	Wavelength 1553.33
• 1553.73	Wavelength 1553.73
• 1554.13	Wavelength 1554.13
• 1554.13	Wavelength 1554.13
• 1554.94	Wavelength 1554.94
• 1555.34	Wavelength 1555.34
• 1555.75	Wavelength 1555.75
• 1556.15	Wavelength 1556.15
• 1556.55	Wavelength 1556.55
• 1556.96	Wavelength 1556.96
• 1557.36	Wavelength 1557.36
• 1557.77	Wavelength 1557.77
• 1558.17	Wavelength 1558.17

• 1558.58	Wavelength 1558.58
• 1558.98	Wavelength 1558.98
• 1559.39	Wavelength 1559.39
• 1559.79	Wavelength 1559.79
• 1560.20	Wavelength 1560.20
• 1560.61	Wavelength 1560.61
• 1561.01	Wavelength 1561.01
• 1561.42	Wavelength 1561.42
• 1561.83	Wavelength 1561.83
• 1562.23	Wavelength 1562.23
• 1562.64	Wavelength 1562.64
• 1563.05	Wavelength 1563.05
• 1563.45	Wavelength 1563.45
• 1563.86	Wavelength 1563.86
• 1564.27	Wavelength 1564.27
• 1564.68	Wavelength 1564.68
• 1565.09	Wavelength 1565.09
• 1565.50	Wavelength 1565.50
• 1565.90	Wavelength 1565.90
• 1566.31	Wavelength 1566.31
• 1566.72	Wavelength 1566.72
• 1570	Wavelength 1570
• 1570.83	Wavelength 1570.83
• 1571.24	Wavelength 1571.24
• 1571.65	Wavelength 1571.65
• 1572.06	Wavelength 1572.06
• 1572.48	Wavelength 1572.48
• 1572.89	Wavelength 1572.89
• 1573.30	Wavelength 1573.30
• 1573.71	Wavelength 1573.71
• 1574.13	Wavelength 1574.13
• 1574.54	Wavelength 1574.54
• 1574.95	Wavelength 1574.95
• 1575.37	Wavelength 1575.37
• 1575.78	Wavelength 1575.78
• 1576.20	Wavelength 1576.20
• 1576.61	Wavelength 1576.61
• 1577.03	Wavelength 1577.03
• 1577.44	Wavelength 1577.44
• 1577.86	Wavelength 1577.86
• 1578.27	Wavelength 1578.27

• 1578.69	Wavelength 1578.69
• 1579.10	Wavelength 1579.10
• 1579.52	Wavelength 1579.52
• 1579.93	Wavelength 1579.93
• 1580.35	Wavelength 1580.35
• 1580.77	Wavelength 1580.77
• 1581.18	Wavelength 1581.18
• 1581.60	Wavelength 1581.60
• 1582.02	Wavelength 1582.02
• 1582.44	Wavelength 1582.44
• 1582.85	Wavelength 1582.85
• 1583.27	Wavelength 1583.27
• 1583.69	Wavelength 1583.69
• 1584.11	Wavelength 1584.11
• 1584.53	Wavelength 1584.53
• 1584.95	Wavelength 1584.95
• 1585.36	Wavelength 1585.36
• 1585.78	Wavelength 1585.78
• 1586.20	Wavelength 1586.20
• 1586.62	Wavelength 1586.62
• 1587.04	Wavelength 1587.04
• 1587.46	Wavelength 1587.46
• 1587.88	Wavelength 1587.88
• 1588.30	Wavelength 1588.30
• 1588.73	Wavelength 1588.73
• 1589.15	Wavelength 1589.15
• 1589.57	Wavelength 1589.57
• 1589.99	Wavelength 1589.99
• 1590	Wavelength 1590
• 1590.41	Wavelength 1590.41
• 1590.83	Wavelength 1590.83
• 1591.26	Wavelength 1591.26
• 1591.68	Wavelength 1591.68
• 1592.10	Wavelength 1592.10
• 1592.52	Wavelength 1592.52
• 1592.95	Wavelength 1592.95
• 1593.37	Wavelength 1593.37
• 1593.79	Wavelength 1593.79
• 1594.22	Wavelength 1594.22
• 1594.64	Wavelength 1594.64
• 1595.06	Wavelength 1595.06

• 1595.49	Wavelength 1595.49
• 1596.34	Wavelength 1596.34
• 1596.76	Wavelength 1596.76
• 1597.19	Wavelength 1597.19
• 1597.62	Wavelength 1597.62
• 1598.04	Wavelength 1598.04
• 1598.47	Wavelength 1598.47
• 1598.89	Wavelength 1598.89
• 1599.32	Wavelength 1599.32
• 1599.75	Wavelength 1599.75
• 1600.06	Wavelength 1600.06
• 1601.03	Wavelength 1601.03
• 1601.46	Wavelength 1601.46
• 1601.88	Wavelength 1601.88
• 1602.31	Wavelength 1602.31
• 1602.74	Wavelength 1602.74
• 1603.17	Wavelength 1603.17
• 1603.60	Wavelength 1603.60
• 1604.03	Wavelength 1604.03
• 1610	Wavelength 1610
• USE-TWL1	Use Tunable Wavelength 1
<LOSSB>	(Optional) Parameter type is REACH (reach values).
• 100GBASE-LR4	100GBASE-LR4
• 100GBASE-SR10	100GBASE-SR10
• 40GBASE-FR	40GBASE-FR
• 40GBASE-LR4	40GBASE-LR4
• 40GBASE-SR4	Reach supported on 40GIGE payload on CFP-LC card.
• 4I1-9D1F	4I1-9D1F
• C4S1-2D1	C4S1-2D1
• FE-BX	FE-BX
• FX	FX
• GE-BX	GE-BX
• GE-EX	GE-EX
• LX-10	LX-10
• TEN-GE-LRM	TEN-GE-LRM
• TEN-GE-ZR	TEN-GE-ZR
• VSR2000-3R2	VSR2000-3R2
• AUTOPROV	Autoprovisioning
• CX	Reach CX
• CX1	Reach CX1
• DX	Reach DX

• HX	Reach HX
• I1	Reach I1
• IR-1	Reach IR-1
• IR-2	Reach IR-2
• L1	Reach L1
• L2	Reach L2
• L3	Reach L3
• LR-1	Reach LR-1
• LR-2	Reach LR-2
• LR-3	Reach LR-3
• LX	Reach LX
• P1I1-2D1	Long haul 10G Ethernet with 1310 nm wavelength
• P1L1-1D2	Longhaul 2.5G Ethernet with 1550 nm wavelength
• P1L1-2D2	Long haul 10G Ethernet with 1550 nm wavelength
• P1S1-1D1	Shorthaul 2.5G Ethernet with 1310 nm wavelength
• P1S1-2D1	Short haul 10G Ethernet in 1310 nm wavelength
• SC	Reach SC
• S1	Reach S1
• S2	Reach S2
• SR	Reach SR
• SR-1	Reach SR-1
• SX	Reach SX
• T	Reach T
• TEN-GE-ER	10 GE extended range
• TEN-GE-LR	10 GE long range
• TEN-GE-SR	10 GE short range
• VX	Reach VX
• ZX	Reach ZX
<FOREIGNFEND>	(Optional) Indicates whether the far-end NE on the DCC is a foreign NE. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<FOREIGNIPADDRESS>	(Optional) The IP address of the far-end NE on the DCC. Used only if FOREIGNFEND is Y. FOREIGNIPADDRESS is a string.
<SQUELCHMODE>	Shuts down the far-end laser in response to certain defects.
• SQUELCH	Squelch is enabled.
• NONE	No Squelch.
• G-AIS	Generic AIS
<PST_PSTQ>	Administrative state in the PST_PSTQ format. The parameter type is PST_PSTQ, which is the service state of the entity described by the PST and PSTQ.
• IS-NR	In Service and Normal

• OOS-AU	Out of Service and Autonomous
• OOS-AUMA	Out of Service and Autonomous Management
• OOS-MA	Out of Service and Management
<SSTQ>	(Optional) Secondary state of the entity. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AINS	Automatic In-Service
• DSBLD	Disabled
• LPBK	Loopback
• MEA	Mismatch of Equipment
• MT	Maintenance
• OOG	Out of Group
• SWDL	Software Download
• UAS	Unassigned
• UEQ	Unequipped

23.9 RTRV-**<PATH>**

The Retrieve VC3, VC44C, VC38C, VC464C, VC48C, VC4-12C, VC4, VC416C, VC42C, VC43C, VC11, or VC12 (RTRV-**<PATH>**) command retrieves the attributes associated with an VC path. See [Table 29-1 on page 29-1](#) for supported modifiers by platform.

Usage Guidelines

- Supported AIDs are: ALL, SLOT-N (N=1,2,...,ALL), and VC-specific AIDs.
- The SFBER, SDBER, RVRTV, RVTM, HOLDOFTIMER, and SNCPPHSTATE parameters only apply to subnetwork connection protection (SNCP).
- The path trace message is a 64 character string including the terminating carriage return (CR) and line feed (LF) that is transported in the J1 byte of the NCS VC path overhead.
- The EXPTRC indicates the contents of the expected incoming path trace that are provisioned by the user in the ED-VC_PATH command. The TRC indicates the contents of the outgoing path trace message. The INCTRC indicates the contents of the incoming path trace message.
- The path trace mode has three modes: OFF, MANUAL, and AUTO. The mode defaults to OFF. The MANUAL mode compares the received string with the user-entered expected string. The AUTO mode compares the present received string with an expected string set to a previously received string. If there is a mismatch, the TIM-P alarm is raised. When the path trace mode is in OFF mode, there is no path trace processing, and all the alarm and state conditions are reset.
 - When the expected string is queried under the OFF path trace mode, the expected string is a copy of the provisioned string, or NULL. When an expected string is queried under the MANUAL path trace mode, the expected string is a copy of the user entered string. When an expected string is queried under the AUTO path trace mode, the expected string is either a copy of the acquired received string, or NULL if the string has not been acquired.
 - When the incoming string is queried under the OFF path trace mode, the incoming string is NULL. When an incoming string is queried under the MANUAL or AUTO path trace mode, the incoming string is either a copy of the received string, or NULL if the string has not been received.

- J1 (EXPTRC) is implemented on the STM1, STM16AS, STM64, MRC-12, and STM64-XFP cards.
- The optional parameter MSSPRPTHTYPE provides more options to retrieve J1/C2 of a particular MS-SPRing path. This field is valid only if the queried AID port has MS-SPRing. The MSSPRPTHTYPE defaults to NON-PCA path type if the MS-SPRing is switched, or defaults to PCA if there is no MS-SPRing switching.

Sending this command while MSSPRPTHTYPE=PCA, whether there is MS-SPRing switch or not, the protection channel access (PCA) path J1/C2 data will be returned (if there is PCA circuit on the AID). Sending this command with a VC AID without circuits and no MS-SPRing switched on the VC, will return an error message.

- An optional output parameter MSSPRPTHSTATE is introduced into this command output. Each J1/C2 output data of this command will include the MS-SPRing path state information.
- After the MS-SPRing switching, the J1/IPPM/C2 data can be retrieved over the protection path. Provisioning J1 trace string, trace mode, or threshold is not allowed on the protection path.
- HOLDOFFTIMER is not specific to a path. Instead, it is applicable to the SNCP selector.
- To retrieve either the cross-connect points or the test access points (TAPs) on the DS3i-N-12 card, the RTRV-VC3 command with the appropriate AID must be used.
- In LAN to WAN card mode, ALL aid is not supported for RTRV-VC464c.

Category

Paths

Security

Retrieve

Input Format

RTRV-<PATH>:[<TID>]:<AID>:<CTAG>:::[MSSPRPTHTYPE=<MSSPRPTHTYPE>][:];

Input Example

RTRV-VC4:FERNDAL:VC4-2-1-4:238::MSSPRPTHTYPE=NON-PCA;

Table 23-5 Input Parameter Support

Parameter	Description
<AID>	Access identifier from the “27.11 CrossConnectId1” section on page 27-16.
<MSSPRPTHTYPE>	(Optional) The MS-SPRing path type (only if the port is on the MS-SPRing). Defaults to NON-PCA. Applicable only to VC-level paths in NCS. A null value defaults to NON-PCA. The parameter type is MSSPR_PTH_TYPE, which is the MS-SPRing path type only if the port is on the MS-SPRing.
• NON-PCA	The AID is on the working path, or the cross-connection card protection path.
• PCA	The AID is on the MS-SPRing PCA path.

Output Format

SID DATE TIME
M CTAG COMPLD
“<AID>::[LEVEL=<LEVEL>],[SFBER=<SFBER>],[SDBER=<SDBER>],[RVRTV=<RVRTV>],
[RVTM=<RVTM>],[HOLDOFFTIMER=<HOLDOFFTIMER>],
[EXPTRC=<EXPTRC>],[TRC=<TRC>],[INCTRC=<INCTRC>],

```
[TRCMODE=<TRCMODE>],[TACC=<TACC>],[TAPTYPE=<TAPTYPE>],
[SNCPPTHSTATE=<SNCPPTHSTATE>],[C2=<C2>],
[MSSPRPTHSTATE=<MSSPRPTHSTATE>]:<PSTPSTQ>,<SSTQ>]"
;
```

Output Example

```
TID-000 1998-06-20 14:30:00
M 001 COMPLD
"VC4-2-1-4::LEVEL=VC4,SFBER=1E-3,SDBER=1E-5,RVRTV=Y,RVTM=1.0,
HOLDOFFTIMER=2000,EXPTRC="EXPTRCSTRING",TRC="TRCSTRING",
INCTRC="INCTRCSTRING",TRCMODE=AUTO,TACC=8,TAPTYPE=DUAL,
SNCPPTHSTATE=ACT,C2=0X04,
MSSPRPTHSTATE=PROTPTHACT:UNLOCKED-DISABLED,AUTOMATICINSERVICE"
```

Table 23-6 *Output Parameter Support*

Parameter	Description
<AID>	Access identifier from the "27.11 CrossConnectId1" section on page 27-16.
<LEVEL>	(Optional) The rate of the cross-connected channel. Applicable only to High-Order paths (VC4). The parameter type is PATH, which is the modifier for path commands.
• VC3	Synchronous Transport Signal/Module Level-1 (51 Mbps)
• VC44C	Synchronous Transport Signal/Module Level-12 Concatenated (622 Mbps)
• VC38C	Synchronous Transport Signal/Module Level-18 Concatenated (933 Mbps)
• VC464C	Synchronous Transport Signal/Module Level-192 Concatenated (9952 Mbps)
• VC48C	Synchronous Transport Signal/Module Level-24 Concatenated (1240 Mbps)
• VC4	Synchronous Transport Signal/Module Signal Level-3 Concatenated (155 Mbps)
• VC416C	Synchronous Transport Signal/Module Level-48 Concatenated (2488 Mbps)
• VC42C	Synchronous Transport Signal/Module level-6 (310 Mbps)
• VC43C	Synchronous Transport Signal/Module Level-9 Concatenated (465 Mbps)
• VC12	Virtual Tributary 2. Virtual Channel 12
• VC11	Virtual Tributary 1. Virtual Channel 11
<SFBER>	(Optional) A VC path signal failure threshold that only applies to SNCP. Applicable only to High-Order paths. Defaults to 1E-4. The parameter type is SF_BER, which is the threshold for declaring signal failure on a facility or path.
• 1E-3	SFBER is 1E-3.
• 1E-4	SFBER is 1E-4.
• 1E-5	SFBER is 1E-5.
<SDBER>	(Optional) A VC path signal degrade threshold that only applies to SNCP. Applicable only High-Order paths. Defaults 1E-6. The parameter type is SD_BER, which is the threshold for declaring signal degrade on a facility or path.
• 1E-5	SDBER is 1E-5.
• 1E-6	SDBER is 1E-6.
• 1E-7	SDBER is 1E-7.
• 1E-8	SDBER is 1E-8.

Table 23-6 **Output Parameter Support**

Parameter	Description
• 1E-9	SDBER is 1E-9.
<RVRTV>	(Optional) Revertive mode. The value Y indicates that protection switching system reverts service to the original line after restoration. The value N indicates that protection switching system does not revert service to the original line after restoration. RVRTV is applicable only for 1+1 protection switching. Null defaults to N. The parameter type is ON_OFF (disable or enable an attribute).
• N	Does not revert service to original line after restoration.
• Y	Reverts service to original line after restoration.
RVTM	(Optional) Revertive time. Only applies to SNCP. The parameter type is REVERTIVE_TIME (revertive time).
• 0.5 to 12.0	Revertive time is 0.5 to 12.0 minutes.
• N	Disable an attribute.
• Y	Enable an attribute.
<HOLDOFFTIMER>	(Optional) Hold off timer. HOLDOFFTIMER is an integer.
<EXPTRC>	(Optional) Expected path trace content. Indicates the expected path trace message (J1) contents. EXPTRC is any 64-character ASCII string, including the terminating CR and LF. Applicable to VC-level paths (VCn). Defaults to NULL when SNCP path is created. EXPTRC is a string.
<TRC>	(Optional) The path trace message to be transmitted. The trace byte (J1) continuously transmits a 64-byte, fixed length ASCII string, one byte at a time. A null value defaults to the NE transmitting 62 null characters (hex 00) and CR and LF. A null value defaults to the NE transmitting null characters (Hex 00). Applicable to VC-level paths (VCn). TRC is a string.
<INCTRC>	(Optional) The incoming path trace message contents. INCTRC is any combination of 64 characters. Applicable only to VC-level paths in (VCn). Defaults to Null when a SNCP path is created. INCTRC is a string.
<TRCMODE>	(Optional) Path trace mode. Applicable only to VC-level paths (VCn). Defaults to OFF when a SNCP path is created. The parameter type is TRCMODE, which is the trace mode.
• AUTO	Use the previously received path trace string as the expected string (not applicable to MXP_2.5G_10G and TXP_MR_10G cards).
• AUTO-NO-AIS	Use the previously received path trace string as the expected string and do not turn on AIS and RDI if TIMP detected.
• MAN	Use the provisioned expected string as the expected string.
• MAN-NO-AIS	Use the provisioned expected string as the expected string and do not turn on AIS and RDI if TIMP detected.
• OFF	Turn off path trace capability. Nothing will be reported.
<TACC>	(Optional) Test access. Indicates whether the digroup being provisioned is to be used as a test access digroup. Defaults to N.
<TAPTYPE>	(Optional) TAP type. The parameter type is TAPTYPE, which is the test access point type.
• DUAL	Dual facility access digroup (FAD).
• SINGLE	Single FAD
<SNCPPTHSTATE>	(Optional) Indicates whether a given AID is the working or standby path of a SNCP cross-connect. The parameter type is STATUS, which is the status of the unit in the protection pair.

Table 23-6 Output Parameter Support

Parameter	Description
• ACT	The entity is the active unit in the shelf.
• NA	Status is unavailable.
• STBY	The entity is the standby unit in the shelf.
<C2>	(Optional) The C2 byte hex code. Applicable only to VC-level paths (VCn). The parameter type is C2_BYTE, which is the C2 byte hex code.
• 0X00	Unequipped
• 0X01	Equipped-Non Specific payload
• 0X02	VT-Structured VC-1 synchronous payload envelope (SPE)
• 0X03	Locked Virtual Tributary (VT) mode
• 0X04	Asynchronous Mapping for DS3
• 0X12	Asynchronous Mapping for DS4 North American (NA)
• 0X13	Mapping for asynchronous transfer mode (ATM)
• 0X14	Mapping for distributed queue dual bus (DQDB)
• 0X15	Asynchronous Mapping for fiber distributed data interface (FDDI)
• 0X16	High-level data link control (HDLC)-Over-NCS Mapping
• 0XE1	VT-structured VC4-1 SPE with 1VTx payload defect
• 0XE2	VT-structured VC4-1 SPE with 2VTx payload defects
• 0XE3	VT-structured VC4-1 SPE with 3VTx payload defects
• 0XE4	VT-structured VC4-1 SPE with 4VTx payload defects
• 0XE5	VT-structured VC4-1 SPE with 5VTx payload defects
• 0XE6	VT-structured VC4-1 SPE with 6VTx payload defects
• 0XE7	VT-structured VC4-1 SPE with 7VTx payload defects
• 0XE8	VT-structured VC4-1 SPE with 8VTx payload defects
• 0XE9	VT-structured VC4-1 SPE with 9VTx payload defects
• 0XEA	VT-structured VC4-1 SPE with 10VTx payload defects
• 0XEB	VT-structured VC4-1 SPE with 11VTx payload defects
• 0XEC	VT-structured VC4-1 SPE with 12VTx payload defects
• 0XED	VT-structured VC4-1 SPE with 13VTx payload defects
• 0XEE	VT-structured VC4-1 SPE with 14VTx payload defects
• 0XEF	VT-structured VC4-1 SPE with 15VTx payload defects
• 0XF0	VT-structured VC4-1 SPE with 16VTx payload defects
• 0XF1	VT-structured VC4-1 SPE with 17VTx payload defects
• 0XF2	VT-structured VC4-1 SPE with 18VTx payload defects
• 0XF3	VT-structured VC4-1 SPE with 19VTx payload defects
• 0XF4	VT-structured VC4-1 SPE with 20VTx payload defects
• 0XF5	VT-structured VC4-1 SPE with 21VTx payload defects

Table 23-6 Output Parameter Support

Parameter	Description
• 0XF6	VT-structured VC4-1 SPE with 22VTx payload defects
• 0XF7	VT-structured VC4-1 SPE with 23VTx payload defects
• 0XF8	VT-structured VC4-1 SPE with 24VTx payload defects
• 0XF9	VT-structured VC4-1 SPE with 25VTx payload defects
• 0XFA	VT-structured VC4-1 SPE with 26VTx payload defects
• 0XFB	VT-structured VC4-1 SPE with 27VTx payload defects
• 0XFC	VT-structured VC4-1 SPE with 28VTx payload defects
• 0XFE	O.181 Test Signal (TSS1 to TSS3) Mapping
• 0XFF	Reserved. C2 is 0XFF if AIS-L is being generated by an optical card or cross-connect downstream.
<MSSPRPTHSTAT E>	(Optional) The MS-SPRing path state only if the port is on the MS-SPRing. Applicable only to VC-level paths in NCS (VCn). The parameter type is MSSPR_PTH_STATE, which is the MS-SPRing path state only if the port is on the MS-SPRing.
• PCAPTHACT	Indicates that the MS-SPRing switched and its PCA path is in the active state.
• PCAPTHSTB	Indicates that the MS-SPRing switched and its PCA path is in the standby state.
• PROTPTHACT	Indicates that the MS-SPRing switched and its protection path is in the active state.
• WKGPTHACT	Indicates that the MS-SPRing switched and its working path is in the active state.
• WKGPTHSTB	Indicates that the MS-SPRing switched and its working path is in the standby state.
<PSTPSTQ>	Administrative state in the PST_PSTQ format. The parameter type is PST_PSTQ, which is the service state of the entity described by the PST and the PSTQ.
• Unlocked-Enabled	In service and normal
• Unlocked-Disabled	Out of service and autonomous
• Locked-Disabled	Out of service, autonomous and management
• Locked-Enabled	Out of service and management
<SSTQ>	(Optional) Secondary state of the entity. the parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AutomaticInService	Automatic in service
• Disabled	Disabled
• Loopback	Loopback
• MismatchofEquipmentAlarm	Mismatch of equipment and attributes
• Maintenance	Maintenance mode
• OutOfGroup	Out of group
• SoftwareDownload	Software downloading
• Unassigned	Unassigned
• NotInstalled	Unequipped

23.10 RTRV-<STM_TYPE>

The Retrieve (STM1, STM4, STM16, STM64) command retrieves the attributes (such as service parameters) and the state of an STM facility. See [Table 29-1 on page 29-1](#) for supported modifiers by platform.

Usage Guidelines

- Both RINGID and MSSPRTYPE identify the STM port connected with a MS-SPRing. These attributes are only presented for the STM4, STM16, and STM64 ports within a MS-SPRing connection. The RTRV-<MOD_RING> command with the AID MSSPR-RINGID, can provide more information on this MS-SPRing.
- This command does not show the WVLEN attribute if the STM port has zero value on WVLEN.

Category

Ports

Security

Retrieve

Input Format

RTRV-<STM_TYPE>:[<TID>]:<AID>:<CTAG>[:];

Input Example

RTRV-STM16:PENNGROVE:FAC-6-1:236;

Input Parameters

<AID> Access identifier from the [“27.15 FACILITY” section on page 27-23](#).

Output Format

```
SID DATE TIME
M CTAG COMPLD
“<AID>:.,[<ROLE>],[<STATUS>]:[RSDCC=<RSDCC>],[AREA=<AREA>],
[TMGREF=<TMGREF>],[SYNCSMSG=<SYNCSMSG>],[SENDDUS=<SENDDUS>],
[PJMON=<PJMON>],[SFBER=<SFBER>],[SDBER=<SDBER>],[MODE=<MODE>],
[WVLEN=<WVLEN>],[RINGID=<RINGID>],[MSSPRTYPE=<MSSPRTYPE>],
[MUX=<MUX>],[UNIC=<UNIC>],[CCID=<CCID>],[NBRIX=<NBRIX>],[SOAK=<SOAK>],
[SOAKLEFT=<SOAKLEFT>],[SSMRCV=<SSMRCV>],[OSPF=<OSPF>],
[MSDCC=<MSDCC>],[NAME=<NAME>],[LBCL=<LBCL>],[OPT=<OPT>],[OPR=<OPR>],
[EXPTRC=<EXPTRC>],[TRC=<TRC>],[TRCMODE=<TRCMODE>],
[TRCFORMAT=<TRCFORMAT>],[ADMSSM=<ADMSSM>],[SENDDUSFF=<SENDDUSFF>],
[AISONLPBK=<AISONLPBK>],[FREQ=<FREQ>],[LOSSB=<LOSSB>],
[FOREIGNFEND=<FOREIGNFEND>],[FOREIGNIPADDRESS=<FOREIGNIPADDRESS>],
[SQUELCHMODE=<SQUELCHMODE>],[<PSTPSTQ>],[<SSTQ>]”
;
```

Output Example

```
TID-000 1998-06-20 14:30:00
M 001 COMPLD
“FAC-6-1:.,WORK,ACT:RSDCC=Y,AREA=10.92.63.1,TMGREF=N,SYNCSMSG=N,SENDDUS=N,
```

PJMON=48,SFBER=1E-4,SDBER=1E-6,MODE=SINGLESHELF,WVLEN=1310.00,RINGID=43,
 MSSPRTYPE=WESTWORK,MUX=E2,UNIC=Y,CCID=8,NBRIX=2,SOAK=52,
 SOAKLEFT=12-25,SSMRCV=STU_NCS,OSPF=Y,MSDCC=Y,NAME=\“STM PORT\”,
 LBCL=10.0,OPT=10.0,OPR=10.0, EXPTRC=“AAA”,TRC=“AAA”,TRCMODE=MAN,
 TRCFORMAT=16-BYTE,ADMSSM=G811, SENDDUSFF=N,
 AISONLPBK=AIS_ON_LPBK_ALL,FREQ=1550,LOSSB=LR-1,FOREIGNFEND=Y,
 FOREIGNPADDRESS=10.92.63.44,UNLOCKED-DISABLED,AUTOMATICINSERVICE”;

Table 23-7 Output Parameter Support

Parameter	Description
<AID>	Access identifier from the “27.15 FACILITY” section on page 27-23.
<ROLE>	(Optional) An STM port role. The parameter type is SIDE, which is the role the unit is playing in the protection group.
• PROT	The entity is a protection unit in the protection group.
• ACT	The entity is the active unit in the shelf.
• NA	Status is unavailable.
• STBY	The entity is the standby unit in the shelf.
<RSDCC>	(Optional) Indicates whether or not the regenerator section DCC (RS-DCC) is to be used. The parameter type is EXT_RING, which indicates if the ring supports the extended K1/K2/K3 protocol.
• N	The ring does not support the extended K1/K2/K3 protocol.
• Y	The ring does support the extended K1/K2/K3 protocol.
<AREA>	(Optional) Area ID. Shows up only if the DCC is enabled. AREA is a string.
<TMGREF>	(Optional) The termination to be used, whether primary or secondary. Identifies if an STM port has a timing reference. Defaults to N. The parameter type is ON_OFF (disable or enable an attribute)
• N	Disable an attribute.
• Y	Enable an attribute.
<SYNMSG>	(Optional) Synchronization status message. The parameter type is EXT_RING, which indicates if the ring supports the extended K1/K2/K3 protocol.
• N	The ring does not support the extended K1/K2/K3 protocol.
• Y	The ring does support the extended K1/K2/K3 protocol.
<SENDDUS>	(Optional) The facility will send the Do Not Use for Synchronization (DUS) value in 0x0f bit pattern as the synchronization status message for that facility. Defaults to N. The parameter type is ON_OFF (disable or enable an attribute)
• N	Disable an attribute.
• Y	Enable an attribute.
<PJMON>	(Optional) Identifies an STM port PJMON. Defaults to 0 (zero). PJMON is an integer. Set a valid VC4 number of the optical port. Note The PJMON number displayed in TL1 interface does not correspond to the PJVC4MON number in CTC, but instead corresponds to the VC4 number of the optical port.
<SFBER>	(Optional) An STM port signal failure threshold. Defaults to 1E-4. The parameter type is SF_BER, which is the threshold for declaring signal failure on a facility or path.
• 1E-3	SFBER is 1E-3.
• 1E-4	SFBER is 1E-4.

23.10 RTRV-<STM_TYPE>

• N	Disable an attribute.
• Y	Enable an attribute.
<SYNCSMSG>	(Optional) Synchronization status message. The parameter type is EXT_RING, which indicates if the ring supports the extended K1/K2/K3 protocol.
• N	The ring does not support the extended K1/K2/K3 protocol.
• Y	The ring does support the extended K1/K2/K3 protocol.
<SENDDUS>	(Optional) The facility will send the Do Not Use for Synchronization (DUS) value in 0x0f bit pattern as the synchronization status message for that facility. Defaults to N. The parameter type is ON_OFF (disable or enable an attribute)
• -N	Disable an attribute.
• -Y	Enable an attribute.
<PJMOM>	(Optional) Identifies an STM port PJMOM. Defaults to 0 (zero). PJMOM is an integer. Set a valid VC4 number of the optical port.
	Note The PJMOM number displayed in TL1 interface does not correspond to the PIVC4MOM number in CTC, but instead corresponds to the VC4 number of the optical port.
<SEBER>	(Optional) An STM port signal failure threshold. Defaults to 1E-4. The parameter type is SF_BER, which is the threshold for declaring signal failure on a facility or path.
• 1E-3	SFBER is 1E-3.
• 1E-4	SFBER is 1E-4.

Table 23-7 Output Parameter Support

Parameter	Description
<RINGID>	(Optional) The MS-SPRing RINGID with which the port is connected. RINGID ranges from 0 to 9999. RINGID is an integer.
<MSSPRTYPE>	(Optional) The MS-SPRing type with which the port is connected. The parameter type is MSSPR_TYPE, which is the MS-SPRing type of an STM port.
• EASTPROT	The STM port is an east protecting port.
• EASTWORK	The STM port is an east working port.
• WESTPROT	The STM port is an west protecting port.
• WESTWORK	The STM port is an west working port.
<MUX>	(Optional) MS-SPRing extension byte. The parameter type is MUX_TYPE, which is the MS-SPRing extension byte.
• E2	E2 byte (orderwire)
• F1	F1 byte (user)
• K3	K3 byte
• Z2	Z2 byte
<SOAK>	(Optional) Locked-AutomaticInService to Unlocked transition soak time as measured in 15-minute intervals. SOAK is an integer.
<SOAKLEFT>	(Optional) Time remaining for the transition from Locked-AutomaticInService to Unlocked measured in 1 minute intervals. The format is HH-MM where HH ranges from 00 to 48 and MM ranges from 00 to 59. Rules for <SOAKLEFT> are: - When the port is in Locked, Locked_Maintenance or Unlocked state, the parameter will not appear. - When the port is in Locked_AutomaticInService, but the countdown has not started due to fault signal the value will be SOAKLEFT=NOT-STARTED. - When the port is in Locked_AutomaticInService state and the countdown has started the value will be shown in HH-MM format.
<SSMRCV>	(Optional) Displays the quality of the individual port. The parameter type is SYNC_CLOCK_REF_QUALITY_LEVEL, which is the clock source quality level for NCS.
• DUS_NCS	Do Not Use For Synchronization
• G811	G811 Standard
• RES_NCS	Reserved For Network Synchronization Use
• G812T	G812T Standard
• STU_NCS	Synchronized, Traceability Unknown
• G812TL	G812TL Standard
• SETS	Synchronous Equipment Timing Source
<OSPF>	(Optional) The Open Shortest Path First discovery. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.

Table 23-7 Output Parameter Support

Parameter	Description
<MS-DCC>	(Optional) The line DCC connection on the port. The parameter type is EXT_RING, which indicates if the ring supports the extended K1/K2/K3 protocol.
• N	The ring does not support the extended K1/K2/K3 protocol.
• Y	The ring does support the extended K1/K2/K3 protocol.
<NAME>	(Optional) Port Name. NAME is a string.
<LBCL>	(Optional) Displays the current value of the laser current. LBCL is a float.
<OPT>	(Optional) Displays the current value of the transmitted optical power. OPT is only displayed for NCS cards. OPT is a float.
<OPR>	(Optional) Received optical power. OPR is a float.
<EXPTRC>	(Optional) Expected path trace content. EXPTRC is a string.
<TRC>	(Optional) Path trace message to be transmitted. TRC is a string.
<TRCMODE>	(Optional) Path trace mode. Applicable only to VC-level Paths in NCS (VCn). Defaults to the OFF mode. The parameter type is TRCMODE (trace mode).
• AUTO	Use the previously received path trace string as the expected string. Not applicable to MXP/TXP cards.
• AUTO-NO-AIS	Use the previously received path trace string as the expected string and do not turn on AIS and RDI if TIMP is detected.
• MAN	Use the provisioned expected string as the expected string.
• MAN-NO-AIS	Use the provisioned expected string as the expected string and do not turn on AIS and RDI if TIMP is detected.
• OFF	Turn off path trace capability. Nothing will be reported.
<TRCFORMAT>	(Optional) Trace message size. The parameter type is TRCFORMAT, which is the trace format.
• 1-BYTE	1 byte trace message
• 16-BYTE	16 byte trace message
• 64-BYTE	64 byte trace message
• Y	Enable an attribute
<ADMSSM>	(Optional) SSM selectable value. Only displayed when SSM is disabled. The parameter type is SYNC_CLOCK_REF_QUALITY_LEVEL, which is the clock source quality level for NCS.
• DUS_NCS	Do Not Use For Synchronization
• G811	G811 Standard
• RES_NCS	Reserved For Network Synchronization Use
• G812T	G812T Standard
• STU_NCS	Synchronized, Traceability Unknown
• G812TL	G812TL Standard
• SETS	Synchronous Equipment Timing Source
<SENDDUSFF>	(Optional) Indicates that the facility will send the DUS value in 0xff bits pattern as the synchronization status message for that facility. Defaults to N. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute

Table 23-7 **Output Parameter Support**

Parameter	Description
• Y	Enable an attribute
<AISONLPBK>	(Optional) The parameter type is AIS_ON_LPBK, which indicates if AIS should be sent on loopback.
• AIS_ONLPBK_FACILITY	AIS is sent on facility loopback.
• AIS_ON_LPBK_ALL	AIS is sent on all loopbacks.
• AIS_ON_LPBK_OFF	AIS is not sent on loopback.
• AIS_ON_LPBK_TERMINAL	AIS is sent on terminal loopback.
<FREQ>	(Optional) The parameter type is OPTICAL_WLEN, which is the optical wavelength.
• 1310	Wavelength 1310
• 1470	Wavelength 1470
• 1490	Wavelength 1490
• 1510	Wavelength 1510
• 1529.55	Wavelength 1529.55
• 1529.94	Wavelength 1529.94
• 1530	Wavelength 1530
• 1530.33	Wavelength 1530.33
• 1530.73	Wavelength 1530.73
• 1531.12	Wavelength 1531.12
• 1531.51	Wavelength 1531.51
• 1531.90	Wavelength 1531.90
• 1532.29	Wavelength 1532.29
• 1532.68	Wavelength 1532.68
• 1533.07	Wavelength 1533.07
• 1533.47	Wavelength 1533.47
• 1533.86	Wavelength 1533.86
• 1534.25	Wavelength 1534.25
• 1534.64	Wavelength 1534.64
• 1535.04	Wavelength 1535.04
• 1535.43	Wavelength 1535.43
• 1535.82	Wavelength 1535.82
• 1536.22	Wavelength 1536.22
• 1536.61	Wavelength 1536.61
• 1537	Wavelength 1537
• 1537.40	Wavelength 1537.40

Table 23-7 **Output Parameter Support**

Parameter	Description
• 1537.79	Wavelength 1537.79
• 1538.19	Wavelength 1538.19
• 1538.58	Wavelength 1538.58
• 1538.98	Wavelength 1538.98
• 1539.37	Wavelength 1539.37
• 1539.77	Wavelength 1539.77
• 1540.16	Wavelength 1540.16
• 1540.56	Wavelength 1540.56
• 1540.95	Wavelength 1540.95
• 1541.35	Wavelength 1541.35
• 1541.75	Wavelength 1541.75
• 1542.14	Wavelength 1542.14
• 1542.35	Wavelength 1542.35
• 1542.54	Wavelength 1542.54
• 1542.94	Wavelength 1542.94
• 1543.33	Wavelength 1543.33
• 1543.73	Wavelength 1543.73
• 1544.13	Wavelength 1544.13
• 1544.53	Wavelength 1544.53
• 1544.92	Wavelength 1544.92
• 1545.32	Wavelength 1545.32
• 1545.72	Wavelength 1545.72
• 1546.12	Wavelength 1546.12
• 1546.52	Wavelength 1546.52
• 1546.92	Wavelength 1546.92
• 1547.32	Wavelength 1547.32
• 1547.72	Wavelength 1547.72
• 1548.12	Wavelength 1548.12
• 1548.51	Wavelength 1548.51
• 1548.92	Wavelength 1548.92
• 1549.32	Wavelength 1549.32
• 1549.71	Wavelength 1549.71
• 1550	Wavelength 1500
• 1550.12	Wavelength 1550.12
• 1550.52	Wavelength 1550.52
• 1550.92	Wavelength 1550.92

Table 23-7 **Output Parameter Support**

Parameter	Description
• 1551.32	Wavelength 1551.32
• 1551.72	Wavelength 1551.72
• 1552.12	Wavelength 1552.12
• 1552.52	Wavelength 1552.52
• 1552.93	Wavelength 1552.93
• 1553.33	Wavelength 1553.33
• 1553.73	Wavelength 1553.73
• 1554.13	Wavelength 1554.13
• 1554.13	Wavelength 1554.13
• 1554.94	Wavelength 1554.94
• 1555.34	Wavelength 1555.34
• 1555.75	Wavelength 1555.75
• 1556.15	Wavelength 1556.15
• 1556.55	Wavelength 1556.55
• 1556.96	Wavelength 1556.96
• 1557.36	Wavelength 1557.36
• 1557.77	Wavelength 1557.77
• 1558.17	Wavelength 1558.17
• 1558.58	Wavelength 1558.58
• 1558.98	Wavelength 1558.98
• 1559.39	Wavelength 1559.39
• 1559.79	Wavelength 1559.79
• 1560.20	Wavelength 1560.20
• 1560.61	Wavelength 1560.61
• 1561.01	Wavelength 1561.01
• 1561.42	Wavelength 1561.42
• 1561.83	Wavelength 1561.83
• 1570	Wavelength 1570
• 1570.83	Wavelength 1570.83
• 1571.24	Wavelength 1571.24
• 1571.65	Wavelength 1571.65
• 1572.06	Wavelength 1572.06
• 1572.48	Wavelength 1572.48
• 1572.89	Wavelength 1572.89
• 1573.30	Wavelength 1573.30
• 1573.71	Wavelength 1573.71

Table 23-7 **Output Parameter Support**

Parameter	Description
• 1574.13	Wavelength 1574.13
• 1574.54	Wavelength 1574.54
• 1574.95	Wavelength 1574.95
• 1575.37	Wavelength 1575.37
• 1575.78	Wavelength 1575.78
• 1576.20	Wavelength 1576.20
• 1576.61	Wavelength 1576.61
• 1577.03	Wavelength 1577.03
• 1577.44	Wavelength 1577.44
• 1577.86	Wavelength 1577.86
• 1578.27	Wavelength 1578.27
• 1578.69	Wavelength 1578.69
• 1579.10	Wavelength 1579.10
• 1579.52	Wavelength 1579.52
• 1579.93	Wavelength 1579.93
• 1580.35	Wavelength 1580.35
• 1580.77	Wavelength 1580.77
• 1581.18	Wavelength 1581.18
• 1581.60	Wavelength 1581.60
• 1582.02	Wavelength 1582.02
• 1582.44	Wavelength 1582.44
• 1582.85	Wavelength 1582.85
• 1583.27	Wavelength 1583.27
• 1583.69	Wavelength 1583.69
• 1584.11	Wavelength 1584.11
• 1584.53	Wavelength 1584.53
• 1584.95	Wavelength 1584.95
• 1585.36	Wavelength 1585.36
• 1585.78	Wavelength 1585.78
• 1586.20	Wavelength 1586.20
• 1586.62	Wavelength 1586.62
• 1587.04	Wavelength 1587.04
• 1587.46	Wavelength 1587.46
• 1587.88	Wavelength 1587.88
• 1588.30	Wavelength 1588.30
• 1588.73	Wavelength 1588.73

Table 23-7 **Output Parameter Support**

Parameter	Description
• 1589.15	Wavelength 1589.15
• 1589.57	Wavelength 1589.57
• 1589.99	Wavelength 1589.99
• 1590	Wavelength 1590
• 1590.41	Wavelength 1590.41
• 1590.83	Wavelength 1590.83
• 1591.26	Wavelength 1591.26
• 1591.68	Wavelength 1591.68
• 1592.10	Wavelength 1592.10
• 1592.52	Wavelength 1592.52
• 1592.95	Wavelength 1592.95
• 1593.37	Wavelength 1593.37
• 1593.79	Wavelength 1593.79
• 1594.22	Wavelength 1594.22
• 1594.64	Wavelength 1594.64
• 1595.06	Wavelength 1595.06
• 1595.49	Wavelength 1595.49
• 1596.34	Wavelength 1596.34
• 1596.76	Wavelength 1596.76
• 1597.19	Wavelength 1597.19
• 1597.62	Wavelength 1597.62
• 1598.04	Wavelength 1598.04
• 1598.47	Wavelength 1598.47
• 1598.89	Wavelength 1598.89
• 1599.32	Wavelength 1599.32
• 1599.75	Wavelength 1599.75
• 1600.06	Wavelength 1600.06
• 1601.03	Wavelength 1601.03
• 1601.46	Wavelength 1601.46
• 1601.88	Wavelength 1601.88
• 1602.31	Wavelength 1602.31
• 1602.74	Wavelength 1602.74
• 1603.17	Wavelength 1603.17
• 1603.60	Wavelength 1603.60
• 1604.03	Wavelength 1604.03
• 1610	Wavelength 1610

Table 23-7 Output Parameter Support

Parameter	Description
• USE-TWL1	Use Tunable Wavelength 1
<LOSSB>	(Optional) The parameter type is REACH, which is the reach value.
• AUTOPROV	Autoprovisioning
• 40GBASE-SR4	Reach supported on 40GIGE payload on CFP-LC card.
• CX	Reach CX
• CX1	Reach CX1
• DX	Reach DX
• HX	Reach HX
• I1	Reach I1
• IR-1	Reach IR-1
• IR-2	Reach IR-2
• L1	Reach L1
• L2	Reach L2
• L3	Reach L3
• LR-1	Reach LR-1
• LR-2	Reach LR-2
• LR-3	Reach LR-3
• LX	Reach LX
• S1	Reach S1
• S2	Reach S2
• SR	Reach SR
• SR-1	Reach SR-1
• SX	Reach SX
• T	Reach T
• TEN-GE-ER	10 GE extended range
• TEN-GE-LR	10 GE long range
• TEN-GE-SR	10 GE short range
• VX	Reach VX
• ZX	Reach ZX
<FOREIGNFEND>	(Optional) Indicates whether the far-end NE on the DCC is a foreign NE. The parameter type is ON_OFF (disable or enabled an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<FOREIGNIP>	(Optional) The IP address of the far-end NE on the DCC. Used only if FOREIGNFEND is Y. FOREIGNIP is a string.
<SQUELCHMODE>	Shuts down the far-end laser in response to certain defects.

Table 23-7 **Output Parameter Support**

Parameter	Description
• SQUELCH	Squelch is enabled.
• NONE	No Squelch
• G-AIS	Generic AIS
<PSTPSTQ>	(Optional) Administrative state in the PST_PSTQ format. The parameter type is PST_PSTQ, which is the service state of the entity described by the PST and PSTQ.
• Unlocked-Enabled	In service and normal
• Unlocked-Disabled	Out of service and autonomous
• Locked-Disabled	Out of service, autonomous and management
• Locked-Enabled	Out of service and management
<SSTQ>	(Optional) The secondary state of the entity. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AutomaticInService	Automatic in service
• Disabled	Disabled
• Loopback	Loopback
• MismatchofEquipmentAlarm	Mismatch of equipment and attributes
• Maintenance	Maintenance mode
• OutOfGroup	Out of group
• SoftwareDownload	Software downloading
• Unassigned	Unassigned
• NotInstalled	Unequipped

23.11 RTRV-10GIGE

The Retrieve 10GIGE (RTRV-10GIGE) command retrieves the 10-Gbps-specific parameters for a port that has been configured to support the Gigabit Ethernet payload with the ENT-10GIGE command.

Usage Guidelines None

Category Ports

Security Retrieve

Input Format RTRV-10GIGE:[<TID>]:<AID>:<CTAG>[:];

Input Example RTRV-10GIGE::VLINE-2-1-1-2:1;

Input Parameters <AID> Access identifier from the [“27.15 FACILITY” section on page 27-23](#).

Output Format SID DATE TIME
M CTAG COMPLD
“<AID>:.,[<ROLE>],[<STATUS>]:[NAME=<NAME>],[MACADDR=<MACADDR>],
[LBCL=<LBCL>],[OPT=<OPT>],[OPR=<OPR>],[FREQ=<FREQ>],[LOSSB=<LOSSB>]:
<PSTPSTQ>,[<SST>]”
;

Output Examples 100g 2012-05-21 12:40:14
M 1 COMPLD

"VFAC-1-6-1-1:.,WORK,STBY:MTU=1548,MACADDR=1c-93-87-e0-01-a9,SOAK=32,ENCAP=CB
R,SYNMSG=N,SENDDUS=N,ADMSSM=STU,PROVIDESYNC=N,:OOS-MA,DSBLD"
;

Table 23-8 Output Parameter Support

Parameter	Description
<AID>	Access identifier from the “27.15 FACILITY” section on page 27-23 . VLINE is the AID for 10x10G-LC card.
<ROLE>	(Optional) The port role in a Y-cable protection scheme. The parameter type is SIDE, which is the role the unit is playing in the protection group.
• STBY	The entity is the standby unit in the shelf.
<NAME>	(Optional) Port name. NAME is a string.
<MTU>	
<ENCAP>	
<ENCAP>	(Optional) Frame encapsulation type. The parameter type is ENCAP, which is the frame encapsulation type.
• GFP	GFP frame mode
• HDLC	HDLC frame mode
• WIS	
• CBR	
• TRP	
<SOAK>	(Optional) Locked-AutomaticInService to Unlocked transition soak time as measured in 15-minute intervals.

Table 23-8 **Output Parameter Support**

Parameter	Description
<SYNCMSG>	(Optional) Indicates if the BITS facility supports synchronization status message. Default is on (Y). The parameter type is EXT_RING, which indicates if the ring supports the extended K1/K2/K3 protocol.
• N	The ring does not support the extended K1/K2/K3 protocol.
• Y	The ring does support the extended K1/K2/K3 protocol.
<SENDDUS>	(Optional) The facility sends out a Do Not Use for Synchronization Message. This does not apply to the TXPD-10G card. This applies to an MXPD-10G card only if the payload is NCS and the card termination mode is as follows: - TRANSPARENT: All client ports are available for all timing selections. No trunk ports are available. - LINE: All ports are available for all timing selections. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<ADMSSM>	(Optional) SSM selectable. Only applicable to BITS-IN when SSM is disabled. The parameter type is SYNC_CLOCK_REF_QUALITY_LEVEL, which is the clock source quality level for NCS.
• DUS_NCS	Do Not Use For Synchronization
• G811	ITU-T G.811 Standard
• RES_NCS	Reserved For Network Synchronization Use
• G812T	ITU-T G.812T Standard
• STU_NCS	Synchronized, Traceability Unknown
• G812TL	ITU-T G.812TL Standard
• SETS	Synchronous Equipment Timing Source
<PROVIDESYNC>	(Optional) Indicates whether the facility provides synchronization. Defaults to N.
• Y	Yes
• N	No
<MACADDR>	(Optional) The MAC address for the 10 Gigabit Ethernet payload. MACADDR is a string.
<LBCL>	(Optional) Displays the current value of the laser current. LBCL is a float.
<OPT>	(Optional) Displays the current value of the transmitted optical power. OPT is a float.
<OPR>	(Optional) Displays the current value of the received optical power. OPR is a float.
<FREQ>	(Optional) The parameter type is OPTICAL_WLEN, which is the optical wavelength.
• 1310	Wavelength 1310
• 1470	Wavelength 1470
• 1490	Wavelength 1490
• 1510	Wavelength 1510
• 1528.77	Wavelength 1528.77

Table 23-8 **Output Parameter Support**

Parameter	Description
• 1529.55	Wavelength 1529.55
• 1529.94	Wavelength 1529.94
• 1530	Wavelength 1530
• 1530.33	Wavelength 1530.33
• 1530.73	Wavelength 1530.73
• 1531.12	Wavelength 1531.12
• 1531.51	Wavelength 1531.51
• 1531.90	Wavelength 1531.90
• 1532.29	Wavelength 1532.29
• 1532.68	Wavelength 1532.68
• 1533.07	Wavelength 1533.07
• 1533.47	Wavelength 1533.47
• 1533.86	Wavelength 1533.86
• 1534.25	Wavelength 1534.25
• 1534.64	Wavelength 1534.64
• 1535.04	Wavelength 1535.04
• 1535.43	Wavelength 1535.43
• 1535.82	Wavelength 1535.82
• 1536.22	Wavelength 1536.22
• 1536.61	Wavelength 1536.61
• 1537	Wavelength 1537
• 1537.40	Wavelength 1537.40
• 1537.79	Wavelength 1537.79
• 1538.19	Wavelength 1538.19
• 1538.58	Wavelength 1538.58
• 1538.98	Wavelength 1538.98
• 1539.37	Wavelength 1539.37
• 1539.77	Wavelength 1539.77
• 1540.16	Wavelength 1540.16
• 1540.56	Wavelength 1540.56
• 1540.95	Wavelength 1540.95
• 1541.35	Wavelength 1541.35
• 1541.75	Wavelength 1541.75
• 1542.14	Wavelength 1542.14
• 1542.35	Wavelength 1542.35
• 1542.54	Wavelength 1542.54

Table 23-8 **Output Parameter Support**

Parameter	Description
• 1542.94	Wavelength 1542.94
• 1543.33	Wavelength 1543.33
• 1543.73	Wavelength 1543.73
• 1544.13	Wavelength 1544.13
• 1544.53	Wavelength 1544.53
• 1544.92	Wavelength 1544.92
• 1545.32	Wavelength 1545.32
• 1545.72	Wavelength 1545.72
• 1546.12	Wavelength 1546.12
• 1546.52	Wavelength 1546.52
• 1546.92	Wavelength 1546.92
• 1547.32	Wavelength 1547.32
• 1547.72	Wavelength 1547.72
• 1548.12	Wavelength 1548.12
• 1548.51	Wavelength 1548.51
• 1548.92	Wavelength 1548.92
• 1549.32	Wavelength 1549.32
• 1549.71	Wavelength 1549.71
• 1550	Wavelength 1500
• 1550.12	Wavelength 1550.12
• 1550.52	Wavelength 1550.52
• 1550.92	Wavelength 1550.92
• 1551.32	Wavelength 1551.32
• 1551.72	Wavelength 1551.72
• 1552.12	Wavelength 1552.12
• 1552.52	Wavelength 1552.52
• 1552.93	Wavelength 1552.93
• 1553.33	Wavelength 1553.33
• 1553.73	Wavelength 1553.73
• 1554.13	Wavelength 1554.13
• 1554.13	Wavelength 1554.13
• 1554.94	Wavelength 1554.94
• 1555.34	Wavelength 1555.34
• 1555.75	Wavelength 1555.75
• 1556.15	Wavelength 1556.15
• 1556.55	Wavelength 1556.55

Table 23-8 **Output Parameter Support**

Parameter	Description
• 1556.96	Wavelength 1556.96
• 1557.36	Wavelength 1557.36
• 1557.77	Wavelength 1557.77
• 1558.17	Wavelength 1558.17
• 1558.58	Wavelength 1558.58
• 1558.98	Wavelength 1558.98
• 1559.39	Wavelength 1559.39
• 1559.79	Wavelength 1559.79
• 1560.20	Wavelength 1560.20
• 1560.61	Wavelength 1560.61
• 1561.01	Wavelength 1561.01
• 1561.42	Wavelength 1561.42
• 1561.83	Wavelength 1561.83
• 1570	Wavelength 1570
• 1570.83	Wavelength 1570.83
• 1571.24	Wavelength 1571.24
• 1571.65	Wavelength 1571.65
• 1572.06	Wavelength 1572.06
• 1572.48	Wavelength 1572.48
• 1572.89	Wavelength 1572.89
• 1573.30	Wavelength 1573.30
• 1573.71	Wavelength 1573.71
• 1574.13	Wavelength 1574.13
• 1574.54	Wavelength 1574.54
• 1574.95	Wavelength 1574.95
• 1575.37	Wavelength 1575.37
• 1575.78	Wavelength 1575.78
• 1576.20	Wavelength 1576.20
• 1576.61	Wavelength 1576.61
• 1577.03	Wavelength 1577.03
• 1577.44	Wavelength 1577.44
• 1577.86	Wavelength 1577.86
• 1578.27	Wavelength 1578.27
• 1578.69	Wavelength 1578.69
• 1579.10	Wavelength 1579.10
• 1579.52	Wavelength 1579.52

Table 23-8 **Output Parameter Support**

Parameter	Description
• 1579.93	Wavelength 1579.93
• 1580.35	Wavelength 1580.35
• 1580.77	Wavelength 1580.77
• 1581.18	Wavelength 1581.18
• 1581.60	Wavelength 1581.60
• 1582.02	Wavelength 1582.02
• 1582.44	Wavelength 1582.44
• 1582.85	Wavelength 1582.85
• 1583.27	Wavelength 1583.27
• 1583.69	Wavelength 1583.69
• 1584.11	Wavelength 1584.11
• 1584.53	Wavelength 1584.53
• 1584.95	Wavelength 1584.95
• 1585.36	Wavelength 1585.36
• 1585.78	Wavelength 1585.78
• 1586.20	Wavelength 1586.20
• 1586.62	Wavelength 1586.62
• 1587.04	Wavelength 1587.04
• 1587.46	Wavelength 1587.46
• 1587.88	Wavelength 1587.88
• 1588.30	Wavelength 1588.30
• 1588.73	Wavelength 1588.73
• 1589.15	Wavelength 1589.15
• 1589.57	Wavelength 1589.57
• 1589.99	Wavelength 1589.99
• 1590	Wavelength 1590
• 1590.41	Wavelength 1590.41
• 1590.83	Wavelength 1590.83
• 1591.26	Wavelength 1591.26
• 1591.68	Wavelength 1591.68
• 1592.10	Wavelength 1592.10
• 1592.52	Wavelength 1592.52
• 1592.95	Wavelength 1592.95
• 1593.37	Wavelength 1593.37
• 1593.79	Wavelength 1593.79
• 1594.22	Wavelength 1594.22

Table 23-8 **Output Parameter Support**

Parameter	Description
• 1594.64	Wavelength 1594.64
• 1595.06	Wavelength 1595.06
• 1595.49	Wavelength 1595.49
• 1596.34	Wavelength 1596.34
• 1596.76	Wavelength 1596.76
• 1597.19	Wavelength 1597.19
• 1597.62	Wavelength 1597.62
• 1598.04	Wavelength 1598.04
• 1598.47	Wavelength 1598.47
• 1598.89	Wavelength 1598.89
• 1599.32	Wavelength 1599.32
• 1599.75	Wavelength 1599.75
• 1600.06	Wavelength 1600.06
• 1601.03	Wavelength 1601.03
• 1601.46	Wavelength 1601.46
• 1601.88	Wavelength 1601.88
• 1602.31	Wavelength 1602.31
• 1602.74	Wavelength 1602.74
• 1603.17	Wavelength 1603.17
• 1603.60	Wavelength 1603.60
• 1604.03	Wavelength 1604.03
• 1610	Wavelength 1610
• USE-TWL1	Use Tunable Wavelength 1
<LOSSB>	(Optional) The parameter type is REACH, which is the reach value.
• AUTOPROV	Autoprovisioning
• 40GBASE-SR4	Reach supported on 40GIGE payload on CFP-LC card.
• CX	Reach CX
• CX1	Reach CX1
• DX	Reach DX
• HX	Reach HX
• I1	Reach I1
• IR-1	Reach IR-1
• IR-2	Reach IR-2
• L1	Reach L1
• L2	Reach L2
• L3	Reach L3

Table 23-8 **Output Parameter Support**

Parameter	Description
• LR-1	Reach LR-1
• LR-2	Reach LR-2
• LR-3	Reach LR-3
• LX	Reach LX
• S1	Reach S1
• S2	Reach S2
• SR	Reach SR
• SR-1	Reach SR-1
• SX	Reach SX
• T	Reach T
• TEN-GE-ER	10 GE extended range
• TEN-GE-LR	10 GE long range
• TEN-GE-SR	10 GE short range
• VX	Reach VX
• ZX	Reach ZX
<PSTPSTQ>	Administrative state in the PSTPSTQ format. The parameter type is PSTPSTQ, which is the service state of the entity described by the PST and the PSTQ.
• Unlocked-Enabled	In service and normal
• Unlocked -Disabled	Out of service and autonomous
• Locked-Disabled	Out of service, autonomous and management
• Locked-Enabled	Out of service and management
<SST>	(Optional) Secondary state of the entity. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AutomaticInService	Automatic in service
• Disabled	Disabled
• Loopback	Loopback
• MismatchofEquipmentAlarm	Mismatch of equipment and attributes
• Maintenance	Maintenance mode
• OutOfGroup	Out of group
• SoftwareDownload	Software downloading
• Unassigned	Unassigned
• NotInstalled	Unequipped

23.12 RTRV-ALM-<MOD2ALM>

The Retrieve Alarm for 10GFC, 10GIGE, 40GIGE, 100GIGE, 1GFC, 1GFICON, 2GFC, 2GFICON, 4GFC, 4GFICON, 5GIB, 8GFC, CHGRP, DS1, DS3I, DVBASI, E1, E100, E1000, E3, E4, EC1, ETH, FSTE, G1000, GFPOS, GIGE, HDLC, ILK, ISCCOMPAT, ISC1, ISC3PEER2R, ISC3PEER1G, ISC3PEER2G, STM4, STM64, STM1, STM16, MSISC, OCH, ODU0, OMS, OTS, OTL, OTU2, OTU3, OTU4, POS, RPRI, STM1E, VC3, VC4-4C, VC4-6C, VC4-8C, VC4-12C, VC4, VC4-16C, T1, T3, UDCDCC, UDCF, VC3, VC4, VC4-2c, VC4-3c, VC4-4c, VC4-16c, VC4-64c, VCG, VC11, VC12, WLEN, 3GVIDEO, HDSDI, ISC3STP1G, ISC3STP2G, OTU1, or SDSDI

(RTRV-ALM-<MOD2ALM>) command retrieves and sends the current status of alarm conditions. The alarm condition or severity to be retrieved can be specified by using the input parameters as a filter. See [Table 29-1 on page 29-1](#) for supported modifiers by platform.

Usage Guidelines

The command supports the modifier 3GVIDEO, OTU1, SDSDI, HDSDI, ISC3STP1G, and ISC3STP2G.

- VT1-n-n-n replaces PS_VC12-n-n-n for the VC12 alarm AID.
- The [<AIDTYPE>] shows VC3 for VC alarms.
- The RTRV-ALM-OTL command retrieves the alarms raised on sublanes of 100G-LC-C and CFP-LC cards.
- RTRV-ALM-ODU0 command retrieves the alarms raised on the ODU0's on AR-XPE card only.

Category

Fault

Security

Retrieve

Input Format

RTRV-ALM-<MOD2ALM>:[<TID>]:<AID>:<CTAG>::[<NTFCNCDE>],[<CONDTYPE>],[<SRVEFF>],[<LOCN>],[<DIRN>][,];

Input Example

RTRV-ALM-OTU1::VFAC-5-3-1:1::MN,,NSA,NEND,RCV;

Table 23-9 Input Parameter Support

Parameter	Description
<AID>	Access identifier from the “27.1 ALL” section on page 27-1 . The AR-MXP, AR-XP, and AR-XPE cards use the VFAC Access Identifier.
<NTFCNCDE>	(Optional) Two-letter notification code. A null value is equivalent to ALL. The parameter type is NOTIF_CODE, which is the two-character notification code associated with an autonomous message.
• CL	The condition causing the alarm has cleared.
• CR	A critical alarm.
• MJ	A major alarm.

Table 23-9 **Input Parameter Support**

Parameter	Description
• MN	A minor alarm.
• NA	The condition is not alarmed.
• NR	The alarm is not reported.
<CONDTYPE>	(Optional) Condition type for an alarm or a reported event. A null value is equivalent to ALL. The parameter type is CONDITION, which is any problem detected on an NCS shelf, whether or not the problem is reported (that is, whether or not it generates a trouble notification). Reported conditions include alarms, Not Alarmed (NA) conditions, and Not Reported (NR) conditions. See the Table 28-1 for a list of conditions.
<SRVEFF>	(Optional) The effect on service caused by the standing alarm or condition. The parameter type is SERV_EFF, which is the effect of the alarm on service. A null value is equivalent to ALL.
• NSA	The condition is non-service affecting.
• SA	The condition is service affecting.
<LOCN>	Location associated with a particular command. Identifies the location from which the PM mode is to be retrieved. The parameter type is LOCATION, which is the location where the action is to take place.
• FEND	Action occurs on the far end of the facility.
• NEND	Action occurs on the near end of the facility.
<DIRN>	The PM count retrieval direction. The parameter type is DIRECTION, which is the transmit and receive directions.
• BTH	Both transmit and receive directions
• RCV	Receive direction only

Output Format

```

SID DATE TIME
M CTAG COMPLD
"<AID>,[<AIDTYPE>]:<NTFCNCDE>,<CONDTYPE>,<SRVEFF>,[<OCRDAT>],
[<OCRTM>],[<LOCN>],[<DIRN>]:<DESC>"
;

```

Output Example

```

tcc2 2011-08-18 16:16:18
M 1 COMPLD
  "VFAC-5-3-1,OTU1:MN,HI-RXPOWER,NSA,08-18,12-56-40,NEND,RCV:\"Facility High Rx
power\", \"
;

```

Table 23-10 **Output Parameter Support**

Parameter	Description
<AID>	Access identifier from the “ 27.1 ALL ” section on page 27-1.
<AIDTYPE>	(Optional) Type of access identifier. The parameter type is MOD2ALM, which is the alarm type.
• 100GIGE	100 Gigabit Ethernet.
• 1GFC	1-Gigabit Fibre Channel payload
• 1GFICON	1-Gigabit fiber connectivity payload
• 1GISC3	1-Gigabit ISC3 compatible
• 2GFC	2-Gigabit Fibre Channel payload
• 2GFICON	2-Gigabit fiber connectivity payload
• 3GVIDEO	3G-SDI video payload.
• 4GFC	4-Gigabit Fibre Channel payload
• 4GFICON	4-Gigabit fiber connectivity payload
• 40GIGE	40-Gigabit Ethernet
• 5GIB	5Gbps InfiniBand (IB_5G) payload
• 8GFC	8-Gigabit Fibre Channel payload
• CLNT	Client facility for MXP/TXP cards
• CHGRP	Channel group
• CPS	CPS modifier signifies WSON control plane circuits.
• DS3I	DS3i-N-12 facility
• DVBASI	Digital Video Broadband Asynchronous Serial Interface (DVBASI) payload
• E1	E1 facility
• E100	E100 facility
• E1000	E1000 facility
• E3	E3 facility
• E4	E4 frame. Only applicable to STM1E Ports 9 through 12 when it is in E4-FRAMED or E4-UNFRAMED mode.
• FSTE	Fast Ethernet port facility
• G1000	G1000 facility
• GFPOS	Generic framing protocol over packet over NCS virtual port facility
• GIGE	Gigabit Ethernet port facility
• HDSDI	1.5G HD-SDI video payload.
• ISC1	InterSystem Channel, a protocol defined by IBM (ISC1) payload
• ISC3PEER1G	1-Gigabit ISC3 Peer
• ISC3PEER2G	2-Gigabit ISC3 Peer
• ISC3PEER2R	1-Gigabit or 2-Gigabit ISC3 peer used in transparent (2R) mode
• ISC3STP1G	ISC-3 STP 1G video payload.
• ISC3STP2G	ISC-3 STP 2G video payload.

Table 23-10 **Output Parameter Support**

Parameter	Description
• ISCCOMPAT	1-Gigabit ISC1, ISC2, and ISC3 compatibility
• ML1000-2	ML-Series two port Gigabit Ethernet card
• MSISC	MSISC
• OCH	Optical channel
• ODU0	Optical Data Unit Level 0
• OCHTERM	OCH termination
• ODU0	Optical Data Unit Level 0
• OMS	Optical Multiplex Section
• OTS	Optical Transport Section
• OTL	Optical Channel Transport Lane.
• OTU1	Optical Transport Unit Level 1
• OTU3	Optical Transport Unit Level 3
• OTU4	Optical Transport Unit Level 4
• POS	POS port facility
• SDSDI	270M SDI video payload.
• STM1	STM1 facility
• STM1E	STM1E facility. Only applicable to the STM1E facility (when it is in STM1E mode) of NCS STM1E-12 card.
• STM4	STM4 facility
• STM16	STM16 facility
• STM64	STM64 facility
• VC11	VC11 path
• VC12	VC12 path
• VC3	VC3 path
• VC38C	VC38C path
• VC44C	VC44C path
• VC464C	VC464C path
• VC48C	VC48C path
• VC4	VC4 path
• VC416C	VC416C path
• VC42C	VC42C path
• VC43C	VC43C path
• T3	T3 path
• UDCDCC	UDCDCC path
• UDCF	UCDF path
• VCG	Virtual concatenation group alarm

Table 23-10 **Output Parameter Support**

Parameter	Description
• WLEN	Wavelength path provisioning
<NTFCNCDE>	Two-letter notification code. the parameter type is NOTIF_CODE, which is the two-character notification code associated with an autonomous message.
• CL	The condition causing the alarm has cleared.
• CR	A critical alarm.
• MJ	A major alarm.
• MN	A minor alarm.
• NA	The condition is not alarmed.
• NR	The alarm is not reported.
<CONDTYPE>	Condition type for an alarm or a reported event. The parameter type is CONDITION, which is any problem detected on an NCS shelf, whether the problem is reported (that is, whether it generates a trouble notification). Reported conditions include alarms, NA conditions, and NR conditions. See the Table 28-1 for a list of conditions.
<SRVEFF>	The effect on service caused by the standing alarm or condition. The parameter type is SERV_EFF, which is the effect of the alarm on service.
• NSA	The condition is non-service affecting.
• SA	The condition is service affecting.
<OCRDAT>	(Optional) Date when the specific event or violation occurred, MM-DD.
<OCTM>	(Optional) Time when the specific event or violation occurred, HH-MM-SS.
<LOCN>	Location associated with a particular command. Identifies the location from which the PM mode is to be retrieved. The parameter type is LOCATION, which is the location where the action is to take place.
• FEND	Action occurs on the far end of the facility.
• NEND	Action occurs on the near end of the facility.
<DIRN>	The PM count retrieval direction. The parameter type is DIRECTION, which is the transmit and receive directions.
• BTH	Both transmit and receive directions
• RCV	Receive direction only
<DESC>	(Optional) The condition description.

23.13 RTRV-ALMTYPE

The Retrieve Alarm Type command retrieves all system and user-defined alarm types.

Usage Guidelines None

Category System

Security	Retrieve
Input Format	RTRV-ALMTYPE:[<TID>]::<CTAG>;
Input Example	RTRV-ALMTYPE:CISCONODE::1;
Input Parameters	None.
Output Format	SID DATE TIME M CTAG COMPLD "<TYPEOFALM>,<ALMTYPE>" ;
Output Examples	CISCONODE 2007-06-26 14:30:00 M 1 COMPLD "SYSTEMDEFINED,AIRCOMPR" ;

Table 23-11 **Output Parameter Support**

Parameter	Description
<ALMTYPE>	Specifies user-defined alarm types associated with virtual wires in environmental alarm inputs.
<TYPEOFALM>	Specifies the type of alarm, i.e. system or user-defined.
• SYSTEMDEFINED	Specifies a system-defined alarm type.
• USERDEFINED	Specifies a user-defined alarm type.

23.14 RTRV-ALM-ALL

The Retrieve Alarm All (RTRV-ALM-ALL) command retrieves and sends the current status of all active alarm conditions. The alarm condition or severity to be retrieved is specified using the input parameters as a filter. To retrieve all the NE alarms, issue all of the following commands:

```
RTRV-ALM-ALL
RTRV-ALM-BITS
RTRV-ALM-ENV
RTRV-ALM-SYCN
```

Usage Guidelines	None

Category Fault

Security Retrieve

Input Format RTRV-ALM-ALL:[<TID>]:[<AID>]:<CTAG>::[<NTFCNCDE>],
[<CONDITION>],[<SRVEFF>],[<LOCN>],[<DIRN>],[,];

Input Example RTRV-ALM-ALL:COTATI:ALL:229::MN,PWRRESTART,NSA,NEND,RCV;

Table 23-12 Input Parameter Support

Parameter	Description
<AID>	Access identifier from the “ 27.1 ALL ” section on page 27-1. A null value is equivalent to ALL. AID is a string.
<NTFCNCDE>	(Optional) Two-letter notification code. A null value is equivalent to ALL. The parameter type is NOTIF_CODE, which is the two-character notification code associated with an autonomous message.
• CR	A critical alarm.
• MJ	A major alarm.
• MN	A minor alarm.
<CONDITION>	(Optional) The type of alarm condition. A null value is equivalent to ALL. The parameter type is CONDITION, which is any problem detected on an NCS shelf, whether or not the problem is reported (that is, whether or not it generates a trouble notification). Reported conditions include alarms, NA conditions, and NR conditions. See Table 28-1 for a list of conditions.
<SRVEFF>	(Optional) The effect on service caused by the standing alarm or condition. The parameter type is SERV_EFF, which is the effect of the alarm on service. A null value is equivalent to ALL.
• NSA	The condition is non-service affecting.
• SA	The condition is service affecting.
<LOCN>	Location associated with a particular command. Identifies the location from which the PM mode is to be retrieved. The parameter type is LOCATION, which is the location where the action is to take place.
• FEND	Action occurs on the far end of the facility.
• NEND	Action occurs on the near end of the facility.
<DIRN>	The PM count retrieval direction. The parameter type is DIRECTION, which is the transmit and receive directions.
• BTH	Both transmit and receive directions
• RCV	Receive direction only

Output Format SID DATE TIME
M CTAG COMPLD
“[<AID>],[<AIDTYPE>]:<NTFCNCDE>,<CONDTYPE>,<SRVEFF>,[<LOCN>],[<DIRN>]:
[<DESC>],[<AIDDET>]”

;

Output Examples

```

TID-000 1998-06-20 14:30:00
M 001 COMPLD
  "SLOT-2,EQPT:MN,PWRRESTART,NSA,08-01,14-25-59,NEND,RCV:\\"POWER FAIL RESTART\\",
  DS1-14"
;

```

Table 23-13 **Output Parameter Support**

Parameter	Description
<AID>	(Optional) Access identifier from the “27.1 ALL” section on page 27-1 .
<AIDTYPE>	(Optional) Type of facility, link, or other addressable entity targeted by the message. The parameter type is MOD2B, which is the alarm type.
• 100GIGE	100 Gigabit Ethernet.
• 10GIGE	10 Gigabit Ethernet.
• 1GFC	1-Gigabit Fibre Channel payload
• 1GFICON	1-Gigabit fiber connectivity payload
• 2GFC	2-Gigabit Fibre Channel payload
• 2GFICON	2-Gigabit fiber connectivity payload
• 3GVIDEO	3G-SDI video payload
• 4GFC	4-Gigabit Fibre Channel payload
• 4GFICON	4-Gigabit fiber connectivity payload
• 40GIGE	40-Gigabit Ethernet
• 5GIB	5Gbps InfiniBand (IB_5G) payload
• 8GFC	8-Gigabit Fibre Channel payload
• BITS	Building integrated timing supply (BITS) alarm
• CHGRP	Channel group
• CLNT	Client facility for MXP/TXP cards
• COM	Common alarm
• DS3I	DS3i-N-12 facility
• DVBASI	Digital Video Broadband Asynchronous Serial Interface (DVBASI) payload
• E1	E1 facility
• E3	E3 facility
• E100	E100 facility
• ETH	ETH facility
• E1000	E1000 facility
• E4	E4 facility
• ENV	ENV facility
• EQPT	EQPT facility

Table 23-13 **Output Parameter Support**

Parameter	Description
• FSTE	Fast Ethernet port facility
• G1000	G1000 facility
• GIGE	Gigabit Ethernet port facility
• HDLC	High-level data link control (HDLC) frame mode.
• HDSDI	1.5G HD-SDI video payload
• ISC1	InterSystem Channel, a protocol defined by IBM (ISC1) payload
• ISC3PEER1G	1-Gigabit ISC3 Peer
• ISC3PEER2G	2-Gigabit ISC3 Peer
• ISC3PEER2R	1-Gigabit or 2-Gigabit ISC3 peer used in transparent (2R) mode
• ISC3STP1G	ISC-3 STP 1G video payload
• ISC3STP2G	ISC-3 STP 2G video payload
• ISCCOMPAT	1-Gigabit ISC1, ISC2, and ISC3 compatibility
• ML1000-2	ML-Series two port Gigabit Ethernet card
• ML-100T-8	ML-Series 100T eight port Gigabit Ethernet card
• MSISC	MSISC
• OCH	Optical channel
• ODU0	Optical Data Unit Level 0
• OMS	Optical Multiplex Section
• OTS	Optical Transport Section
• OTL	Optical Channel Transport Lane.
• OTU1	Optical Transport Unit Level 1
• OTU3	Optical Transport Unit Level 3
• OTU4	Optical Transport Unit Level 4
• POS	POS port facility
• REP	Resilient Ethernet Protocol
• SDSDI	270M SDI video payload
• STM1	STM1 facility
• STM1E	STM1E facility
• STM4	STM4 facility
• STM16	STM16 facility
• STM64	STM64 facility
• SYNCN	SYNCN facility
• TCC	TCC facility
• VC11	VC11 path
• VC12	VC12 path
• VC3	VC3 path

Table 23-13 **Output Parameter Support**

Parameter	Description
• VC44C	VC44C path
• VC38C	VC38C path
• VC464C	VC464C path
• VC48C	VC48C path
• VC4	VC4 path
• VC416C	VC416C path
• VC42C	VC42C path
• VC43C	VC43C path
• T3	T3 path
• UDCDCC	UDCDCC path
• UDCF	UCDF path
• VCG	Virtual concatenation group alarm
• WLEN	Wavelength path provisioning
<NTFCNCDE>	Two-letter notification code. The parameter type is NOTIF_CODE, which is the two-character notification code associated with an autonomous message.
• CL	The condition causing the alarm has cleared.
• CR	A critical alarm.
• MJ	A major alarm.
• MN	A minor alarm.
• NA	The condition is not alarmed.
• NR	The alarm is not reported.
<CONDTYPE>	Condition type for an alarm or a reported event. The parameter type is CONDITION, which is any problem detected on an NCS shelf, whether or not the problem is reported (that is, whether or not it generates a trouble notification). Reported conditions include alarms, NA conditions, and NR conditions. See Table 28-1 for a list of conditions.
<SRVEFF>	The effect on service caused by the standing alarm or condition. The parameter type is SERV_EFF, which is the effect of the alarm on service.
• NSA	The condition is non-service affecting.
• SA	The condition is service affecting.
<LOCN>	Location associated with a particular command. Identifies the location from which the PM mode is to be retrieved. The parameter type is LOCATION, which is the location where the action is to take place.
• FEND	Action occurs on the far end of the facility.
• NEND	Action occurs on the near end of the facility.
<DIRN>	The PM count retrieval direction. The parameter type is DIRECTION, which is the transmit and receive directions.
• BTH	Both transmit and receive directions
• RCV	Receive direction only

Table 23-13 **Output Parameter Support**

Parameter	Description
<OCRDAT>	Date when the specific event or violation occurred, MM-DD.
<OCRTM>	Time when the specific event or violation occurred, HH-MM-SS.
<DESC>	(Optional) A condition description. DESC is a string.
<AIDDET>	(Optional) The supplementary equipment identification. AIDDET uses the same addressing rules as the AID, but specifies AID type and additional details about the entity being managed.

23.15 RTRV-ALM-BITS

The Retrieve Alarm Building Integrated Timing Supply (RTRV-ALM-BITS) command retrieves and sends the current status of alarm conditions associated with the BITS facility. The alarm condition or severity retrieved is specified using the input parameters as a filter.

Usage Guidelines

None

Category

Synchronization

Security

Retrieve

Input Format

RTRV-ALM-BITS:[<TID>]:<AID>:<CTAG>::[<NTFCNCDE>],[<CONDTYPE>],[<SRVEFF>],[<LOCN>],[<DIRN>];

Input Example

RTRV-ALM-BITS:ELVERANO:BITS-1:228::CR,LOS,SA;

Table 23-14 **Input Parameter Support**

Parameter	Description
<AID>	Access identifier from the “27.6 BITS” section on page 27-11 .
<NTFCNCDE>	(Optional) Two-letter notification code. A null value is equivalent to ALL. The parameter type is NOTIF_CODE, which is a two-character notification code associated with an autonomous message.
• CL	The condition causing the alarm has cleared
• CR	A critical alarm.
• MJ	A major alarm.
• MN	A minor alarm.
• NA	The condition is not alarmed
• NR	The alarm is not reported

Table 23-14 *Input Parameter Support*

Parameter	Description
<CONDTYPE>	(Optional) The condition type for an alarm or reported event. A null value is equivalent to ALL. The parameter type is CONDITION, which is any problem detected on an Cisco NCS shelf, whether or not the problem is reported (that is, whether or not it generates a trouble notification). Reported conditions include alarms, NA conditions, and NR conditions. See Table 28-1 for a list of conditions
<SRVEFF>	(Optional) The effect on service caused by the standing alarm or condition. The parameter type is SERV_EFF, which is the effect of the alarm on service. A null value is equivalent to ALL.
• NSA	The condition is non-service affecting.
• SA	The condition is service affecting.
<LOCN>	Location associated with a particular command. Identifies the location from which the PM mode is to be retrieved. The parameter type is LOCATION, which is the location where the action is to take place.
• FEND	Action occurs on the far end of the facility.
• NEND	Action occurs on the near end of the facility.
<DIRN>	The PM count retrieval direction. The parameter type is DIRECTION, which is the transmit and receive directions.
• BTH	Both transmit and receive directions
• RCV	Receive direction only

Output Format

```

SID DATE TIME
M CTAG COMPLD
"<AID>,[<AIDTYPE>]:<NTFCNCDE>,<CONDTYPE>,<SRVEFF>,<OCRDAT>],[<OCRTM>],[<LOCATION>],[<DIRECTION>]:[<DESC>],"
;

```

Output Example

```

TID-000 1998-06-20 14:30:00
M 001 COMPLD
"BITS-1,BITS:CR,LOS,SA,08-01,14-25-59,,,\"LOSS OF SIGNAL\";"
;

```

Table 23-15 *Output Parameter Support*

Parameter	Description
<AID>	Access identifier from the "27.6 BITS" section on page 27-11 .
<AIDTYPE>	(Optional) Type of facility, link or other addressable entity targeted by the message. The parameter type is MOD2B, which is the alarm type.
• 100GIGE	100 Gigabit Ethernet.
• 1GFC	1-Gigabit Fibre Channel payload
• 1GFICON	1-Gigabit fiber connectivity payload
• 2GFC	2-Gigabit Fibre Channel payload

Table 23-15 **Output Parameter Support**

Parameter	Description
• 2GFICON	2-Gigabit fiber connectivity payload
• 3GVIDEO	3G-SDI video payload.
• 4GFC	4-Gigabit Fibre Channel payload
• 4GFICON	4-Gigabit fiber connectivity payload
• 40GIGE	40-Gigabit Ethernet
• 5GIB	5Gbps InfiniBand (IB_5G) payload
• 8GFC	8-Gigabit Fibre Channel payload
• BITS	BITS alarm
• CHGRP	Channel group
• CLNT	Client facility for MXP/TXP cards
• COM	Common alarm
• DS3I	DS3i-N-12 facility
• E1	E1 facility
• E3	E3 facility
• E100	E100 facility
• E1000	E1000 facility
• E4	E4 facility
• ENV	ENV facility
• EQPT	EQPT facility
• FSTE	Fast Ethernet port facility
• G1000	G1000 facility
• GIGE	Gigabit Ethernet port facility
• HDLC	High-level data link control (HDLC) frame mode.
• HDSDI	1.5G HD-SDI video payload
• ISC3PEER1G	1-Gigabit ISC3 Peer
• ISC3PEER2G	2-Gigabit ISC3 Peer
• ISC3PEER2R	1-Gigabit or 2-Gigabit ISC3 peer used in transparent (2R) mode
• ISC3STP1G	ISC-3 STP 1G video payload.
• ISC3STP2G	ISC-3 STP 2G video payload.
• ISCCOMPAT	1-Gigabit ISC1, ISC2, and ISC3 compatibility
• OCH	Optical channel
• ODU0	Optical Data Unit Level 0
• OMS	Optical Multiplex Section
• OTS	Optical Transport Section
• OTU1	Optical Transport Unit Level 1
• OTU3	Optical Transport Unit Level 3

Table 23-15 **Output Parameter Support**

Parameter	Description
• OTU4	Optical Transport Unit Level 4
• POS	POS port facility
• REP	Resilient Ethernet Protocol
• SDSDI	270M SDI video payload
• STM1	STM1 facility
• STM1E	STM1E facility
• STM4	STM4 facility
• STM16	STM16 facility
• STM64	STM64 facility
• SYNCN	SYNCN facility
• TCC	TCC facility
• VC11	VC11 path
• VC12	VC12 path
• VC3	VC3 path
• VC44C	VC44C path
• VC38C	VC38C path
• VC464C	VC464C path
• VC48C	VC48C path
• VC4	VC4 path
• VC416C	VC416C path
• VC42C	VC42C path
• VC43C	VC43C path
<NTFCNCDE>	Two-letter notification code. The parameter type is NOTIF_CODE, which is the two-character notification code associated with an autonomous message.
• CL	The condition causing the alarm has cleared.
• CR	A critical alarm.
• MJ	A major alarm.
• MN	A minor alarm.
• NA	The condition is not alarmed.
• NR	The alarm is not reported.
<CONDTYPE>	Condition type for an alarm or a reported event. The parameter type is CONDITION, which is any problem detected on an NCS shelf, whether or not the problem is reported (that is, whether or not it generates a trouble notification). Reported conditions include alarms, NA conditions, and NR conditions. See Table 28-1 for a list of conditions.
<SRVEFF>	The effect on service caused by the standing alarm or condition. The parameter type is SERV_EFF, which is the effect of the alarm on service.
• NSA	The condition is non-service affecting.

Table 23-15 **Output Parameter Support**

Parameter	Description
• SA	The condition is service affecting.
<OCDAT>	(Optional) Date when the specific event or violation occurred, MM-DD.
<OCDTM>	(Optional) Time when the specific event or violation occurred, HH-MM-SS.
<LOCATION>	Location associated with a particular command. Identifies the location from which the PM mode is to be retrieved. The parameter type is LOCATION, which is the location where the action is to take place.
• FEND	Action occurs on the far end of the facility.
• NEND	Action occurs on the near end of the facility.
<DIRECTION>	The PM count retrieval direction. The parameter type is DIRECTION, which is the transmit and receive directions.
<DESC>	(Optional) A condition description. DESC is a string.

23.16 RTRV-ALM-CPS

The Retrieve Alarm Control Plane Service (RTRV-ALM-CPS) command retrieves the alarm reported on the control plane service.

Usage Guidelines

- Specify ALL AID to retrieve the alarms.
- Specify the notification code, condition type, service effecting, location, and direction parameters to retrieve the particular type of alarm.
- The command is applicable only to WSON alarms.
- <INDEX> got from the response is used as the input parameter in DLT-ALM-CPS.

Category

NCS

Security

Retrieve

Input Format

RTRV-ALM-CPS:[<TID>]:<AID>:<CTAG>::[<NTFCNCDE>],[<CONDTYPE>],[<SRVEFF>],[<LOCN>],[<DIRN>][,];

Input Example

RTRV-ALM-CPS::ALL:1;

Table 23-16 *Input Parameter Support*

Parameter	Description
<AID>	Only ALL AID is supported.
<NTFCNCDE>	(Optional) Two-letter notification code. A null value is equivalent to ALL. The parameter type is NOTIF_CODE, which is a two-character notification code associated with an autonomous message.
• CL	The condition causing the alarm has cleared
• CR	A critical alarm.
• MJ	A major alarm.
• MN	A minor alarm.
• NA	The condition is not alarmed
• NR	The alarm is not reported
<CONDTYPE>	(Optional) The condition type for an alarm or reported event. A null value is equivalent to ALL. The parameter type is CONDITION, which is any problem detected on an Cisco NCS shelf, whether or not the problem is reported (that is, whether or not it generates a trouble notification). Reported conditions include alarms, NA conditions, and NR conditions. See Table 28-1 for a list of conditions
<SRVEFF>	(Optional) The effect on service caused by the standing alarm or condition. The parameter type is SERV_EFF, which is the effect of the alarm on service. A null value is equivalent to ALL.
• NSA	The condition is non-service affecting.
• SA	The condition is service affecting.
<LOCN>	Location associated with a particular command. Identifies the location from which the PM mode is to be retrieved. The parameter type is LOCATION, which is the location where the action is to take place.
• FEND	Action occurs on the far end of the facility.
• NEND	Action occurs on the near end of the facility.
<DIRN>	The PM count retrieval direction. The parameter type is DIRECTION, which is the transmit and receive directions.
• BTH	Both transmit and receive directions
• RCV	Receive direction only

Output Format

SID DATE TIME
M CTAG COMPLD

“<SRC>,<INDEX>,<MOD2>:<NTFCNCDE>,<CONDTYPE>,<SRVEFF>,<DATE>,<TIME>,<LOCN>,<DIRN>:<CONDITION DESCRIPTION>”

;

Output Example

```
TID-000 1998-06-20 14:30:00
M 001 COMPLD
  "CHAN-6-1-RX,6,CPS:MJ,LOS-P,SA,01-16,01-18-31,NEND,RCV:\\"INCOMING PAYLOAD
  SIGNAL ABSENT\\""
;
```

Table 23-17 Output Parameter Support

Parameter	Description
<AID>	Access identifier from the “27.1 ALL” section on page 27-1 .
<INDEX>	Auto generated sequence number associated with the alarm.
<MOD2>	Modifier 2 of the Alarm command.
<NTFCNCDE>	Two-letter notification code. The parameter type is NOTIF_CODE, which is the two-character notification code associated with an autonomous message.
• CL	The condition causing the alarm has cleared.
• CR	A critical alarm.
• MJ	A major alarm.
• MN	A minor alarm.
• NA	The condition is not alarmed.
• NR	The alarm is not reported.
<CONDTYPE>	Condition type for an alarm or a reported event. The parameter type is CONDITION, which is any problem detected on an NCS shelf, whether or not the problem is reported (that is, whether or not it generates a trouble notification). Reported conditions include alarms, NA conditions, and NR conditions. See Table 28-1 for a list of conditions.
<SRVEFF>	(Optional) The effect on service caused by the standing alarm or condition. The parameter type is SERV_EFF, which is the effect of the alarm on service. A null value is equivalent to ALL.
• NSA	The condition is non-service affecting.
• SA	The condition is service affecting.
<OCDAT>	(Optional) Date when the specific event or violation occurred, MM-DD.
<OCDTIM>	(Optional) Time when the specific event or violation occurred, HH-MM-SS.
<LOCN>	Location associated with a particular command. Identifies the location from which the PM mode is to be retrieved. The parameter type is LOCATION, which is the location where the action is to take place.
• FEND	Action occurs on the far end of the facility.
• NEND	Action occurs on the near end of the facility.
<DIRN>	The PM count retrieval direction. The parameter type is DIRECTION, which is the transmit and receive directions.
• BTH	Both transmit and receive directions
• RCV	Receive direction only
<DESC>	(Optional) A condition description. DESC is a string.

23.17 RTRV-ALM-ENV

The Retrieve Alarm Environment (RTRV-ALM-ENV) command retrieves the environmental alarms.

Usage Guidelines None

Category Environment

Security Retrieve

Input Format RTRV-ALM-ENV:[<TID>]:<AID>:<CTAG>::[<NTFCNCDE>],[<ALMTYPE>];

Input Example RTRV-ALM-ENV:CISCO:ENV-IN-1:123::MJ,OPENDR;

Output Format

```
SID DATE TIME
M CTAG COMPLD
  "<AID>:<NTFCNCDE>,<ALMTYPE>,[<OCRDAT>],[<OCRTM>],[<DESC>]"
;
```

Output Example

```
TID-000 1998-06-20 14:30:00
M 001 COMPLD
  "ENV-IN-1:MJ,OPENDR,08-01,14-25-59,\"OPEN DOOR\""
```

Table 23-18 Output Parameter Support

Parameter	Description
<AID>	Access identifier from the “27.12 ENV” section on page 27-20.
<NTFCNCDE>	Two-letter notification code. The parameter type is NOTIF_CODE, which is the two-character notification code associated with an autonomous message.
• CL	The condition causing the alarm has cleared.
• CR	A critical alarm.
• MJ	A major alarm.
• MN	A minor alarm.
• NA	The condition is not alarmed.
• NR	The alarm is not reported.

Table 23-18 **Output Parameter Support**

Parameter	Description
<CONDTYPE>	Condition type for an alarm or a reported event. The parameter type is CONDITION, which is any problem detected on an NCS shelf, whether or not the problem is reported (that is, whether or not it generates a trouble notification). Reported conditions include alarms, NA conditions, and NR conditions. See Table 28-1 for a list of conditions.
<ALMTYPE>	The alarm type for the environmental alarm. A null value is equivalent to ALL. The parameter type is ENV_ALM, which is the environmental alarm type.
• AIRCOMPR	Air compressor failure
• AIRCOND	Air conditioning failure
• AIRDRYR	Air dryer failure
• BATDSCHRG	Battery discharging
• BATTERY	Battery failure
• CLFAN	Cooling fan failure
• CPMajor	Centralized power major failure
• CPMinor	Centralized power minor failure
• ENGINE	Engine failure
• ENGPRG	Engine operating
• ENGTRANS	Standby engine transfer
• EXPLGS	Explosive gas
• FIRDETR	Fire detector failure
• FIRE	Fire
• FLOOD	Flood
• FUELLEAK	Fuel leak
• FUSE	Fuse failure
• GASALARM	Explosive gas, toxic gas, ventilation fail or gas monitor fail
• HATCH	CEV hatch fail
• GEN	Generator failure
• HIAIR	High air flow
• HIHUM	High humidity
• HITEMP	High temperature
• HIWTR	High water
• INTRUDER	Intrusion
• LEVELCON	Level converter
• LVDADSL	Secondary ADSL low voltage disconnect
• LVDBYPAS	Low voltage disconnect bypass
• LWBATVG	Low battery voltage
• LWFUEL	Low fuel
• LWHUM	Low humidity

Table 23-18 **Output Parameter Support**

Parameter	Description
• LWPRES	Low cable pressure
• LWTEMP	Low temperature
• LWWTR	Low water
• MISC	Miscellaneous
• OPENDR	Open door
• POWER	Commercial power failure
• PUMP	Pump failure
• PWR-48	48 V power supply failure
• PWR-139	–139 V power converter
• PWR-190	–190 V power converter
• PWRMJ	Power supply major
• PWRMN	Power supply minor
• RECT	Rectifier failure
• RECTHI	Rectifier high voltage
• RECTLO	Rectifier low voltage
• RINGGENMJ	Ring generator major
• RINGGENMN	Ring generator minor
• RTACADSL	AC or AC/rectifier power fail ADSL equipment
• RTACCRIT	AC or AC/rectifier power fail DCL equipment critical site
• RTACPWR	AC or AC/rectifier power fail DCL equipment
• RTACPWRENG	Commercial AC fail, site equipped with standby engine
• RTBAYPWR	AC power loss distributed power RT bay
• RTRVENG	Retrieve standby engine, commercial AC restored
• SMOKE	Smoke
• TEMP	High-low temperature
• TOXICGAS	Toxic gas
• TREPEATER	T-repeater shelf
• VENTN	Ventilation system failure
<OCDAT>	(Optional) Date when the specific event or violation occurred, MM-DD.
<OCDTM>	(Optional) Time when the specific event or violation occurred, HH-MM-SS.
<DESC>	(Optional) A condition description. DESC is a string.

23.18 RTRV-ALM-EQPT

The Retrieve Alarm Equipment (RTRV-ALM-EQPT) command retrieves and sends the current status of alarm conditions associated with the equipment units. The alarm condition or severity to be retrieved is specified using the input parameters as a filter.

Usage Guidelines	None
Category	Equipment
Security	Retrieve
Input Format	RTRV-ALM-EQPT:[<TID>]:<AID>:<CTAG>::[<NTFCNCDE>],[<CONDTYPE>],[<SRVEFF>],[<LOCN>],[<DIRN>];
Input Example	RTRV-ALM-EQPT:TWOROCK:SLOT-1:227::MJ,HITEMP,NSA;

Table 23-19 **Input Parameter Support**

Parameter	Description
<AID>	Access identifier from the “27.13 EQPT” section on page 27-21.
<NTFCNCDE>	(Optional) Two-letter notification code. A null value is equivalent to ALL. The parameter type is NOTIF_CODE, which is the two-character notification code associated with an autonomous message.
• CL	The condition causing the alarm has cleared.
• CR	A critical alarm.
• MJ	A major alarm.
• MN	A minor alarm.
• NA	The condition is not alarmed.
• NR	The alarm is not reported.
<CONDTYPE>	(Optional) The condition type for an alarm or a reported event. A null value is equivalent to ALL. The parameter type is CONDITION, which is any problem detected on an NCS shelf, whether or not the problem is reported (that is, whether or not it generates a trouble notification). Reported conditions include alarms, NA conditions, and NR conditions. See Table 28-1 for a list of conditions.
<SRVEFF>	(Optional) The effect on service caused by the standing alarm or condition. The parameter type is SERV_EFF, which is the effect of the alarm on service. A null value is equivalent to ALL.
• NSA	The condition is non-service affecting.
• SA	The condition is service affecting.
<LOCN>	Location associated with a particular command. Identifies the location from which the PM mode is to be retrieved. The parameter type is LOCATION, which is the location where the action is to take place.
• FEND	Action occurs on the far end of the facility.
• NEND	Action occurs on the near end of the facility.

Table 23-19 Input Parameter Support

Parameter	Description
<DIRN>	The PM count retrieval direction. The parameter type is DIRECTION, which is the transmit and receive directions.
• BTH	Both transmit and receive directions
• RCV	Receive direction only

Output Format

SID DATE TIME
M CTAG COMPLD
“[<AID>],[<AIDTYPE>]:<NTFCNCDE>,<CONDTYPE>,<SRVEFF>,
[<OCRDAT>],[<OCRTM>],[<LOCN>],[<DIRN>]:[<DESC>]”
;

Output Example

TID-000 1998-06-20 14:30:00
M 001 COMPLD
“SLOT-3,EQPT:MJ,HITEMP,NSA,08-01,14-25-59,,:\“HI TEMPERATURE\”,”
;

Table 23-20 Output Parameter Support

Parameter	Description
<AID>	(Optional) Access identifier from the “27.13 EQPT” section on page 27-21 .
<AIDTYPE>	(Optional) Type of facility, link or other addressable entity targeted by the message. The parameter type is MOD2B, which is the alarm type.
• 100GIGE	100 Gigabit Ethernet.
• 1GFC	1-Gigabit Fibre Channel payload
• 1GFICON	1-Gigabit fiber connectivity payload
• 2GFC	2-Gigabit Fibre Channel payload
• 2GFICON	2-Gigabit fiber connectivity payload
• 3GVIDEO	3G-SDI video payload.
• 4GFC	4-Gigabit Fibre Channel payload
• 4GFICON	4-Gigabit fiber connectivity payload
• 40GIGE	40-Gigabit Ethernet
• 5GIB	5Gbps InfiniBand (IB_5G) payload
• 8GFC	8-Gigabit Fibre Channel payload
• BITS	BITS alarm
• CHGRP	Channel group
• CLNT	Client facility for MXP/TXP cards
• COM	Common alarm
• DS3I	DS3i-N-12 alarm
• E1	E1 alarm

Table 23-20 **Output Parameter Support**

Parameter	Description
• E3	(ONS 15310 MA NCS) E3 alarm
• E100	E100 alarm
• E1000	E1000 alarm
• E3	E3 alarm
• E4	E4 alarm
• ENV	ENV alarm
• EQPT	EQPT alarm
• FSTE	Fast Ethernet port alarm
• G1000	G1000 alarm
• GIGE	Gigabit Ethernet port alarm
• HDLC	High-level data link control (HDLC) frame mode.
• HDSDI	1.5G HD-SDI video payload
• ISC3PEER1G	1-Gigabit ISC3 Peer
• ISC3PEER2G	2-Gigabit ISC3 Peer
• ISC3PEER2R	1-Gigabit or 2-Gigabit ISC3 peer used in transparent (2R) mode
• ISC3STP1G	ISC-3 STP 1G video payload.
• ISC3STP2G	ISC-3 STP 2G video payload.
• ISCCOMPAT	1-Gigabit ISC1, ISC2, and ISC3 compatibility
• MSISC	MSISC
• OCH	Optical channel
• ODU0	Optical Data Unit Level 0
• OMS	Optical Multiplex Section
• OTS	Optical Transport Section
• OTU1	Optical Transport Unit Level 1
• OTU3	Optical Transport Unit Level 3
• OTU4	Optical Transport Unit Level 4
• POS	POS port alarm
• REP	Resilient Ethernet Protocol
• SDSDI	270M SDI video payload
• STM1	STM1 alarm
• STM1E	STM1E alarm
• STM4	STM4 alarm
• STM16	STM16 alarm
• STM64	STM64 alarm
• SYNCN	SYNCN alarm
• TCC	TCC alarm

Table 23-20 **Output Parameter Support**

Parameter	Description
• VC11	VC11 alarm
• VC12	VC12 alarm
• VC3	VC3 alarm
• VC44C	VC44C alarm
• VC38C	VC38C alarm
• VC464C	VC464C alarm
• VC48C	VC48C alarm
• VC4	VC4 alarm
• VC416C	VC416C alarm
• VC42C	VC42C alarm
• VC43C	VC43C alarm
<NTFCNCDE>	Two-letter notification code. The parameter type is NOTIF_CODE, which is the two-character notification code associated with an autonomous message.
• CL	The condition causing the alarm has cleared.
• CR	A critical alarm.
• MJ	A major alarm.
• MN	A minor alarm.
• NA	The condition is not alarmed.
• NR	The alarm is not reported.
<CONDTYPE>	Condition type for an alarm or a reported event. The parameter type is CONDITION, which is any problem detected on an NCS shelf, whether or not the problem is reported (that is, whether or not it generates a trouble notification). Reported conditions include alarms, NA conditions, and NR conditions. See Table 28-1 for a list of conditions.
<SRVEFF>	The effect on service caused by the standing alarm or condition. The parameter type is SERV_EFF, which is the effect of the alarm on service.
• NSA	The condition is non-service affecting.
• SA	The condition is service affecting.
<OCDAT>	(Optional) Date when the specific event or violation occurred, MM-DD.
<OCDTM>	(Optional) Time when the specific event or violation occurred, HH-MM-SS.
<LOCN>	Location associated with a particular command. Identifies the location from which the PM mode is to be retrieved. The parameter type is LOCATION, which is the location where the action is to take place.
• FEND	Action occurs on the far end of the facility.
• NEND	Action occurs on the near end of the facility.
<DIRN>	The PM count retrieval direction. The parameter type is DIRECTION, which is the transmit and receive directions.
• BTH	Both transmit and receive directions

Table 23-20 **Output Parameter Support**

Parameter	Description
• RCV	Receive direction only
<DESC>	(Optional) A condition description. DESC is a string.

23.19 RTRV-ALM-SYNCN

The Retrieve Alarm Synchronization (RTRV-ALM-SYNCN) command retrieves and sends the current status of alarm conditions associated with a synchronization facility. The alarm condition or severity to be retrieved can be specified by using the input parameters as a filter.

Usage Guidelines None

Category Synchronization

Security Retrieve

Input Format RTRV-ALM-SYNCN:[<TID>]:<AID>:<CTAG>::[<NTFCNCDE>],[<CONDTYPE>],
[<SRVEFF>],[<LOCN>],[<DIRN>;

Input Example RTRV-ALM-SYNCN:FULTON:SYNC-NE:226::CR,FAILTOSW,SA;

Table 23-21 **Input Parameter Support**

Parameter	Description
<AID>	Access identifier from the “27.29 SYNC_REF” section on page 27-34.
<NTFCNCDE>	(Optional) Two-letter notification code. A null value is equivalent to ALL. The parameter type is NOTIF_CODE, which is the two-character notification code associated with an autonomous message.
• CL	The condition causing the alarm has cleared.
• CR	A critical alarm.
• MJ	A major alarm.
• MN	A minor alarm.
• NA	The condition is not alarmed.
• NR	The alarm is not reported.

Table 23-21 *Input Parameter Support*

Parameter	Description
<CONDTYPE>	(Optional) The condition type for an alarm or a reported event. A null value is equivalent to ALL. The parameter type is CONDITION, which is any problem detected on an NCS shelf, whether or not the problem is reported (that is, whether or not it generates a trouble notification). Reported conditions include alarms, NA conditions, and NR conditions. See Table 28-1 for a list of conditions.
<SRVEFF>	(Optional) The effect on service caused by the standing alarm or condition. The parameter type is SERV_EFF, which is the effect of the alarm on service. A null value is equivalent to ALL.
• NSA	The condition is non-service affecting.
• SA	The condition is service affecting.
<LOCN>	Location associated with a particular command. Identifies the location from which the PM mode is to be retrieved. The parameter type is LOCATION, which is the location where the action is to take place.
• FEND	Action occurs on the far end of the facility.
• NEND	Action occurs on the near end of the facility.
<DIRN>	The PM count retrieval direction. The parameter type is DIRECTION, which is the transmit and receive directions.
• BTH	Both transmit and receive directions
• RCV	Receive direction only

Output Format

```

SID DATE TIME
M CTAG COMPLD
  "<AID>,[<AIDTYPE>]:<NTFCNCDE>,<CONDTYPE>,<SRVEFF>,
  [<OCRDAT>],[<OCRTM>],[<LOCN>],[<DIRN>]:[<DESC>]"
;

```

Output Example

```

TID-000 1998-06-20 14:30:00
M 001 COMPLD
  "SYNC-NE,SYCN:CR,FAILTOSW,SA,
  08-01,14-25-59,,:"FAILURE TO SWITCH TO PROTECTION",
;

```

Table 23-22 *Output Parameter Support*

Parameter	Description
<AID>	Access identifier from the "27.27 SYN" section on page 27-33 .
<AIDTYPE>	(Optional) Type of facility, link or other addressable entity targeted by the message. The parameter type is MOD2B, which is the alarm type.
• 100GIGE	100 Gigabit Ethernet.
• 1GFC	1-Gigabit Fibre Channel payload
• 1GFICON	1-Gigabit fiber connectivity payload

Table 23-22 Output Parameter Support

Parameter	Description
• 2GFC	2-Gigabit Fibre Channel payload
• 2GFICON	2-Gigabit fiber connectivity payload
• 3GVIDEO	3G-SDI video payload.
• 4GFC	4-Gigabit Fibre Channel payload
• 4GFICON	4-Gbps fiber connection
• 40GIGE	40-Gigabit Ethernet
• 5GIB	5Gbps InfiniBand (IB_5G) payload
• 8GFC	8-Gigabit Fibre Channel payload
• BITS	BITS alarm
• CHGRP	Channel group
• CLNT	Client facility for MXP/TXP cards
• COM	Common alarm
• DS3I	DS3i-N-12 alarm
• DVBASI	Digital Video Broadband Asynchronous Serial Interface (DVBASI) payload
• E1	E1 alarm
• E100	E100 alarm
• E1000	E1000 alarm
• E3	E3 alarm
• E4	E4 alarm
• ENV	ENV alarm
• EQPT	EQPT alarm
• FSTE	Fast Ethernet port alarm
• G1000	G1000 alarm
• GIGE	Gigabit Ethernet port alarm
• HDLC	High-level data link control (HDLC) frame mode.
• HDSDI	1.5G HD-SDI video payload
• ISC1	InterSystem Channel, a protocol defined by IBM (ISC1) payload
• ISC3PEER1G	1-Gigabit ISC3 Peer
• ISC3PEER2G	2-Gigabit ISC3 Peer
• ISC3PEER2R	1-Gigabit or 2-Gigabit ISC3 peer used in transparent (2R) mode
• ISC3STP1G	ISC-3 STP 1G video payload.
• ISC3STP2G	ISC-3 STP 2G video payload.
• ISCCOMPAT	1-Gigabit ISC1, ISC2, and ISC3 compatibility
• MSISC	MSISC
• OCH	Optical channel
• ODU0	Optical Data Unit Level 0

Table 23-22 **Output Parameter Support**

Parameter	Description
• OMS	Optical Multiplex Section
• OTS	Optical Transport Section
• OTU1	Optical Transport Unit Level 1
• OTU3	Optical Transport Unit Level 3
• OTU4	Optical Transport Unit Level 4
• POS	POS port alarm
• REP	Resilient Ethernet Protocol
• SDSDI	270M SDI video payload
• STM1	STM1 alarm
• STM1E	STM1E alarm
• STM4	STM4 alarm
• STM16	STM16 alarm
• STM64	STM64 alarm
• SYNCN	SYNCN alarm
• TCC	TCC alarm
• VC11	VC11 alarm
• VC12	VC12 alarm
• VC3	VC3 alarm
• VC44C	VC44C alarm
• VC38C	VC38C alarm
• VC464C	VC464C alarm
• VC48C	VC48C alarm
• VC4	VC4 alarm
• VC416C	VC416C alarm
• VC42C	VC42C alarm
• VC43C	VC43C alarm
<NTFCNCDE>	Two-letter notification code. The parameter type is NOTIF_CODE, which is the two-character notification code associated with an autonomous message.
• CL	The condition causing the alarm has cleared.
• CR	A critical alarm.
• MJ	A major alarm.
• MN	A minor alarm.
• NA	The condition is not alarmed.
• NR	The alarm is not reported.

Table 23-22 **Output Parameter Support**

Parameter	Description
<CONDTYPE>	Condition type for an alarm or a reported event. The parameter type is CONDITION, which is any problem detected on an NCS shelf, whether or not the problem is reported (that is, whether or not it generates a trouble notification). Reported conditions include alarms, NA conditions, and NR conditions. See Table 28-1 for a list of conditions.
<SRVEFF>	The effect on service caused by the standing alarm or condition. The parameter type is SERV_EFF, which is the effect of the alarm on service.
• NSA	The condition is non-service affecting.
• SA	The condition is service affecting.
<OCRDAT>	(Optional) Date when the specific event or violation occurred, MM-DD.
<OCTM>	(Optional) Time when the specific event or violation occurred, HH-MM-SS.
<LOCN>	Location associated with a particular command. Identifies the location from which the PM mode is to be retrieved. The parameter type is LOCATION, which is the location where the action is to take place.
• FEND	Action occurs on the far end of the facility.
• NEND	Action occurs on the near end of the facility.
<DIRN>	The PM count retrieval direction. The parameter type is DIRECTION, which is the transmit and receive directions.
• BTH	Both transmit and receive directions
• RCV	Receive direction only
<DESC>	(Optional) A condition description. DESC is a string.

23.20 RTRV-ALMTH-<MOD2>

The Retrieve Alarm Threshold for 10GFC, 10GIGE, 40GIGE, 100 GIGE, 1GFC, 1GFICON, 2GFC, 2GFICON, 4GFC, 4GFICON, 5GIB, 8GFC, D1VIDEO, DS1, DS3I, DV6000, DVBASI, E1, E3, E4, EC1, ESCON, ETRCLO, FSTE, G1000, GFPOS, GIGE, HDTV, ILK, ISCCOMPAT, ISC1, ISC3PEER2R, ISC3PEER1G, ISC3PEER2G, OTU3, STM1, STM4, STM16, STM64, GIGE, POS, VC3, VC4, VC4-2c, VC4-3c, VC4-4c, VC4-8c, VC4-16c, VC4-64c, 3GVIDEO, SDSDI, HDSDI, AUTO, OTU1, OTU4, OTL, ISC3STP1G, or ISC3STP2G (RTRV-ALMTH-<MOD2>) command retrieves the alarm threshold values. The only applicable MOD2 values are OC3, OC12, OC48, OC192, OCH, OMS, and OTS.

Usage Guidelines

The command supports 3GVIDEO, SDSDI, HDSDI, AUTO, OTU1, ISC3STP1G, and ISC3STP2G modifiers.

- OTL is the new modifier added for the sublanes of 100G-LC-C and CFP-LC cards.
- RTRV-ALMTH-OTL retrieves optical thresholds only on Sublanes of 100G-LC-C card. RTRV-ALMTH-OTL with single montype is denied for sublanes of CFP-LC card.
- RTRV-ALMTH-<MOD2> on 100G-LC-C card is denied as the optical thresholds are retrieved on sublanes of 100G-LC-C.
- RTRV-ALMTH-<100GIGE/40GIGE/OTU4/OTU3> on CFP-LC card retrieves optical thresholds.

- RTRV-ALMTH-<MOD2> does not retrieve any optical thresholds on virtual ports as they are retrieved by CFP ports of CFP-LC.
- RTRV-ALMTH-OCH should retrieve optical thresholds for non OTU Payloads on 100G-LC-C, 10x10G-LC, and CFP-LC cards. For OTU payloads RTRV-ALMTH-<MOD2> retrieves optical thresholds.

Category Fault

Security Retrieve

Input Format RTRV-ALMTH-<MOD2>:[<TID>]:<AID>:<CTAG>::[<CONDTYPE>][,,:];

Input Example RTRV-ALMTH-OTU1::VFAC-5-3-1:A::OPT-LOW;

Table 23-23 Input Parameter Support

Parameter	Description
<AID>	Access identifier from the “27.1 ALL” section on page 27-1 . The AR-MXP, AR-XP, and AR-XPE cards use the VFAC Access Identifier.
<ALMTHR>	Alarm threshold. Must not be null. The parameter type is ALM_THR, which is the alarm threshold list for MXP_2.5G_10G, TXP_MR_10G, OSCM, OSC-CSM, OPT-PRE, OPT-BST, MD-4-xx.x, 32MUX, 32DMX, AD-1C-xx.x, AD-2C-xx.x, AD-4C-xx.x, AD-1B-xx.x, and AD-4B-xx.x cards.
• ADD-HDEG	ADD Power - High Degrade
• ADD-HFAIL	ADD Power - High Failure
• ADD-LDEG	ADD Power - Low Degrade
• ADD-LFAIL	ADD Power - Low Failure
• BATV-EHIGH	Battery Voltage—Extremely High
• BATV-ELow	Battery Voltage—Extremely Low
• BATV-HIGH	Battery Voltage—High
• BATV-LOW	Battery Voltage—Low
• CD-LOW	Low Threshold value for Chromatic Dispersion. Measured value -70000dBm to +70000dBm.
• CD-HIGH	High Threshold value for Chromatic Dispersion. Measured value -70000dBm to +70000dBm.
• GAIN-HDEG	Gain not reached—High Degrade Threshold
• GAIN-HFAIL	Gain not reached—High Failure Threshold
• GAIN-LDEG	Gain not reached—Low Degrade Threshold
• GAIN-LFAIL	Gain not reached—Low Failure Threshold
• LBCL-HIGH	Laser Bias Current in microA as a tenth of a percentage of the High Warning Threshold, Low Warning Threshold. Measured value 0.0%, 100.0%.
• OPR-HIGH	Receive power in 1tenths of a microW. Measured value -40.0 dBm, +30.0 dBm.

Table 23-23 Input Parameter Support

Parameter	Description
• OPR-LOW	Receive power in tenths of a microW. Measured value –40.0 dBm, +30.0 dBm.
• OPT-HIGH	Transmit power in tenths of a microW. Measured value –40.0 dBm, +30.0 dBm.
• OPT-LOW	Transmit power in tenths of a microW. Measured value –40.0 dBm, +30.0 dBm.
• OPWR-HDEG	Optical Power—High Degrade Threshold
• OPWR-HFAIL	Optical Power—High Failure Threshold
• OPWR-LDEG	Optical Power—Low Degrade Threshold
• OPWR-LFAIL	Optical Power—Low Failure Threshold
• OSNR-LOW	Low Threshold value for Optical Signal to Noise Ratio. Measured value +40dBm to +80dBm.
• OSNR-HIGH	High Threshold value for Optical Signal to Noise Ratio. Measured value +40dBm to +80dBm.
• PMD-LOW	Low Threshold value for Polarization Mode for Dispersion. Measured value +0 to +100dBm.
• PMD-HIGH	High Threshold value for Polarization Mode for Dispersion. Measured value +0 to +100dBm.
• VOA-HDEG	VOA Attenuation—High Degrade Threshold
• VOA-HFAIL	VOA Attenuation—High Failure Threshold
• VOA-LDEG	VOA Attenuation—Low Degrade Threshold
• VOA-LFAIL	VOA Attenuation—Low Failure Threshold

Output Format

```

SID DATE TIME
M CTAG COMPLD
  "<AID>,<MOD>:<CONDTYPE>,,,<THLEVEL>"
;

```

Output Example

```

TCC2 2011-08-18 16:01:38
M A COMPLD
  "VFAC-5-3-1,OTU1:OPT-LOW,,,-4.5,"
;
RN-DEV-107 2013-05-16 12:47:54
M 1 COMPLD
  "VFAC-5-1-1,GIGE:OPT-LOW,,,-40.0,"
  "VFAC-5-1-1,GIGE:OPT-HIGH,,30.0,"
  "VFAC-5-1-1,GIGE:LBCL-HIGH,,100.0,"
  "VFAC-5-1-1,GIGE:OPR-LOW,,,-40.0,"
  "VFAC-5-1-1,GIGE:OPR-HIGH,,30.0,"
;

```

Table 23-24 Output Parameter Support

Parameter	Description
<AID>	Access identifier from the “27.1 ALL” section on page 27-1.
<MOD>	AID type. The parameter type is MOD2, which is the line/path modifier.
• 10GFC	10-Gigabit Fibre Channel payload
• 10GFICON	10-Gigabit fiber connectivity payload
• 1GFC	1-Gigabit Fibre Channel payload
• 1GFICON	1-Gigabit fiber connectivity payload
• 1GISC3	1-Gigabit ISC3 compatible
• 2GFC	2-Gigabit Fibre Channel payload
• 2GFICON	2-Gigabit fiber connectivity payload
• 100GIGE	100 Gigabit Ethernet.
• 10GIGE	10 Gigabit Ethernet.
• 2GISC3	2-Gigabit ISC3 compatible
• 3GVIDEO	3G-SDI video payload.
• 4GFC	4-Gigabit Fibre Channel payload
• 4GFICON	4-Gigabit fiber connectivity payload
• 40GIGE	40-Gigabit Ethernet
• 5GIB	5Gbps InfiniBand (IB_5G) payload
• 8GFC	8-Gigabit Fibre Channel payload
• D1VIDEO	D1 video
• DS1	DS1 line of a DS3XM card
• DS3I	DS3I line
• DV6000	DV6000
• DVBASI	Digital Video Broadband Asynchronous Serial Interface (DVBASI) payload
• EC1	EC1 facility
• ESCON	ESCON
• ETRCLO	ETR_CLO
• FSTE	FSTE facility
• G1000	G1000 facility
• GFPOS	GFP over POS. Virtual ports partitioned using GFP’s multiplexing capability.
• GIGE	Gigabit Ethernet
• HDSDI	1.5G HD-SDI video payload.
• HDTV	HDTV
• ISC1	InterSystem Channel, a protocol defined by IBM (ISC1) payload
• ISC3PEER1G	1-Gigabit ISC3 Peer
• ISC3PEER2G	2-Gigabit ISC3 Peer
• ISC3PEER2R	1-Gigabit or 2-Gigabit ISC3 peer used in transparent (2R) mode

Table 23-24 **Output Parameter Support**

Parameter	Description
• ISC3STP1G	ISC-3 STP 1G video payload.
• ISC3STP2G	ISC-3 STP 2G video payload.
• ISCCOMPAT	1-Gigabit ISC1, ISC2, and ISC3 compatibility
• OC3	OC-3 facility
• OC12	OC-12 facility
• OC48	OC-48 facility
• OC192	OC-192 facility
• OC768	OC-768 facility
• OCH	Optical Channel
• OCHCC	OCH client connection
• OCHNC	OCH network connection
• OCHTERM	OCH termination
• OMS	Optical Multiplex Section
• OTS	Optical Transport Section
• OTL	Optical Channel Transport Lane.
• OTU1	Optical Transport Unit Level 1
• OTU2	Optical Transport Unit Level 2
• OTU3	Optical Transport Unit Level 3
• OTU4	Optical Transport Unit Level 4
• POS	POS port
• SDSDI	270M SDI video payload
• STS1	STS1 path
• STS3C	STS3c path
• STS6C	STS6c path
• STS9C	STS9c path
• STS18C	STS18c path
• STS12C	STS12c path
• STS24C	STS24c path
• STS36C	STS36c path
• STS48C	STS48c path
• STS192C	STS192c path
• T1	T1/DS1 facility/line
• T3	T1/DS1 facility/line
• VT1	VT1 path
• VT2	VT2 path

Table 23-24 **Output Parameter Support**

Parameter	Description
<CONDTYPE>	Condition type for an alarm or a reported event. The parameter type is ALM_THR, which is the alarm threshold list for the MXP_2.5G_10G, TXP_MR_10G, OSCM, OSC-CSM, OPT-PRE, OPT-BST, 4MD-xx.x, 32MUX, 32DMX, AD-1C-xx.x, AD-2C-xx.x, AD-4C-xx.x, AD-1B-xx.x, and AD-4B-xx.x cards.
• BATV-EHIGH	Battery Voltage—Extremely High
• BATV-ELow	Battery Voltage—Extremely Low
• BATV-HIGH	Battery Voltage—High
• BATV-LOW	Battery Voltage—Low
• CD-LOW	Low Threshold value for Chromatic Dispersion. Measured value -70000dBm to +70000dBm.
• CD-HIGH	High Threshold value for Chromatic Dispersion. Measured value -70000dBm to +70000dBm.
• GAIN-HDEG	Gain not reached—High Degrade Threshold
• GAIN-HFAIL	Gain not reached—High Failure Threshold
• GAIN-LDEG	Gain not reached—Low Degrade Threshold
• GAIN-LFAIL	Gain not reached—Low Failure Threshold
• LBCL-HIGH	Laser Bias Current in microA as tenths of a percentage of High Warning Threshold, Low Warning Threshold Measured value [0.0%, 100.0%]
• OPR-HIGH	Receive power in tenths of a microW. Measured value -40.0 dBm, +30.0 dBm.
• OPR-LOW	Receive power in tenths of a microW. Measured value -40.0 dBm, +30.0 dBm.
• OPT-HIGH	Transmit power in tenths of a microW. Measured value -40.0 dBm, +30.0 dBm.
• OPT-LOW	Transmit power in tenths of a microW. Measured value -40.0 dBm, +30.0 dBm.
• OPWR-HDEG	Optical Power—High Degrade Threshold
• OPWR-HFAIL	Optical Power—High Failure Threshold
• OPWR-LDEG	Optical Power—Low Degrade Threshold
• OPWR-LFAIL	Optical Power—Low Failure Threshold
• OSNR-LOW	Low Threshold value for Optical Signal to Noise Ratio. Measured value +40dBm to +80dBm.
• OSNR-HIGH	High Threshold value for Optical Signal to Noise Ratio. Measured value +40dBm to +80dBm.
• PMD-LOW	Low Threshold value for Polarization Mode for Dispersion. Measured value +0 to +100dBm.
• PMD-HIGH	High Threshold value for Polarization Mode for Dispersion. Measured value +0 to +100dBm.
• VOA-HDEG	VOA Attenuation—High Degrade Threshold
• VOA-HFAIL	VOA Attenuation—High Failure Threshold
• VOA-LDEG	VOA Attenuation—Low Degrade Threshold
• VOA-LFAIL	VOA Attenuation—Low Failure Threshold
<THLEVEL>	Threshold level. THLEVEL is a float.

23.21 RTRV-ALMTH-EQPT

The Retrieve Alarm Threshold Equipment (RTRV-ALMTH-EQPT) command retrieves the alarm thresholds for the power level monitoring on an NE.

Usage Guidelines

None

Category

Equipment

Security

Retrieve

Input Format

RTRV-ALMTH-EQPT:[<TID>]:[<AID>]:<CTAG>::[<CONDTYPE>][,,:];

Input Examples

RTRV-ALMTH-EQPT::1::BATV-HIGH;
RTRV-ALMTH-EQPT::SHELF-2:1::BATV-HIGH;

Table 23-25 *Input Parameter Support*

Parameter	Description
<AID>	(Optional) The node or shelf access identifier from the “27.26 SHELF” section on page 27-33 . If omitted, it addresses the node or first shelf of the node.
<CONDTYPE>	Alarm threshold. A null value is equivalent to ALL. The parameter type is ALM_THR, which is the alarm threshold list for the MXP_2.5G_10G, TXP_MR_10G, OSCM, OSC-CSM, OPT-PRE, OPT-BST, 4MD-xx.x, 32MUX, 32DMX, AD-1C-xx.x, AD-2C-xx.x, AD-4C-xx.x, AD-1B-xx.x, and AD-4B-xx.x cards.
• BATV-EHIGH	Battery Voltage—Extremely High
• BATV-ELow	Battery Voltage—Extremely Low
• BATV-HIGH	Battery Voltage—High
• BATV-LOW	Battery Voltage—Low
• CD-LOW	Low Threshold value for Chromatic Dispersion. Measured value -70000dBm to +70000dBm.
• CD-HIGH	High Threshold value for Chromatic Dispersion. Measured value -70000dBm to +70000dBm.
• GAIN-HDEG	Gain not reached—High Degrade Threshold
• GAIN-HFAIL	Gain not reached—High Failure Threshold
• GAIN-LDEG	Gain not reached—Low Degrade Threshold
• GAIN-LFAIL	Gain not reached—Low Failure Threshold
• LBCL-HIGH	Laser Bias Current in microA as tenths of a percentage of High Warning Threshold, Low Warning Threshold. Measured value [0.0%, 100.0%]

Table 23-25 *Input Parameter Support*

Parameter	Description
• OPR-HIGH	Receive power in tenths of a microW. Measured value –40.0 dBm, +30.0 dBm.
• OPR-LOW	Receive power in tenths of a microW. Measured value –40.0 dBm, +30.0 dBm.
• OPT-HIGH	Transmit power in tenths of a microW. Measured value –40.0 dBm, +30.0 dBm.
• OPT-LOW	Transmit power in tenths of a microW. Measured value –40.0 dBm, +30.0 dBm.
• OPWR-HDEG	Optical Power—High Degrade Threshold
• OPWR-HFAIL	Optical Power—High Failure Threshold
• OPWR-LDEG	Optical Power—Low Degrade Threshold
• OPWR-LFAIL	Optical Power—Low Failure Threshold
• OSNR-LOW	Low Threshold value for Optical Signal to Noise Ratio. Measured value +40dBm to +80dBm.
• OSNR-HIGH	High Threshold value for Optical Signal to Noise Ratio. Measured value +40dBm to +80dBm.
• PMD-LOW	Low Threshold value for Polarization Mode for Dispersion. Measured value +0 to +100dBm.
• PMD-HIGH	High Threshold value for Polarization Mode for Dispersion. Measured value +0 to +100dBm.
• VOA-HDEG	VOA Attenuation—High Degrade Threshold
• VOA-HFAIL	VOA Attenuation—High Failure Threshold
• VOA-LDEG	VOA Attenuation—Low Degrade Threshold
• VOA-LFAIL	VOA Attenuation—Low Failure Threshold

Output Format

```

SID DATE TIME
M CTAG COMPLD
“[<AID>],<MOD2B>:<CONDTYPE>,,,<DNFIELD>”
;

```

Output Examples

```

TID-000 1998-06-20 14:30:00
M 001 COMPLD
“SHELF-1,EQPT:BATV-HIGH,,,-52.0,”
;

TID-000 1998-06-20 14:30:00
M 001 COMPLD
“,EQPT:BATV-HIGH,,,-52.0,””
;

```

Table 23-26 **Output Parameter Support**

Parameter	Description
<AID>	(Optional) The node or shelf access identifier from the “ 27.26 SHELF ” section on page 27-33 . If omitted, it addresses the node or first shelf of the node.
<MOD2B>	Alarm type. The parameter type is MOD2B, which is the alarm type.
• 1GFC	1-Gigabit Fibre Channel payload
• 1GFICON	1-Gigabit fiber connectivity payload
• 2GFC	2-Gigabit Fibre Channel payload
• 2GFICON	2-Gigabit fiber connectivity payload
• 3GVIDEO	3G-SDI video payload.
• 4GFC	4-Gigabit Fibre Channel payload
• 4GFICON	4-Gigabit fiber connectivity payload
• BITS	BITS alarm
• CLNT	Client facility for MXP/TXP cards
• COM	Common alarm
• DS3I	DS3i-N-12 alarm
• E1	E1 alarm
• E100	E100 alarm
• E1000	E1000 alarm
• E3	E3 alarm
• E4	E4 alarm
• ENV	ENV alarm
• EQPT	EQPT alarm
• FSTE	Fast Ethernet Port alarm
• G1000	G1000 alarm
• GIGE	Gigabit Ethernet port alarm
• ISC3PEER1G	1-Gigabit ISC3 Peer
• ISC3PEER2G	2-Gigabit ISC3 Peer
• ISC3PEER2R	1-Gigabit or 2-Gigabit ISC3 peer used in transparent (2R) mode
• ISC3STP1G	ISC-3 STP 1G video payload.
• ISC3STP2G	ISC-3 STP 2G video payload.
• ISCCOMPAT	1-Gigabit ISC1, ISC2, and ISC3 compatibility
• OCH	Optical channel
• OMS	Optical Multiplex Section
• OTS	Optical Transport Section
• POS	POS port alarm
• STM1	STM1 alarm
• STM1E	STM1E alarm

Table 23-26 **Output Parameter Support**

Parameter	Description
• STM4	STM4 alarm
• STM16	STM16 alarm
• STM64	STM64 alarm
• SYNCN	SYNCN alarm
• TCC	TCC alarm
• VC11	VC11 alarm
• VC12	VC12 alarm
• VC3	VC3 alarm
• VC44C	VC44C alarm
• VC38C	VC38C alarm
• VC464C	VC464C alarm
• VC48C	VC48C alarm
• VC4	VC4 alarm
• VC416C	VC416C alarm
• VC42C	VC42C alarm
• VC43C	VC43C alarm
<CONDTYPE>	Alarm threshold. The parameter type is ALM_THR, which is the alarm threshold list for the MXP_2.5G_10G, TXP_MR_10G, OSCM, OSC-CSM, OPT-PRE, OPT-BST, 4MD-xx.x, 32MUX, 32DMX, AD-1C-xx.x, AD-2C-xx.x, AD-4C-xx.x, AD-1B-xx.x, and AD-4B-xx.x cards.
• BATV-EHIGH	Battery Voltage—Extremely High
• BATV-ELow	Battery Voltage—Extremely Low
• BATV-HIGH	Battery Voltage—High
• BATV-LOW	Battery Voltage—Low
• CD-LOW	Low Threshold value for Chromatic Dispersion. Measured value -70000dBm to +70000dBm.
• CD-HIGH	High Threshold value for Chromatic Dispersion. Measured value -70000dBm to +70000dBm.
• GAIN-HDEG	Gain not reached—High Degrade Threshold
• GAIN-HFAIL	Gain not reached—High Failure Threshold
• GAIN-LDEG	Gain not reached—Low Degrade Threshold
• GAIN-LFAIL	Gain not reached—Low Failure Threshold
• LBCL-HIGH	Laser Bias Current in microA as tenths of a percentage of High Warning Threshold, Low Warning Threshold. Measured value [0.0%, 100.0%].
• OPR-HIGH	Receive power in tenths of a microW. Measured value -40.0 dBm, +30.0 dBm.
• OPR-LOW	Receive power in tenths of a microW. Measured value -40.0 dBm, +30.0 dBm.
• OPT-HIGH	Transmit power in tenths of a microW. Measured value -40.0 dBm, +30.0 dBm.
• OPT-LOW	Transmit power in tenths of a microW. Measured value -40.0 dBm, +30.0 dBm.

Table 23-26 **Output Parameter Support**

Parameter	Description
• OPWR-HDEG	Optical Power—High Degrade Threshold
• OPWR-HFAIL	Optical Power—High Failure Threshold
• OPWR-LDEG	Optical Power—Low Degrade Threshold
• OPWR-LFAIL	Optical Power—Low Failure Threshold
• OSNR-LOW	Low Threshold value for Optical Signal to Noise Ratio. Measured value +40dBm to +80dBm.
• OSNR-HIGH	High Threshold value for Optical Signal to Noise Ratio. Measured value +40dBm to +80dBm.
• PMD-LOW	Low Threshold value for Polarization Mode for Dispersion. Measured value +0 to +100dBm.
• PMD-HIGH	High Threshold value for Polarization Mode for Dispersion. Measured value +0 to +100dBm.
• VOA-HDEG	VOA Attenuation—High Degrade Threshold
• VOA-HFAIL	VOA Attenuation—High Failure Threshold
• VOA-LDEG	VOA Attenuation—Low Degrade Threshold
• VOA-LFAIL	VOA Attenuation—Low Failure Threshold
<DNFIELD>	DNFIELD is a float.

23.22 RTRV-ALS

The Retrieve Automatic Laser Shutoff (RTRV-ALS) command retrieves the ALS attributes of an STM facility and all the facilities that support the ALS feature. This command is used to retrieve the ALS parameter of the STM4, STM16, and STM64 ports on the MXP_2.5G_10E, TXP_MR_10E, TXP_MR_2.5G, TXPP_MR_2.5G, MXP_2.5G_10G, and TXP_MR_10G cards.

Usage Guidelines

RTRV-ALS on 10x10G-LC, 100G-LC-C, and CFP-LC cards retrieves ALS attributes on the OCH interface for non-OTU payloads and on payloads interfaces for OTU payloads.

Category

Ports

Security

Retrieve

Input Format

RTRV-ALS:[<TID>]:<AID>:<CTAG>[:];

Input Example

RTRV-ALS:PENNGROVE:FAC-1-1:1;

Input Parameters

<AID> Access identifier from the [“27.1 ALL” section on page 27-1](#).

Output Format

SID DATE TIME
M CTAG COMPLD
“<AID>,<AIDTYPE>::[ALSMODE=<ALSMODE>],[ALSRCINT=<ALSRCINT>],
[ALSRCPW=<ALSRCPW>],[LSRSTAT=<LSRSTAT>],[OSRI=<OSRI>]”
;

Output Example

TID-000 1998-06-20 14:30:00
M 001 COMPLD
“FAC-6-1,STM64::ALSMODE=DISABLED,ALSRCINT=100,ALSRCPW=2.0,LSRSTAT=UP:”
;

Table 23-27 Input Parameter Support

Parameter	Description
<AID>	Access identifier from the “27.1 ALL” section on page 27-1 .
<AIDTYPE>	Type of access identifier. The parameter type is MOD2, which is the line/path modifier.
• 100GIGE	100 Gigabit Ethernet.
• 10GFC	10-Gigabit Fibre Channel payload
• 10GFICON	10-Gigabit fiber connectivity payload
• 1GFC	1-Gigabit Fibre Channel payload
• 1GFICON	1-Gigabit fiber connectivity payload
• 1GISC3	1-Gigabit ISC3 compatible
• 2GFC	2-Gigabit Fibre Channel payload
• 2GFICON	2-Gigabit fiber connectivity payload
• 2GISC3	2-Gigabit ISC3 compatible
• 3GVIDEO	3G-SDI video payload.
• 4GFC	4-Gigabit Fibre Channel payload
• 4GFICON	4-Gigabit fiber connectivity payload
• 40GIGE	40-Gigabit Ethernet
• D1VIDEO	D1 video
• DS3I	DS3i-N-12 line
• DV6000	DV6000
• DVBASI	Digital Video Broadband Asynchronous Serial Interface (DVBASI) payload
• E1	E1
• E3	E3

Table 23-27 Input Parameter Support

Parameter	Description
• E4	E4 frame. Only applicable to STM1E Ports 9 through 12 when it is in E4-FRAMED or E4-UNFRAMED mode.
• ESCON	ESCON
• ETRCLO	ETRCLO
• FSTE	FSTE facility
• G1000	G1000 facility
• GFPOS	Generic Framing Protocol over Packet Over NCS. Virtual ports partitioned using GFP's multiplexing capability.
• GIGE	Gigabit Ethernet
• HDTV	HDTV
• HDSDI	1.5G HD-SDI video payload
• ISC1	InterSystem Channel, a protocol defined by IBM (ISC1) payload
• ISC3PEER1G	1-Gigabit ISC3 Peer
• ISC3PEER2G	2-Gigabit ISC3 Peer
• ISC3PEER2R	1-Gigabit or 2-Gigabit ISC3 peer used in transparent (2R) mode
• ISC3STP1G	ISC-3 STP 1G video payload.
• ISC3STP2G	ISC-3 STP 2G video payload.
• ISCCOMPAT	1-Gigabit ISC1, ISC2, and ISC3 compatibility
• OCH	Optical Channel
• OCHCC	OCH client connection
• OCHNC	OCH network connection
• OCHTERM	OCH termination
• OMS	Optical Multiplex Section
• OTS	Optical Transport Section
• OTU1	Optical Transport Unit Level 1
• OTU4	Optical Transport Unit Level 4
• POS	POS port
• SDSDI	270M SDI video payload
• STM1	STM1 facility
• STM1E	STM1E facility. Only applicable to the STM1E facility (when it is in STM1E mode) of NCS STM1E-12 card
• STM4	STM4 facility
• STM16	STM16 facility
• STM64	STM64 facility
• VC3	VC3 path
• VC44C	VC4-4C path
• VC38C	VC3-8C path

Table 23-27 **Input Parameter Support**

Parameter	Description
• VC464C	VC4-64C path
• VC48C	VC4-8C path
• VC4	VC4 path
• VC416C	VC4-16C path
• VC42C	VC4-2C path
• VC43C	VC4-3C path
• VC11	VC11 path
• VC12	VC12 path
<ALSMODE>	(Optional) ALS is enabled or disabled. The parameter type is ALS_MODE, which is the working mode for automatic laser shutdown.
• AUTO	Automatic
• DISABLED	Disabled
• MAN	Manual
• MAN-RESTART	Manual restart for test
<ALSRCINT>	(Optional) ALS recovery interval. The range is 60 to 300 seconds. ALSRCINT is an integer.
<ALSRCPW>	(Optional) ALS recovery pulse width. The range is 2.0 to 100.00 seconds, in increments of 100 ms. ALSRCPW is a float.
<LSRSTAT>	(Optional) Status of the laser. The parameter type is LASER_STATUS, which is the status of laser.
• APR	Laser is switched on but is working automatic power reduction.
• OFF	Laser is switched off.
• ON	Laser is switched on.
<OSRI>	(Optional) OSRI enabled or disabled. Present only on a port where the safety is supported. Defaults to off. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.

23.23 RTRV-APC

The Operate Amplifier Power Control (RTRV-APC) command retrieves the APC application attributes.

Usage Guidelines None

Category NCS

Security Maintenance

Input Format RTRV-APC:[<TID>]::<CTAG>;

Input Example RTRV-APC:PENNGROVE:WDMSIDE-A:114;

Input Parameters None

Output Format

```

SID DATE TIME
M CTAG COMPLD
“:[ROLE=<ROLE>],[APCENABLE=<APCENABLE>],[APCSTATE=<APCSTATE>]”
;
```

Output Example

```

TID-000 1998-06-20 14:30:00
M 001 COMPLD
“::APCENABLE=Y,APCSTATE=WORKING”
;
```

Table 23-28 Output Parameter Support

Parameter	Description
<WDMSIDE>	The AID is used to access the WDM side of an MSTP node.
WDMSIDE-{UNKNOWN,A,B,C,D,E,F,G,H}	MSTP side identifier
<ROLE>	The role the unit is playing in the protection group.
PROT	The entity is the protection unit in the protection group.
WORK	The entity is the working unit in the protection group.
<APCENABLE>	(Optional) Enable or disable of the APC application. The parameter type is ON_OFF (disable or enable an attribute).
N	Disable an attribute.
Y	Enable an attribute.
<APCSTATE>	(Optional) Indicates the status of the APC application. The parameter type is APC_STATE, which is the APC status.
DISABLE	The APC is disabled by the user and is not working.
FORCED-DISABLE	The APC has been internally disabled by the node and is not working.
WORKING	The APC is enabled by the user and is working.
PASSIVE	The APC is in the passive state.

23.24 RTRV-ATTR-CONT

The Retrieve Attribute Control (RTRV-ATTR-CONT) command retrieves and sends the attributes associated with an external control. These attributes are used when an external control is operated or released. To set these attributes, use the SET-ATTR-CONT command.

Usage Guidelines None

Category Environment

Security Retrieve

Input Format RTRV-ATTR-CONT:[<TID>]:<AID>:<CTAG>[:<CONTTYPE>];

Input Example RTRV-ATTR-CONT:CISCO:ENV-OUT-2:123::AIRCOND;

Table 23-29 Input Parameter Support

Parameter	Description
<AID>	Access identifier from the “27.12 ENV” section on page 27-20 . Identifies the external control for which attributes are being set.
<CONTTYPE>	(Optional) Environmental control type. A null value is equivalent to ALL. The parameter type is CONTTYPE, which is the environmental control type.
• AIRCOND	Air conditioning
• ENGINE	Engine
• FAN	Fan
• GEN	Generator
• HEAT	Heat
• LIGHT	Light
• MISC	Miscellaneous
• SPKLR	Sprinkler

Output Format

```

SID DATE TIME
M CTAG COMPLD
"<AID>:[<CONTTYPE>]"
;
```

Output Example

```
TID-000 1998-06-20 14:30:00
M 001 COMPLD
  "ENV-OUT-2:AIRCOND"
;
```

Table 23-30 **Output Parameter Support**

Parameter	Description
<AID>	Access identifier from the “27.12 ENV” section on page 27-20. Identifies the external control for which attributes are being set.
<CONTTYPE>	(Optional) Environmental control type. A null value is equivalent to ALL. The parameter type is CONTTYPE, which is the environmental control type.
• AIRCOND	Air conditioning
• ENGINE	Engine
• FAN	Fan
• GEN	Generator
• HEAT	Heat
• LIGHT	Light
• MISC	Miscellaneous
• SPKLR	Sprinkler

23.25 RTRV-ATTR-ENV

The Retrieve Attribute Environment (RTRV-ATTR-ENV) command retrieves the attributes associated with an environmental alarm.

Usage Guidelines None

Category Environment

Security Retrieve

Input Format RTRV-ATTR-ENV:[<TID>]:<AID>:<CTAG>::[<NTFCNCDE>],[<ALMTYPE>];

Input Example RTRV-ATTR-ENV:CISCO:ENV-IN-1:123::MJ,OPENDR;

Table 23-31 **Input Parameter Support**

Parameter	Description
<AID>	Access identifier from the “27.12 ENV” section on page 27-20.
<NTFCNCDE>	(Optional) Two-letter notification code. The parameter type is NOTIF_CODE, which is the two-character notification code associated with an autonomous message.
• CL	The condition causing the alarm has cleared.
• CR	A critical alarm.
• MJ	A major alarm.
• MN	A minor alarm.
• NA	The condition is not alarmed.
• NR	The alarm is not reported.
<ALMTYPE>	(Optional) The alarm type for the environmental alarm. A null value is equivalent to ALL. The parameter type is ENV_ALM, which is the environmental alarm type.
• AIRCOMPR	Air compressor failure
• AIRCOND	Air conditioning failure
• AIRDRYR	Air dryer failure
• BATDSCHRG	Battery discharging
• BATTERY	Battery failure
• CLFAN	Cooling fan failure
• CPMAJOR	Centralized power major failure
• CPMINOR	Centralized power minor failure
• ENGINE	Engine failure
• ENGOPRG	Engine operating
• ENGTRANS	Standby engine transfer
• EXPLGS	Explosive gas
• FIRDETR	Fire detector failure
• FIRE	Fire
• FLOOD	Flood
• FUELLEAK	Fuel leak
• FUSE	Fuse failure
• GASALARM	Explosive gas, toxic gas, ventilation fail or gas monitor fail
• HATCH	CEV hatch fail
• GEN	Generator failure
• HIAIR	High air flow
• HIHUM	High humidity
• HITEMP	High temperature
• HIWTR	High water
• INTRUDER	Intrusion

Table 23-31 *Input Parameter Support*

Parameter	Description
• LEVELCON	Level converter
• LVDADSL	Secondary ADSL low voltage disconnect
• LVDBYPAS	Low voltage disconnect bypass
• LWBATVG	Low battery voltage
• LWFUEL	Low fuel
• LWHUM	Low humidity
• LWPRES	Low cable pressure
• LWTEMP	Low temperature
• LWWTR	Low water
• MISC	Miscellaneous
• OPENDR	Open door
• POWER	Commercial power failure
• PUMP	Pump failure
• PWR-48	48 V power supply failure
• PWR-139	–139 V power converter
• PWR-190	–190 V power converter
• PWRMJ	Power supply major
• PWRMN	Power supply minor
• RECT	Rectifier failure
• RECTHI	Rectifier high voltage
• RECTLO	Rectifier low voltage
• RINGGENMJ	Ring generator major
• RINGGENMN	Ring generator minor
• RTACADSL	AC or AC/rectifier power fail ADSL equipment
• RTACCRIT	AC or AC/rectifier power fail DCL equipment critical site
• RTACPWR	AC or AC/rectifier power fail DCL equipment
• RTACPWRENG	Commercial AC fail, site equipped with standby engine
• RTBAYPWR	AC power loss distributed power RT bay
• RTRVENG	Retrieve standby engine, commercial AC restored
• SMOKE	Smoke
• TEMP	High-low temperature
• TOXICGAS	Toxic gas
• TREPEATER	T-repeater shelf
• VENTN	Ventilation system failure

Output Format

```

SID DATE TIME
M CTAG COMPLD
"<AID>:[<NTFCNCDE>],[<ALMTYPE>],[<DESC>]"
;

```

Output Example

```

TID-000 1998-06-20 14:30:00
M 001 COMPLD
"ENV-IN-1:MJ,OPENDR,\"OPEN DOOR\""
;

```

Table 23-32 Output Parameter Support

Parameter	Description
<AID>	Access identifier from the “27.12 ENV” section on page 27-20 .
<NTFCNCDE>	(Optional) Two-letter notification code. The parameter type is NOTIF_CODE, which is the two-character notification code associated with an autonomous message.
• CL	The condition causing the alarm has cleared.
• CR	A critical alarm.
• MJ	A major alarm.
• MN	A minor alarm.
• NA	The condition is not alarmed.
• NR	The alarm is not reported.
<ALMTYPE>	(Optional) The alarm type for the environmental alarm. The parameter type is ENV_ALM, which is the environmental alarm type.
• AIRCOMPR	Air compressor failure
• AIRCOND	Air conditioning failure
• AIRDRYR	Air dryer failure
• BATDSCHRG	Battery discharging
• BATTERY	Battery failure
• CLFAN	Cooling fan failure
• CPMAJOR	Centralized power major failure
• CPMINOR	Centralized power minor failure
• ENGINE	Engine failure
• ENGOPRG	Engine operating
• ENGTRANS	Standby engine transfer
• EXPLGS	Explosive gas
• FIRDETR	Fire detector failure
• FIRE	Fire
• FLOOD	Flood
• FUELLEAK	Fuel leak
• FUSE	Fuse failure

Table 23-32 **Output Parameter Support**

Parameter	Description
• GASALARM	Explosive gas, toxic gas, ventilation fail or gas monitor fail
• HATCH	CEV hatch fail
• GEN	Generator failure
• HIAIR	High air flow
• HIHUM	High humidity
• HITEMP	High temperature
• HIWTR	High water
• INTRUDER	Intrusion
• LEVELCON	Level converter
• LVDADSL	Secondary ADSL low voltage disconnect
• LVDBYPAS	Low voltage disconnect bypass
• LWBATVG	Low battery voltage
• LWFUEL	Low fuel
• LWHUM	Low humidity
• LWPRES	Low cable pressure
• LWTEMP	Low temperature
• LWWTR	Low water
• MISC	Miscellaneous
• OPENDR	Open door
• POWER	Commercial power failure
• PUMP	Pump failure
• PWR-48	48 V power supply failure
• PWR-139	–139 V power converter
• PWR-190	–190 V power converter
• PWRMJ	Power supply major
• PWRMN	Power supply minor
• RECT	Rectifier failure
• RECTHI	Rectifier high voltage
• RECTLO	Rectifier low voltage
• RINGGENMJ	Ring generator major
• RINGGENMN	Ring generator minor
• RTACADSL	AC or AC/rectifier power fail ADSL equipment
• RTACCRIT	AC or AC/rectifier power fail DCL equipment critical site
• RTACPWR	AC or AC/rectifier power fail DCL equipment
• RTACPWRENG	Commercial AC fail, site equipped with standby engine
• RTBAYPWR	AC power loss distributed power RT bay

Table 23-32 **Output Parameter Support**

Parameter	Description
• RTRVENG	Retrieve standby engine, commercial AC restored
• SMOKE	Smoke
• TEMP	High-low temperature
• TOXICGAS	Toxic gas
• TREPEATER	T-repeater shelf
• VENTN	Ventilation system failure
<DESC>	(Optional) Alarm description. DESC is a string.

23.26 RTRV-AUDIT-LOG

The Retrieve Audit Log (RTRV-AUDIT-LOG) command retrieves the contents of the audit log stored in the NE. Audit records contain information for user operations such as login, logout, change of provisioning parameters and other changes a user might make when connected to the NE. Audit records do not store operations related to parameter retrieval.

Usage Guidelines None

Category Log

Security Superuser

Input Format RTRV-AUDIT-LOG:[<TID>]::<CTAG>;

Input Example RTRV-AUDIT-LOG:::1;

Input Parameters None

Output Format SID DATE TIME
M CTAG COMPLD
“ <ENTRYNUM>,<OCRDAT>,<OCRTM>,<TASKID>,<TXSTATUS>,<DESCRIPTION>”
;

Output Example

```
TID-000 1998-06-20 14:30:00
M 001 COMPLD
  "17172,2004-10-05,09-52-44, TPROVMGR,COMPLD,\"DESCRIPTION\"";
```

Table 23-33 *Output Parameter Support*

Parameter	Description
<ENTRYNUM>	Entry number. ENTRYNUM is an integer.
<OCRDAT>	Date when the specific event or violation occurred, MM-DD.
<OVRTM>	Time when the specific event or violation occurred, HH-MM-SS.
<TASKID>	Task ID. TASKID is a string.
<TXSTATUS>	The parameter type is TX_STATUS, which indicates the status of the transferred file.
• COMPLD	The file transmission is completed.
• IP	The file transmission is in process.
• START	The file transmission is started.
<DESCRIPTION>	Description of event. The description format varies depending on the event and can include parameters used during the event. DESCRIPTION is a string.

23.27 RTRV-AUTO

The Retrieve Auto (RTRV-AUTO) command retrieves the AUTO ports provisioned. Port bandwidth changes to OC3/OC12/OC48 as per the incoming signal when auto sense is enabled. Default being OC48 when auto sense is disabled.

Usage Guidelines None

Category NCS

Security Provisioning

Input Format RTRV-AUTO:[<TID>]:<AID>:<CTAG>;

Input Example RTRV-AUTO:CISCO:VFAC-2-1-1:1;

Input Parameters None that require description

Output Format

```
SID DATE TIME
M CTAG COMPLD
"<AID>,[DETECTEDPAYLOAD=<DETECTEDPAYLOAD>],[AUTONSENSE=<AUTONSENSE>]"
;
```

Output Example

```
M 1 COMPLD
"VFAC-15-1-1,DETECTEDPAYLOAD=OC48,AUTONSENSE=N"
;
```

Output Parameters

<AID>	The AR-MXP, AR-XP, and AR-XPE cards use the VFAC Access Identifier.
<DETECTEDPAYLOAD>	Payload detected.
• 100GIGE	100 Gigabit Ethernet.
• 3GVIDEO	3G-SDI video payload.
• AUTO	Auto.
• ISC3STP1G	ISC-3 STP 1G video payload.
• ISC3STP2G	ISC-3 STP 2G video payload.
• HDSDI	1.5G HD-SDI video payload.
• OTU1	Optical Transport Unit Level 1.
• OTU4	Optical Transport Unit Level 4.
• SDSDI	270M SDI video payload.
<AUTONSENSE>	Specifies if auto sense is enabled or disabled.
• Y	Enable Autosensing.
• N	Disable Autosensing.

23.28 RTRV-BITS

The Retrieve Building Integrated Timing Supply (RTRV-BITS) command retrieves the BITS configuration command.

Usage Guidelines

None

Category

Synchronization

Security

Retrieve

Input Format RTRV-BITS:[<TID>]:<AID>:<CTAG>[:];

Input Example RTRV-BITS:SONOMA:BITS-1:782;

Input Parameters <AID> Access identifier from the [“27.6 BITS” section on page 27-11](#).

Output Format

```

SID DATE TIME
M CTAG COMPLD
  “<AID>::[LINECDE=<LINECDE>],[FMT=<FMT>],[LBO=<LBO>],
  [SYNCSMSG=<SYNCSMSG>],[AISTHRSHLD=<AISTHRSHLD>],[SABIT=<SABIT>],
  [IMPEDANCE=<IMPEDANCE>],[BITSFAC=<BITSFAC>],[ADMSSM=<ADMSSM>]:[<PST>]”
;
```

Output Example

```

TID-000 1998-06-20 14:30:00
M 001 COMPLD
  “BITS-1::LINECDE=AMI,FMT=ESF,LBO=0-133,SYNCSMSG=N,AISTHRSHLD=G811,
  SABIT=BYTE-4,IMPEDANCE=120-OHM,BITSFAC=E1,ADMSSM=G811:UNLOCKED”
;
```

Table 23-34 Input Parameter Support

Parameter	Description
<AID>	Access identifier from the “27.6 BITS” section on page 27-11 .
<LINECDE>	(Optional) Line code. The parameter type is LINE_CODE (line code).
• AMI	Line code value is AMI.
• B3ZS	Binary three-zero substitution.
• B6ZS	Line code value is B6ZS .
• B8ZS	Line code value is B8ZS (bipolar with eight-zero substitution).
• HDB3	Line Code HDB3. Only applicable to NCS E1 signal.
• JBZS	JBZS
• ZBTSE	ZBTSE
<FMT>	(Optional) Digital signal frame format. The parameter type is FRAME_FORMAT, which is the frame format for an E1 port.
• AUTOPROV	AUTOPROV
• CBIT	C-BIT line type applies to the DS3XM and DS3E cards.
• DS2 FRAMED	DS2 FRAMED
• E1-CRCMF	NCS E1 CRCMF frame format
• E-CRC	NCS E1 CRC frame format
• E1-MF	NCS E1 MF frame format
• E1-UNFRAMED	NCS E1 unframed format

Table 23-34 **Input Parameter Support**

Parameter	Description
• E1-FRAME	NCS E1 framed format
• E2 FRAMED	E2 FRAMED
• E3-FRAME	E3-FRAME
• E3-PLCP	E3-PLCP
• FRAMENA	FRAMENA
• G-751	G-751
• G-832	G-832
• M13	M13 line type applies to the DS3XM and DS3E cards.
• M23	M23
• SYNTRAN	SYNTRAN
<LBO>	(Optional) BIS line build out settings. Default value is 0 to 133. LBO is an integer. The parameter type is BITS_LineBuildOut (BITS line buildout).
• 0–133	BITS line buildout range is 0 to 133.
• 134–266	BITS line buildout range is 134 to 266.
• 267–399	BITS line buildout range is 267 to 399.
• 400–533	BITS line buildout range is 400 to 533.
• 534–655	BITS line buildout range is 534 to 655.
<SYNMSG>	(Optional) Indicates if the BITS facility supports synchronization status message. Default is on (Y). The parameter type is EXT_RING, which indicates if the ring supports the extended K1/K2/K3 protocol.
• N	The ring does not support the extended K1/K2/K3 protocol.
• Y	The ring does support the extended K1/K2/K3 protocol.
<AISTHRSHLD>	(Optional) Alarm indication signal threshold. The parameter type is SYNC_CLOCK_REF_QUALITY_LEVEL, which is the clock source quality level for NCS.
• DUS_NCS	Do Not Use For Synchronization
• G811	ITU-T G.811 Standard
• RES_NCS	Reserved For Network Synchronization Use
• G812T	ITU-T G.812T Standard
• STU_NCS	Synchronized, Traceability Unknown
• G812TL	ITU-T G.812TL Standard
• SETS	Synchronous Equipment Timing Source
<SABIT>	(Optional) When the frame format selection is E1, SABIT is the BIT used to receive and transmit the SSM. The parameter type is SABITS (SA BITS).
• BYTE-4	SABIT is BYTE-4.
• BYTE-5	SABIT is BYTE-5.
• BYTE-6	SABIT is BYTE-6.
• BYTE-7	SABIT is BYTE-7.

Table 23-34 Input Parameter Support

Parameter	Description
• BYTE-8	SABIT is BYTE-8.
<IMPEDANCE>	(Optional) When the frame format selection is E1, IMPEDANCE is the terminal impedance of the BITS-IN port. The parameter type is IMPEDANCE, which is the terminal impedance of the BITS-IN port.
• 120-OHM	Impedance of 120 ohm
• 75-OHM	Impedance of 75 ohm
<BITSFAC>	(Optional) BITS facility settings. The parameter type is BITS_FAC, which is the BITS facility rate. 64 k and 6 MHz are only applicable to NCS.
• 2 M	2 MHz rate
• 64 K	64 K rate
• 6 M	6 MHz rate
• E1	E1 rate
<ADMSSM>	(Optional) SSM selectable. Only applicable to BITS-IN when SSM is disabled. The parameter type is SYNC_CLOCK_REF_QUALITY_LEVEL, which is the clock source quality level for NCS.
• DUS_NCS	Do Not Use For Synchronization
• G811	ITU-T G.811 Standard
• RES_NCS	Reserved For Network Synchronization Use
• G812T	ITU-T G.812T Standard
• STU_NCS	Synchronized, Traceability Unknown
• G812TL	ITU-T G.812TL Standard
• SETS	Synchronous Equipment Timing Source
<PST>	(Optional) Primary state. The parameter type is PST, which indicates the current overall service condition of an entity.
• Unlocked	In service
• Locked	Out of service

23.29 RTRV-AWCFG

The Retrieve Alien Wavelength Configuration (RTRV-AWCFG) retrieves the alien wavelength attributes configured.

Usage Guidelines None

Category NCS

Security Provisioning

Input Format RTRV-AWCFG:[<TID>]:<src>:<CTAG>::[:];

Input Example RTRV-AWCFG::CHAN-3-5-RX:1;

Table 23-35 Parameter Support

Parameter	Description
<SRC>	AID from the “27.1 ALL” section on page 27-1 .

Output Format SID DATE TIME
M CTAG COMPLD
“”<AID>:<ALIENID>,<FECMODE>”
;

Output Example TID-000 1998-06-20 14:30:00
M 001 COMPLD
“CHAN-3-4-RX:40G NCS ITU-T TXP,FECMODE=ENHANCED14”
;

Table 23-36 Output Parameter Support

Parameter	Description
<AID>	AID from the “27.1 ALL” section on page 27-1 .
<ALIENID>	Indicates the operating mode for alien wavelength. ALIENID is a STRING.
<FECMODE>	Specifies the FEC mode for alien wavelength.
• ENH	Enhanced FEC is enabled.
• ENH-I4	Enhanced FEC 1.4 is enabled.
• ENH-I7	Enhanced FEC 1.7 is enabled.
• HG-7	7% High Gain FEC is enabled.
• HG-20	20% High Gain FEC is enabled.
• OFF	FEC is disabled.
• STD	Standard FEC is enabled.

23.30 RTRV-BULKROLL-<STM_TYPE>

The Retrieve Bulkroll for STM4, STM64, STM1, or STM16 (RTRV-BULKROLL-STM_TYPE) command retrieves roll data parameters on a line. See [Table 29-1 on page 29-1](#) for supported modifiers by platform.

Usage Guidelines None

23.30 RTRV-BULKROLL-<STM_TYPE>

Category Bridge and Roll

Security Retrieve

Input Format RTRV-BULKROLL-<OCN_TYPE>[:<TID>]:<SRC>:<CTAG>:::[CRSTYPE=<CRSTYPE>];

Input Example RTRV-BULKROLL-STM4:CISCO:FAC-3-1-1::VC3;

Input Parameters	<SRC>	Source AID from the “27.15 FACILITY” section on page 27-23 .
	<CRSTYPE>	One of the values: VC3, VC44C, VC38C, VC464C, VC48C, VC4-12C, VC4, VC416C, VC42C, VC43C, VC11, or VC12

Output Format

```

SID DATE TIME
M CTAG COMPLD
  "<FROM>:RFROM=<RFROM>,RTO=<RTO>,RMODE=<RMODE>,VLDSIG=<VLDSIG>"
;
```

Output Example

```

TID-000 1998-06-20 14:30:00
M 001 COMPLD
  "VC4-3-1-1:RFROM=VC4-3-1-1,RTO=VC4-5-1-1,RMODE=AUTO,VLDSIG=Y"
;
```

Table 23-37 Output Parameter Support

Parameter	Description
<FROM>	One of the endpoints. Access identifier from the “27.15 FACILITY” section on page 27-23 for line level rolling and bulk rolling.
<RFROM>	The termination point of the existing cross-connect that is to be rolled. AID is from the “27.32 VC” section on page 27-35 .
<RTO>	The the termination point that will become a leg of the new cross-connection. AID is from the “27.32 VC” section on page 27-35 .
<RMODE>	(Optional) The rolling mode of operation. The parameter type is RMODE, which specifies the roll mode.
• AUTO	Automatic. When a valid signal is available, the roll under AUTO mode will automatically delete the previous endpoint.
• MAN	Manual. Enter the corresponding delete roll/bulkroll command to delete the previous endpoint.
<VLDSIG>	(Optional) The rolling mode of operation. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.

23.31 RTRV-BULKROLL-<OCN_TYPE>

The Retrieve Bulkroll for OC12, OC192, OC3, OC48, or OC768 (RTRV-BULKROLL-<OCN_TYPE>) command retrieves roll data parameters on a line.

Usage Guidelines

See [Table 29-1 on page 29-1](#) for supported modifiers by platform.

Category

Bridge and Roll

Security

Provisioning

Input Format

RTRV-BULKROLL-<OCN_TYPE>:[<TID>]:<SRC>:<CTAG>;

Input Example

RTRV-BULKROLL-OC12:CISCO:FAC-3-1-1;

Input Parameters

<SRC>	Source AID from the “27.15 FACILITY” section on page 27-23 .

Output Format

SID DATE TIME
M CTAG COMPLD
“<FROM>:RFROM=<RFROM>,RTO=<RTO>,[RMODE=<RMODE>],VLDSIG=<VLDSIG>”
;

Output Example

TID-000 1998-06-20 14:30:00
M 001 COMPLD
“STS-3-1-1:RFROM=STS-3-1-1,RTO=STS-5-1-1,RMODE=AUTO,VLDSIG=Y”
;

Output Parameters

<FROM>	One of the end points. Access identifier from the “27.15 FACILITY” section on page 27-23 for line level rolling and bulk rolling.
<RFROM>	The termination point of the existing cross-connect that is to be rolled. The AID is from the “27.32 VC” section on page 27-35 (except VCM and FACILITY).
<RTO>	The termination point that will become a leg of the new cross-connection. The AID is from the “27.32 VC” section on page 27-35 (except VCM and FACILITY).
<RMODE>	(Optional) The rolling mode of operation. The parameter type is RMODE, which specifies the roll mode.

• AUTO	Automatic. When a valid signal is available, the roll under AUTO mode will automatically delete the previous end-point.
• MAN	Manual. Enter the corresponding delete roll/bulkroll command to delete the previous end-point.
• MAN	Manual
• MAN-RESTART	Manual Restart for Test
<VLDSIG>	(Optional) The rolling mode of operation. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.

23.32

23.33 RTRV-BWP-ETH

This command is used to retrieve a BandWidth Profile entry in BWP DB. The BWP DB is a collection of BWP used in a Network Element.

Usage Guidelines

The “ALL” AID is supported by this command.

If the AID is invalid, an IIAC (Invalid AID) error message is returned.

Category

Ethernet

Security

Retrieve

Input Format

RTRV-BWP-ETH:[<TID>]:<AID>:<CTAG>[:::];

Input Example

RTRV-BWP-ETH:ROCKS:BWP-10000:1;

Input Parameter

Table 23-38 Input Parameter Support

Parameter	Description
<AID>	This AID is used to access BWP.
• BWP-ALL	All aid for BWP.
• BWP-{1-10000}	Single AID for BWP. The valid identifiers ranges from 1 to 10000.

Output Format

SID DATE TIME

M CTAG COMPLD

```
"<AID>::[NAME=<NAME>],[CIR=<CIR>],[CBS=<CBS>],[PBS=<PBS>],[PIR=<PIR>],[CFMSTATE=<CFM_STATE>]:";
```

;

Output Example

TID-000 1998-06-20 14:30:00

M 001 COMPLD

```
"BWP-10000::NAME="MyBWP",CIR=10,CBS=1M,PBS=1M,PIR=20,CFMSTATE=Y:";
```

;

Output Parameters**Table 23-39 Output Parameter Support**

Parameter	Description
<AID>	This AID is used to access BWP.
• BWP-ALL	All aid for BWP.
• BWP-{1-10000}	Single AID for BWP. The valid identifiers ranges from 1 to 10000.
<NAME>	The BWP name. BWP name is a String.
<CIR>	Ingress committed information rate. This is a value between 0.0 and 100.0. Default value is 100.0.
<CBS>	Ingress committed burst bucket size.
• 4K	4 Kbit bucket size
• 8K	16 Kbit bucket size
• 16K	32 Kbit bucket size
• 32K	64 Kbit bucket size
• 64K	128 Kbit bucket size
• 128K	256 Kbit bucket size
• 256K	512 Kbit bucket size
• 512K	1 Mbit bucket size
• 1M	2 Mbit bucket size
• 2M	4 Mbit bucket size
• 4M	8 Mbit bucket size
• 8M	16 Mbit bucket size
• 16M	16 Kbit bucket size
<PBS>	Ingress peak burst bucket size

Table 23-39 Output Parameter Support

Parameter	Description
• 4K	4 Kbit bucket size
• 8K	8 Kbit bucket size
• 16K	16 Kbit bucket size
• 32K	32 Kbit bucket size
• 64K	64 Kbit bucket size
• 128K	128 Kbit bucket size
• 256K	256 Kbit bucket size
• 512K	512 Kbit bucket size
• 1M	1 Mbit bucket size
• 2M	2 Mbit bucket size
• 4M	4 Mbit bucket size
• 8M	8 Mbit bucket size
• 16M	16 Mbit bucket size
<PIR>	Peak information rate. This is a value between 0.0 and 100.0. Default value is 100.0.
<CFMSTATE>	Link Integrity status
• Y	Enabled
• N	Disabled

23.34 RTRV-CFM

The Retrieve Connectivity Fault Management (RTRV-CFM) command retrieves the Connectivity Fault Management (CFM) protocol state at the port level.

Usage Guidelines

- This command is applicable only to GE_XP and 10GE_XP cards.
- The card should be in Layer2 over DMDM mode.

Category

Port

Security

Retrieve

Input Format

RTRV-CFM:[<TID>]:<AID>:<CTAG>;

Input Example

RTRV-CFM:454-156:ETH-1-1-1:1;

Input Parameter

Table 23-40

<AID>	Access identifier from the “27.14 ETH” section on page 27-23 .

Output Format

SID DATE TIME
M CTAG COMPLD
“<AID>,<STATE>”
;

Output Example

TID-000 1998-06-20 14:30:00
M 001 COMPLD
“ETH-7-1-1,STATE=ENABLE”
;

Table 23-41 **Output Parameter Support**

Parameter	Description
<AID>	Ethernet AIDs are used to access L2 Ethernet ports. Access identifier from the “27.14 ETH” section on page 27-23 .
<CFM_STATE>	Indicates whether the CFM is enabled or disabled on the port.
• ENABLE	Indicates the CFM is enabled on the port.
• DISABLE	Indicates the CFM is disabled on the port.

23.35 RTRV-CHGRP

The Retrieve Channel Group (RTRV-CHGRP) command retrieves the layer 2 channel group information of GE_XP and 10GE_XP ethernet cards.

Category

Channel Group

Security

Retrieve

Input Format

RTRV-CHGRP:[<TID>]:<aid>:<CTAG>[:::];

Input Example

RTRV-CHGRP::CHGRP-1-2:1;

Input Parameters

<AID> Access identifier from the [“27.8 CHGRP” section on page 27-14](#).

Output Format

SID DATE TIME
M CTAG COMPLD

```
"<AID>:[LACPMODE=<LACPMODE>],[HASHINGALGO=<HASHINGALGO>],[NIMODE=<NIMODE>],[MACLEARNING=<MACLEARNING>],[INGRESSCOS=<INGRESSCOS>],[ETHERCETYPE=<ETHERCETYPE>],[ETHERSTYPE=>ETHERSTYPE],[BPDU=<BPDU>],[QNQMODE=<QNQMODE>],[MTU=<MTU>],[FLOWCTRL=<FLOWCTRL>],[SPEED=<SPEED>],[EXPSPEED=<EXPSPEED>],[CIR=<CIR>],[CBS=<CBS>],[EBS=<EBS>]:<PST>,<SST>]"
;
```

Output Example

TID-000 1998-06-20 14:30:00
M 001 COMPLD

```
"CHGRP-1-1:LACPMODE=ACTIVE,HASHINGALGO=HASHING_SA_DA_VLAN_INCOMING_PORT,NIMODE=UNI,MACLEARNING=N,INGRESSCOS=0,ETHERCETYPE=8100,ETHERSTYPE=8100,BPDU=Y,QNQMODE=SELECTIVE,MTU=9700,FLOWCTRL=ASYMMETRIC,SPEED=AUTO,EXPSPEED=AUTO,CIR=100,CBS=4K,EBS=4K:OOS-MA,DSBLD"
;
```

Table 23-42 Output Parameter Support

Parameter	Description
<AID>	Access identifier from the “27.8 CHGRP” section on page 27-14.
<NIMODE>	Identifies the Ethernet Network Interface Mode.
• NNI	(Default) Network-Network Interface Mode
• UNI	User-Network Interface Mode
<LACPMODE>	LACP mode values
• ON	Manual mode of LACP
• ACTIVE	Active mode of LACP
• PASSIVE	Passive mode of LACP
<HASHINGALGO>	Hashing algorithm value
• HASHING_SA_VLAN_INCOMING_PORT	The Hashing Algorithm value is HASHING_SA_VLAN_INCOMING_PORT.
• HASHING_DA_VLAN_INCOMING_PORT	The Hashing Algorithm is HASHING_DA_VLAN_INCOMING_PORT.
• HASHING_SA_DA_VLAN_INCOMING_PORT	The Hashing Algorithm is HASHING_SA_DA_VLAN_INCOMING_PORT.
• HASHING_SRC_IP_TCP_UDP	The Hashing Algorithm is HASHING_SRC_IP_TCP_UDP.
• HASHING_DST_IP_TCP_UDP	The Hashing Algorithm is HASHING_DST_IP_TCP_UDP.

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Table 23-42 Output Parameter Support

Parameter	Description
• 16K	32 Kbit bucket size
• 32K	64 Kbit bucket size
• 64K	128 Kbit bucket size
• 128K	256 Kbit bucket size
• 256K	512 Kbit bucket size
• 512K	1 Mbit bucket size
• 1M	2 Mbit bucket size
• 2M	4 Mbit bucket size
• 4M	8 Mbit bucket size
• 8M	16 Mbit bucket size
• 16M	16 Kbit bucket size
<EBS>	Ingress excess burst bucket size.
<MACLEARNING>	MAC Address Learning Mode. This activates the MAC address learning on the interface to avoid packet broadcasting.
• Y	Enables the MAC learning on the interface.
• N	Disables the MAC learning on the interface.
<INGRESSCOS>	Identifies the COS value set in the S-VLAN tag.
• 0 to 7	Set a Cos value
• TRUST	Use the Customer COS
• VLAN	The COS will be provisioned on CVLAN basis (QinQ selective mode)
<ETHERCETYPE>	Identifies a customer foreseen Ethernet type. If the customer uses a non-standard Ethernet type, the incoming packets will be accepted only if the CE-VLAN Ethernet type matches this parameter.
<ETHERSTYPE>	Identifies a customer foreseen Ethernet type. If the customer uses a non-standard Ethernet type, the incoming packets will be accepted only if the CE-VLAN Ethernet type matches this parameter.
<BPDU>	BPDU (Bridge Protocol Data Unit) management mode; Drop/Passthrough BPDU tagged packets.
• Y	Enables the BPDU tag.
• N	Disables the BPDU tag.
<QNQMODE>	This is used to represent the QinQ mode operations.
• Selective	The S-VLAN tag is added only on specified CE-VLANs. The other packets are dropped.
• Transparent	The S-VLAN tag is always performed where all packets having the S-VLAN-ID identified by TRNSPSVLAN parameter are allowed.
<TRNSPSVLAN>	VLAN identifier. A VLAN ID is a number between 1 and 4096. The value 0 is reserved for untagged VLANs. This identifier is used for customer VLAN IDs and service provider VLAN IDs.
<NAME>	(Optional) NAME is a string. User-assigned port name.

23.36 RTRV-CMD-SECU

The Retrieve Command Security (RTRV-CMD-SECU) command retrieves the current command security level of the command specified in the AID field.

Usage Guidelines None

Category Security

Security Superuser

Input Format RTRV-CMD-SECU:[<TID>]:<AID>:<CTAG>;

Input Example RTRV-CMD-SECU::INIT-REG:1;

Input Parameters	<AID> Access identifier string. Identifies the entity in the NE to which the command pertains. It is the command verb along with verb modifier(s), as it currently exists. It can be a single command or a block of commands, where the block might include all commands. Only INIT-REG will be supported. AID is a string.

Output Format

```

SID DATE TIME
M CTAG COMPLD
"<AID>:<CAP>"
;
```

Output Example

```

TID-000 1998-06-20 14:30:00
M 001 COMPLD
"INIT-REG:ROOT_USER"
;
```

Table 23-43 Output Parameter Support

Parameter	Description
<AID>	Access identifier. It can be a single command or a block of commands, where the block can include all commands. Only INIT-REG is supported. AID is a string.
<CAP>	Command access privilege. The parameter type is PRIVILEGE, which is the security level.
• PROV	Provision security level
• SUPER	Superuser security level
• ROOT_USER	Root user.

Table 23-43 Output Parameter Support

Parameter	Description
• SEC_SUPER	Security super user.
• SEC_USER	Security user.

23.37 RTRV-COND-<MOD2ALM>

The Retrieve Condition for 10GFC, 10GIGE, 40GIGE, 100GIGE, 1GFC, 1GFICON, 2GFC, 2GFICON, 4GFC, 4GFICON, 5GIB, 8GFC, CHGRP, DS1, DS3I, DVBAI, E1, E100, E1000, E3, E4, EC1, FSTE, G1000, ETH, GFPOS, GIGE, HDLC, ILK, ISCCOMPAT, ISC1, ISC3PEER2R, ISC3PEER1G, ISC3PEER2G, STM4, STM64, STM1, STM16, MSISC, OCH, ODU0, OMS, OTS, OTL, OTU2, OTU3, OTU4, POS, RPRI, STM1, STM4, STM16, STM64, STM1E, VC3, VC4-4C, VC4-6C, VC4-64C, VC4-8C, VC4-12C, VC4, VC4-16C, VC4-2C, VC4-3C, T1, T3, UDCDCC, UDCF, VC3, VC4, VC4-2c, VC4-3c, VC4-4c, VC4-8c, VC4-16c, VC4-64c, VC11, VC12, VCG, VC11, VC12, WLEN, 3GVIDEO, HDSOI, ISC3STP1G, ISC3STP2G, OTU1, or SDSOI (RTRV-COND-<MOD2ALM>) command retrieves the current standing condition and state associated with an entity.

Usage Guidelines

The command supports the modifiers 3GVIDEO, OTU1, SDSOI, HDSOI, ISC3STP1G, and ISC3STP2G. The RTRV-COND-OTL command retrieves the conditions raised on sublanes of 100G-LC-C and CFP-LC Cards.

RTRV-COND-ODU0 command retrieves the conditions raised on the ODU0's on AR-XPE card only.

See [Table 29-1 on page 29-1](#) for supported modifiers by platform.

Category

Fault

Security

Retrieve

Input Format

RTRV-COND-<MOD2ALM>:[<TID>]:<AID>:<CTAG>::[<TYPEREQ>],[<LOCN>],[<DIRN>];

Input Example

RTRV-COND-OTU1::VFAC-14-3-1:1::OTUK-IAE;

Table 23-44 Input Parameter Support

Parameter	Description
<AID>	Access identifier from the “27.1 ALL” section on page 27-1 . The AR-MXP, AR-XP, and AR-XPE cards use the VFAC Access Identifier.
<TYPEREQ>	(Optional) The type of condition to be retrieved. A null value is equivalent to ALL. The parameter type is CONDITION, which is any problem detected on an NCS shelf, whether the problem is reported (that is, whether it generates a trouble notification). Reported conditions include alarms, NA conditions, and NR conditions. See Table 28-1 on page 28-1 for a list of conditions.

Table 23-44 *Input Parameter Support*

Parameter	Description
<LOCN>	Location associated with a particular command. Identifies the location from which the PM mode is to be retrieved. The parameter type is LOCATION, which is the location where the action is to take place.
• FEND	Action occurs on the far end of the facility.
• NEND	Action occurs on the near end of the facility.
<DIRN>	The PM count retrieval direction. The parameter type is DIRECTION, which is the transmit and receive directions.
• BTH	Both transmit and receive directions
• RCV	Receive direction only

Output Format

SID DATE TIME
M CTAG COMPLD
"<AID>,[<AIDTYPE>]:<NTFCNCDE>,<CONDTYPE>,<SRVEFF>,[<OCRDAT>],
[<OCRTM>],[<LOCN>],[<DIRN>]:[<DESC>]"
;

Output Example

tcc2 2011-08-18 16:11:55
M 1 COMPLD
"VFAC-14-3-1,OTU1:MN,OTUK-IAE,NSA,08-18,12-58-24,NEND,RCV,\"OTUK: INCOMING
ALIGNMENT ERROR\""
;

Table 23-45 *Output Parameter Support*

Parameter	Description
<AID>	Access identifier from the “27.1 ALL” section on page 27-1
<AIDTYPE>	(Optional) Type of access identifier. Specifies the type of facility, link or other addressable entity targeted by the message. The parameter type is MOD2ALM—alarm type
• 100GIGE	100 Gigabit Ethernet
• 10GIGE	10 Gigabit Ethernet
• 1GFC	1-Gigabit Fibre Channel payload
• 1GFICON	1-Gigabit fiber connectivity payload
• 1GISC3	1-Gigabit ISC3 compatible
• 2GFC	2-Gigabit Fibre Channel payload
• 2GFICON	2-Gigabit fiber connectivity payload
• 3GVIDEO	3G-SDI video payload.
• 4GFC	4-Gigabit Fibre Channel payload
• 4GFICON	4-Gigabit fiber connectivity payload

Table 23-45 **Output Parameter Support**

Parameter	Description
• 40GIGE	40-Gigabit Ethernet
• 5GIB	5Gbps InfiniBand (IB_5G) payload
• 8GFC	8-Gigabit Fibre Channel payload
• CLNT	Client facility for MXP/TXP cards
• CHGRP	Channel group
• CPS	CPS modifier signifies WSON control plane circuits.
• DS3I	DS3i-N-12 alarm
• DVBASI	Digital Video Broadband Asynchronous Serial Interface (DVBASI) payload
• E1	E1 alarm
• E100	E100 alarm
• E1000	E1000 alarm
• E3	E3 alarm
• E4	E4 frame. Only applicable to STM1E port 9 through 12 when it is in E4-FRAMED or E4-UNFRAMED mode
• ETH	ETH facility
• FSTE	Fast Ethernet port alarm
• G1000	G1000 alarm
• GFPOS	Generic framing protocol over packet over NCS virtual port alarm
• GIGE	Gigabit Ethernet port alarm
• HDSDI	1.5G HD-SDI video payload.
• HDLC	High-level data link control (HDLC) frame mode.
• ISC1	InterSystem Channel, a protocol defined by IBM (ISC1) payload
• ISC3PEER1G	1-Gbps ISC3 Peer
• ISC3PEER2G	2-Gbps ISC3 Peer
• ISC3PEER2R	1-Gbps or 2-Gbps ISC3 peer used in transparent (2R) mode
• ISC3STP1G	ISC-3 STP 1G video payload.
• ISC3STP2G	ISC-3 STP 2G video payload.
• ISCCOMPAT	1-Gbps ISC1, ISC2, and ISC3 compatibility
• MSISC	MSISC
• OCH	Optical channel
• OCHTERM	OCH termination
• ODU0	Optical Data Unit Level 0
• OMS	Optical Multiplex Section
• OTS	Optical Transport Section
• OTL	Optical Channel Transport Lane.
• OTU1	Optical Transport Unit Level 1

Table 23-45 **Output Parameter Support**

Parameter	Description
• OTU3	Optical Transport Unit Level 3
• OTU4	Optical Transport Unit Level 4
• POS	POS port alarm
• REP	Resilient Ethernet Protocol
• SDSDI	270M SDI video payload.
• STM1	STM1 alarm
• STM1E	STM1E facility, only applicable to the STM1E facility (when it is in STM1E mode) of NCS STM1E-12 card.
• STM4	STM4 alarm
• STM16	STM16 alarm
• STM64	STM64 alarm
• VC11	VC11 alarm
• VC12	VC12 alarm
• VC3	VC3 alarm
• VC38C	VC38C alarm
• VC44C	VC44C alarm
• VC464C	VC464C alarm
• VC48C	VC48C alarm
• VC4	VC4 alarm
• VC416C	VC416C alarm
• VC42C	VC42C alarm
• VC43C	VC43C alarm
• UDCDCC	UDCDCC alarm
• UDCF	UCDF alarm
• VCG	Virtual concatenation group alarm
• WLEN	Wavelength path provisioning
<NTFCNCDE>	(Optional) Two-letter notification code. The parameter type is NOTIF_CODE, which is the two-character notification code associated with an autonomous message.
• CL	The condition causing the alarm has cleared.
• CR	A critical alarm.
• MJ	A major alarm.
• MN	A minor alarm.
• NA	The condition is not alarmed.
• NR	The alarm is not reported.

Table 23-45 **Output Parameter Support**

Parameter	Description
<TYPEREP>	The condition itself. The parameter type is CONDITION, which is any problem detected on an NCS shelf, whether or not the problem is reported (that is, whether or not it generates a trouble notification). Reported conditions include alarms, NA conditions, and NR conditions. See Table 28-1 on page 28-1 for a list of conditions.
<SRVEFF>	(Optional) The effect on service caused by the standing alarm or condition. The parameter type is SERV_EFF, which is the effect of the alarm on service.
• NSA	The condition is non-service affecting.
• SA	The condition is service affecting.
<OCRDAT>	(Optional) Date when the specific event or violation occurred, MM-DD.
<OCTM>	(Optional) Time when the specific event or violation occurred, HH-MM-SS.
<LOCN>	Location associated with a particular command. Identifies the location from which the PM mode is to be retrieved. The parameter type is LOCATION, which is the location where the action is to take place.
• FEND	Action occurs on the far end of the facility.
• NEND	Action occurs on the near end of the facility.
<DIRECTION>	The PM count retrieval direction. The parameter type is DIRECTION, which is the transmit and receive directions.
• BTH	Both transmit and receive directions
• RCV	Receive direction only
<DESC>	(Optional) Condition description. DESC is a string.

23.38 RTRV-COND-ALL

The Retrieve Condition All (RTRV-COND-ALL) command retrieves the current standing condition for all entities.

Usage Guidelines

This command does not return all conditions that are returned by other, more specific RTRV-COND commands; RTRV-COND-ALL returns a subset of these conditions. Telcordia GR-253-CORE, Section 6.2.1.8.4 states that a retrieval that returns ALL conditions from a node (RTRV-COND-ALL) must omit any conditions that have the same root cause as other raised conditions. The section also states that any retrieval of a subset of the conditions from a node, regardless of how the subsetting occurs, should not omit these same-root-cause conditions. So, for example, RTRV-COND-VC3 includes the same-root-cause conditions in the set it returns and, RTRV-COND-ALL does not.

To retrieve all of the NE conditions, issue all of the following commands:

```
RTRV-COND-ALL
RTRV-COND-ENV
RTRV-COND-BITS
RTRV-COND-SYNCN
```

Category

Fault

Security Retrieve

Input Format RTRV-COND-ALL:[<TID>]:[<AID>]:<CTAG>:[:<TYPEREQ>],[<LOCN>],[<DIRN>];

Input Example RTRV-COND-ALL:DXT:ALL:229::LOS;

Table 23-46 Input Parameter Support

Parameter	Description
<AID>	(Optional) Access identifier from the “27.1 ALL” section on page 27-1. AID is a string. A null value is equivalent to ALL.
<TYPEREQ>	(Optional) The type of condition to be retrieved. A null value is equivalent to ALL. The parameter type is CONDITION, which is any problem detected on an NCS shelf, whether or not the problem is reported (that is, whether or not it generates a trouble notification). Reported conditions include alarms, NA conditions, and NR conditions. See Table 28-1 on page 28-1 for a list of conditions.
<LOCN>	Location associated with a particular command. Identifies the location from which the PM mode is to be retrieved. The parameter type is LOCATION, which is the location where the action is to take place.
• FEND	Action occurs on the far end of the facility.
• NEND	Action occurs on the near end of the facility.
<DIRN>	The PM count retrieval direction. The parameter type is DIRECTION, which is the transmit and receive directions.
• BTH	Both transmit and receive directions
• RCV	Receive direction only

Output Format SID DATE TIME
M CTAG COMPLD
“<AID>,[<AIDTYPE>]:[<NTFCNCDE>],<TYPEREP>,[<SRVEFF>],[<OCRDAT>],
[<OCRTM>],[<LOCN>],[<DIRN>],[<DESC>]”
;

Output Example TID-000 1998-06-20 14:30:00
M 001 COMPLD
“RPRIF-2-0,T3:MJ,FORCE-REQ,SA,01-01,16-00-20,NEND,RCV,\"FORCED SWITCH
REQUESTV””
;

Table 23-47 **Output Parameter Support**

Parameter	Description
<AID>	Access identifier from the “ 27.1 ALL ” section on page 27-1 for the entity that has an alarm condition.
<AIDTYPE>	(Optional) Type of access identifier. Specifies the type of facility, link or other addressable entity targeted by the message. The parameter type is MOD2B, which is the alarm type.
• 100GIGE	100 Gigabit Ethernet
• 10GIGE	10 Gigabit Ethernet
• 1GFC	1-Gigabit Fibre Channel payload
• 1GFICON	1-Gigabit fiber connectivity payload
• 2GFC	2-Gigabit Fibre Channel payload
• 2GFICON	2-Gigabit fiber connectivity payload
• 3GVIDEO	3G-SDI video payload.
• 4GFC	4-Gigabit Fibre Channel payload
• 4GFICON	4-Gigabit fiber connectivity payload
• 40GIGE	40-Gigabit Ethernet
• 5GIB	5Gbps InfiniBand (IB_5G) payload
• 8GFC	8-Gigabit Fibre Channel payload
• BITS	BITS alarm
• CHGRP	Channel group
• CLNT	Client facility for MXP/TXP cards
• COM	Common alarm
• DS3I	DS3i-N-12 alarm
• DVBASI	Digital Video Broadband Asynchronous Serial Interface (DVBASI) payload
• E1	E1 alarm
• E100	E100 alarm
• E1000	E1000 alarm
• E3	E3 alarm
• E4	E4 alarm
• ETH	ETH facility
• ENV	ENV alarm
• EQPT	EQPT alarm
• FSTE	Fast Ethernet port alarm
• G1000	G1000 alarm
• GIGE	Gigabit Ethernet port alarm
• HDLC	High-level data link control (HDLC) frame mode.
• HDSDI	1.5G HD-SDI video payload
• ISC1	InterSystem Channel, a protocol defined by IBM (ISC1) payload

Table 23-47 **Output Parameter Support**

Parameter	Description
• ISC3PEER1G	1-Gbps ISC3 Peer
• ISC3PEER2G	2-Gbps ISC3 Peer
• ISC3PEER2R	1-Gbps or 2-Gbps ISC3 peer used in transparent (2R) mode
• ISC3STP1G	ISC-3 STP 1G video payload.
• ISC3STP2G	ISC-3 STP 2G video payload.
• ISCCOMPAT	1-Gbps ISC1, ISC2, and ISC3 compatibility
• MSISC	MSISC
• OCH	Optical channel
• ODU0	Optical Data Unit Level 0
• OMS	Optical Multiplex Section
• OTS	Optical Transport Section
• OTL	Optical Channel Transport Lane.
• OTU1	Optical Transport Unit Level 1
• OTU3	Optical Transport Unit Level 3
• OTU4	Optical Transport Unit Level 4
• POS	POS port alarm
• REP	Resilient Ethernet Protocol
• SDSDI	270M SDI video payload
• STM1	STM1 alarm
• STM1E	STM1E alarm
• STM4	STM4 alarm
• STM16	STM16 alarm
• STM64	STM64 alarm
• SYNCN	SYNCN alarm
• TCC	TCC alarm
• VC11	VC11 alarm
• VC12	VC12 alarm
• VC3	VC3 alarm
• VC44C	VC44C alarm
• VC38C	VC38C alarm
• VC464C	VC464C alarm
• VC48C	VC48C alarm
• VC4	VC4 alarm
• VC416C	VC416C alarm
• VC42C	VC42C alarm
• VC43C	VC43C alarm

Table 23-47 **Output Parameter Support**

Parameter	Description
<NTFCNCDE>	(Optional) Two-letter notification code. The parameter type is NOTIF_CODE, which is the two-character notification code associated with an autonomous message.
• CL	The condition causing the alarm has cleared
• CR	A critical alarm.
• MJ	A major alarm.
• MN	A minor alarm.
• NA	The condition is not alarmed
• NR	The alarm is not reported
<TYPEREP>	The type of condition to be retrieved. The parameter type is CONDITION, which is any problem detected on an NCS shelf, whether or not the problem is reported (that is, whether or not it generates a trouble notification). Reported conditions include alarms, NA conditions, and NR conditions. See Table 28-1 on page 28-1 for a list of conditions.
<SRVEFF>	(Optional) The effect on service caused by the standing alarm or condition. The parameter type is SERV_EFF, which is the effect of the alarm on service.
• NSA	The condition is non-service affecting.
• SA	The condition is service affecting.
<OCDAT>	(Optional) Date when the specific event or violation occurred, MM-DD.
<OCDTM>	(Optional) Time when the specific event or violation occurred, HH-MM-SS.
<LOCN>	Location associated with a particular command. Identifies the location from which the PM mode is to be retrieved. The parameter type is LOCATION, which is the location where the action is to take place.
• FEND	Action occurs on the far end of the facility.
• NEND	Action occurs on the near end of the facility.
<DIRECTION>	The PM count retrieval direction. The parameter type is DIRECTION, which is the transmit and receive directions.
• BTH	Both transmit and receive directions
• RCV	Receive direction only
<DESC>	(Optional) Condition description. DESC is a string.

23.39 RTRV-COND-BITS

The Retrieve Condition Building Integrated Timing Supply (RTRV-COND-BITS) command retrieves the standing conditions on BITS.

Usage Guidelines None

Category Synchronization

Security Retrieve

Input Format RTRV-COND-BITS:[<TID>]:<AID>:<CTAG>::[<TYPEREQ>],[<LOCN>],[<DIRN>];

Input Example RTRV-COND-BITS:TID:BITS-1:229::LOS;

Table 23-48 Input Parameter Support

Parameter	Description
<AID>	Access identifier from the “27.6 BITS” section on page 27-11.
<TYPEREQ>	(Optional) The type of condition to be retrieved. A null value is equivalent to ALL. The parameter type is CONDITION, which is any problem detected on an NCS shelf, whether or not the problem is reported (that is, whether or not it generates a trouble notification). Reported conditions include alarms, NA conditions, and NR conditions. See Table 28-1 on page 28-1 for a list of conditions.
<LOCN>	Location associated with a particular command. Identifies the location from which the PM mode is to be retrieved. The parameter type is LOCATION, which is the location where the action is to take place.
• FEND	Action occurs on the far end of the facility.
• NEND	Action occurs on the near end of the facility.
<DIRN>	The PM count retrieval direction. The parameter type is DIRECTION, which is the transmit and receive directions.
• BTH	Both transmit and receive directions
• RCV	Receive direction only

Output Format SID DATE TIME
M CTAG COMPLD
“<AID>,[<AIDTYPE>]:[<NTFCNCDE>],<TYPEREP>,[<SRVEFF>],[<OCRDAT>],
[<OCRTM>],[<LOCN>],[<DIRN>],[<DESC>]”
;

Output Example TID-000 1998-06-20 14:30:00
M 001 COMPLD
“BITS-1,BITS:CR,LOS,SA,01-01,16-02-15,,,“LOS OF SIGNAL\””
;

Table 23-49 Output Parameter Support

Parameter	Description
<AID>	Access identifier from the “27.6 BITS” section on page 27-11.
<AIDTYPE>	(Optional) Type of access identifier. Specifies the type of facility, link or other addressable entity targeted by the message. The parameter type is MOD2B, which is the alarm type.
• 100GIGE	100 Gigabit Ethernet.
• 1GFC	1-Gigabit Fibre Channel payload

Table 23-49 Output Parameter Support

Parameter	Description
• 1GFICON	1-Gigabit fiber connectivity payload
• 2GFC	2-Gigabit Fibre Channel payload
• 2GFICON	2-Gigabit fiber connectivity payload
• 3GVIDEO	3G-SDI video payload.
• 4GFC	4-Gigabit Fibre Channel payload
• 4GFICON	4-Gigabit fiber connectivity payload
• 40GIGE	40-Gigabit Ethernet
• 5GIB	5Gbps InfiniBand (IB_5G) payload
• 8GFC	8-Gigabit Fibre Channel payload
• BITS	Bits facility
• CHGRP	Channel group
• CLNT	Client facility for MXP/TXP cards
• DS3I	DS3i-N-12 facility
• E1	E1 facility
• E3	E3 facility
• E100	E100 facility
• E1000	E1000 facility
• E4	E4 facility
• ENV	ENV alarm
• EQPT	EQPT alarm
• FSTE	Fast Ethernet port facility
• G1000	G1000 facility
• GIGE	Gigabit Ethernet port facility
• HDLC	High-level data link control (HDLC) frame mode.
• HDSDI	1.5G HD-SDI video payload
• ISC3PEER1G	1-Gbps ISC3 Peer
• ISC3PEER2G	2-Gbps ISC3 Peer
• ISC3PEER2R	1-Gbps or 2-Gbps ISC3 peer used in transparent (2R) mode
• ISC3STP1G	ISC-3 STP 1G video payload.
• ISC3STP2G	ISC-3 STP 2G video payload.
• ISCCOMPAT	1-Gbps ISC1, ISC2, and ISC3 compatibility
• MSISC	MSISC
• OCH	Optical channel
• ODU0	Optical Data Unit Level 0
• OMS	Optical Multiplex Section
• OTS	Optical Transport Section

Table 23-49 **Output Parameter Support**

Parameter	Description
• OTU1	Optical Transport Unit Level 1
• OTU3	Optical Transport Unit Level 3
• OTU4	Optical Transport Unit Level 4
• POS	POS port facility
• REP	Resilient Ethernet Protocol
• SDSDI	270M SDI video payload
• STM1	STM1 facility
• STM1E	STM1E facility
• STM4	STM4 facility
• STM16	STM16 facility
• STM64	STM64 facility
• TCC	TCC facility
• VC11	VC11 path
• VC12	VC12 path
• VC3	VC3 path
• VC44C	VC44C path
• VC38C	VC38C path
• VC464C	VC464C path
• VC48C	VC48C path
• VC4	VC4 path
• VC416C	VC416C path
• VC42C	VC42C path
• VC43C	VC43C path
<NTFCNCDE>	(Optional) Two-letter notification code. The parameter type is NOTIF_CODE, which is the two-character notification code associated with an autonomous message.
• NSA	The condition is non-service affecting.
• SA	The condition is service affecting.
<OCRDAT>	(Optional) Date when the specific event or violation occurred, MM-DD.
<OCRTM>	(Optional) Time when the specific event or violation occurred, HH-MM-SS.
<LOCN>	Location associated with a particular command. Identifies the location from which the PM mode is to be retrieved. The parameter type is LOCATION, which is the location where the action is to take place.
• FEND	Action occurs on the far end of the facility.
• NEND	Action occurs on the near end of the facility.
<DIRN>	The PM count retrieval direction. The parameter type is DIRECTION, which is the transmit and receive directions.
• BTH	Both transmit and receive directions

Table 23-49 **Output Parameter Support**

Parameter	Description
• RCV	Receive direction only
<DESC>	(Optional) Condition description. DESC is a string.

23.40 RTRV-COND-ENV

The Retrieve Environmental Condition (RETRV-COND-ENV) command retrieves the environmental conditions.

Usage Guidelines

None

Category

Environment

Security

Retrieve

Input Format

RTRV-COND-ENV:[<TID>]:<AID>:<CTAG>::[<NTFCNCDE>],[<ALMTYPE>],[<LOCN>],<DIRN>;

Input Example

RTRV-COND-ENV:CISCO:ENV-IN-1:123::MJ,OPENDR;

Table 23-50 **Input Parameter Support**

Parameter	Description
<AID>	Access identifier from the “27.12 ENV” section on page 27-20 .
<NTFCNCDE>	(Optional) Two-letter notification code. A null value is equivalent to ALL. The parameter type is NOTIF_CODE, which is the two-character notification code associated with an autonomous message.
• CL	The condition causing the alarm has cleared.
• CR	A critical alarm.
• MJ	A major alarm.
• MN	A minor alarm.
• NA	The condition is not alarmed.
• NR	The alarm is not reported.
<ALMTYPE>	(Optional) The alarm type for the environmental alarm. A null value is equivalent to ALL. The parameter type is ENV_ALM, which is the environmental alarm type.
• AIRCOMPR	Air compressor failure
• AIRCOND	Air conditioning failure

Table 23-50 *Input Parameter Support*

Parameter	Description
• AIRDRYR	Air dryer failure
• BATDSCHRG	Battery discharging
• BATTERY	Battery failure
• CLFAN	Cooling fan failure
• CPMajor	Centralized power major failure
• CPMinor	Centralized power minor failure
• ENGINE	Engine failure
• ENGOPRG	Engine operating
• ENGTRANS	Standby engine transfer
• EXPLGS	Explosive gas
• FIRDETR	Fire detector failure
• FIRE	Fire
• FLOOD	Flood
• FUELLEAK	Fuel leak
• FUSE	Fuse failure
• GASALARM	Explosive gas, toxic gas, ventilation fail or gas monitor fail
• HATCH	CEV hatch fail
• GEN	Generator failure
• HIAIR	High air flow
• HIHUM	High humidity
• HITEMP	High temperature
• HIWTR	High water
• INTRUDER	Intrusion
• LEVELCON	Level converter
• LVDADSL	Secondary ADSL low voltage disconnect
• LVDBYPAS	Low voltage disconnect bypass
• LWBATVG	Low battery voltage
• LWFUEL	Low fuel
• LWHUM	Low humidity
• LWPRES	Low cable pressure
• LWTEMP	Low temperature
• LWWTR	Low water
• MISC	Miscellaneous
• OPENDR	Open door
• POWER	Commercial power failure
• PUMP	Pump failure

Table 23-50 **Input Parameter Support**

Parameter	Description
• PWR-48	48 V power supply failure
• PWR-139	–139 V power converter
• PWR-190	–190 V power converter
• PWRMJ	Power supply major
• PWRMN	Power supply minor
• RECT	Rectifier failure
• RECTHI	Rectifier high voltage
• RECTLO	Rectifier low voltage
• RINGGENMJ	Ring generator major
• RINGGENMN	Ring generator minor
• RTACADSL	AC or AC/rectifier power fail ADSL equipment
• RTACCRIT	AC or AC/rectifier power fail DCL equipment critical site
• RTACPWR	AC or AC/rectifier power fail DCL equipment
• RTACPWRENG	Commercial AC fail, site equipped with standby engine
• RTBAYPWR	AC power loss distributed power RT bay
• RTRVENG	Retrieve standby engine, commercial AC restored
• SMOKE	Smoke
• TEMP	High-low temperature
• TOXICGAS	Toxic gas
• TREPEATER	T-repeater shelf
• VENTN	Ventilation system failure
<LOCN>	Location associated with a particular command. Identifies the location from which the PM mode is to be retrieved. The parameter type is LOCATION, which is the location where the action is to take place.
• FEND	Action occurs on the far end of the facility.
• NEND	Action occurs on the near end of the facility.
<DIRN>	The PM count retrieval direction. The parameter type is DIRECTION, which is the transmit and receive directions.
• BTH	Both transmit and receive directions
• RCV	Receive direction only

Output Format

```

SID DATE TIME
M CTAG COMPLD
  "<AID>:<NTFCNCDE>,<ALMTYPE>,[<OCDAT>],[<OCDTM>],[<LOCN>],[<DIRN>],
  [<DESC>]"
;

```


Output Example

```
TID-000 1998-06-20 14:30:00
M 001 COMPLD
  "ENV-IN-1:MJ,OPENDR,01-01,16-02-15,,,\"OPEN DOOR\"";
```

Table 23-51 **Output Parameter Support**

Parameter	Description
<AID>	Access identifier from the “27.12 ENV” section on page 27-20
<NTFCNCDE>	(Optional) Two-letter notification code. The parameter type is NOTIF_CODE, which is the two-character notification code associated with an autonomous message.
• CL	The condition causing the alarm has cleared.
• CR	A critical alarm.
• MJ	A major alarm.
• MN	A minor alarm.
• NA	The condition is not alarmed.
• NR	The alarm is not reported.
<ALMTYPE>	The alarm type for the environmental alarm. The parameter type is ENV_ALM, which is the environmental alarm type.
• AIRCOMPR	Air compressor failure
• AIRCOND	Air conditioning failure
• AIRDRYR	Air dryer failure
• BATDSCHRG	Battery discharging
• BATTERY	Battery failure
• CLFAN	Cooling fan failure
• CPMAJOR	Centralized power major failure
• CPMINOR	Centralized power minor failure
• ENGINE	Engine failure
• ENGOPRG	Engine operating
• ENGTRANS	Standby engine transfer
• EXPLGS	Explosive gas
• FIRDETR	Fire detector failure
• FIRE	Fire
• FLOOD	Flood
• FUELLEAK	Fuel leak
• FUSE	Fuse failure
• GASALARM	Explosive gas, toxic gas, ventilation fail or gas monitor fail
• HATCH	CEV hatch fail
• GEN	Generator failure
• HIAIR	High air flow
• HIHUM	High humidity

Table 23-51 **Output Parameter Support**

Parameter	Description
• HITEMP	High temperature
• HIWTR	High water
• INTRUDER	Intrusion
• LEVELCON	Level converter
• LVDADSL	Secondary ADSL low voltage disconnect
• LVDBYPAS	Low voltage disconnect bypass
• LWBATVG	Low battery voltage
• LWFUEL	Low fuel
• LWHUM	Low humidity
• LWPRES	Low cable pressure
• LWTEMP	Low temperature
• LWWTR	Low water
• MISC	Miscellaneous
• OPENDR	Open door
• POWER	Commercial power failure
• PUMP	Pump failure
• PWR-48	48 V power supply failure
• PWR-139	–139 V power converter
• PWR-190	–190 V power converter
• PWRMJ	Power supply major
• PWRMN	Power supply minor
• RECT	Rectifier failure
• RECTHI	Rectifier high voltage
• RECTLO	Rectifier low voltage
• RINGGENMJ	Ring generator major
• RINGGENMN	Ring generator minor
• RTACADSL	AC or AC/rectifier power fail ADSL equipment
• RTACCRIT	AC or AC/rectifier power fail DCL equipment critical site
• RTACPWR	AC or AC/rectifier power fail DCL equipment
• RTACPWRENG	Commercial AC fail, site equipped with standby engine
• RTBAYPWR	AC power loss distributed power RT bay
• RTRVENG	Retrieve standby engine, commercial AC restored
• SMOKE	Smoke
• TEMP	High-low temperature
• TOXICGAS	Toxic gas
• TREPEATER	T-repeater shelf

Table 23-51 **Output Parameter Support**

Parameter	Description
• VENTN	Ventilation system failure
<OCRDAT>	(Optional) Date when the specific event or violation occurred, MM-DD.
<OCRTM>	(Optional) Time when the specific event or violation occurred, HH-MM-SS.
<LOCN>	Location associated with a particular command. Identifies the location from which the PM mode is to be retrieved. The parameter type is LOCATION, which is the location where the action is to take place.
• FEND	Action occurs on the far end of the facility.
• NEND	Action occurs on the near end of the facility.
<DIRN>	The PM count retrieval direction. The parameter type is DIRECTION, which is the transmit and receive directions.
• BTH	Both transmit and receive directions
• RCV	Receive direction only
<DESC>	(Optional) Condition description. DESC is a string.

23.41 RTRV-COND-EQPT

The Retrieve Condition Equipment (RTRV-COND-EQPT) command retrieves the equipment conditions.

Usage Guidelines None

Category Equipment

Security Retrieve

Input Format RTRV-COND-EQPT:[<TID>]:<AID>:<CTAG>::[<TYPEREQ>],[<LOCN>],[<DIRN>];

Input Example RTRV-COND-EQPT:TID:SLOT-1:229::LOS;

Table 23-52 **Input Parameter Support**

Parameter	Description
<AID>	Access identifier from the “27.13 EQPT” section on page 27-21 of the entity for the entity that has an alarm condition.
<TYPEREQ>	(Optional) The type of condition to be retrieved. A null value is equivalent to ALL. The parameter type is CONDITION, which is any problem detected on an NCS shelf, whether or not the problem is reported (that is, whether or not it generates a trouble notification). Reported conditions include alarms, NA conditions, and NR conditions. See Table 28-1 for a list of conditions.

Table 23-52 Input Parameter Support

Parameter	Description
<LOCN>	Location associated with a particular command. Identifies the location from which the PM mode is to be retrieved. The parameter type is LOCATION, which is the location where the action is to take place.
• FEND	Action occurs on the far end of the facility.
• NEND	Action occurs on the near end of the facility.
<DIRN>	The PM count retrieval direction. The parameter type is DIRECTION, which is the transmit and receive directions.
• BTH	Both transmit and receive directions
• RCV	Receive direction only

Output Format

SID DATE TIME
M CTAG COMPLD
“<AID>,[<AIDTYPE>]:[<NTFCNCDE>],<TYPEREP>,[<SRVEFF>],[<OCRDAT>],[<OCRTM>],
[<LOCN>],[<DIRN>],[<DESC>]”
;

Output Example

TID-000 1998-06-20 14:30:00
M 001 COMPLD
“SLOT-1,EQPT:CR,LOS,SA,01-01,16-02-15,NEND,RCV,\"LOS OF SIGNAL\"”
;

Table 23-53 Output Parameter Support

Parameter	Description
<AID>	Access identifier from the “27.13 EQPT” section on page 27-21 for the entity that has an alarm condition.
<AIDTYPE>	(Optional) Type of facility, link or other addressable entity targeted by the message. The parameter type is MOD2B, which is the alarm type.
• 100GIGE	100 Gigabit Ethernet.
• 1GFC	1-Gigabit Fibre Channel payload
• 1GFICON	1-Gigabit fiber connectivity payload
• 2GFC	2-Gigabit Fibre Channel payload
• 2GFICON	2-Gigabit fiber connectivity payload
• 3GVIDEO	3G-SDI video payload.
• 4GFC	4-Gigabit Fibre Channel payload
• 4GFICON	4-Gigabit fiber connectivity payload
• 40GIGE	40-Gigabit Ethernet
• 5GIB	5Gbps InfiniBand (IB_5G) payload
• 8GFC	8-Gigabit Fibre Channel payload
• BITS	BITS alarm
• CHGRP	Channel group

Table 23-53 **Output Parameter Support**

Parameter	Description
• CLNT	Client facility for MXP/TXP cards
• COM	Common alarm
• DS3I	DS3i-N-12 alarm
• DVBASI	Digital Video Broadband Asynchronous Serial Interface (DVBASI) payload
• E1	E1 alarm
• E100	E100 alarm
• E1000	E1000 alarm
• E3	E3 alarm
• E4	E4 alarm
• ENV	ENV alarm
• EQPT	EQPT alarm
• FSTE	Fast Ethernet port alarm
• G1000	G1000 alarm
• GIGE	Gigabit Ethernet port alarm
• HDLC	High-level data link control (HDLC) frame mode.
• HDSDI	1.5G HD-SDI video payload
• ML-100T-8	ML-Series 100T eight port Gigabit Ethernet Card
• CE-100T-8	CE-Series 100T eight port Gigabit Ethernet Card
• CE-MR-6	CE-Series MR six port Gigabit Ethernet Card
• CTX-2500	CTX card
• E1-21-DS3-E3-3,	21 channel WEB card
• E1-63-DS3-E3-3,	63 channel WEB card
• FILLER-CARD	Filler Card
• ISC1	InterSystem Channel, a protocol defined by IBM (ISC1) payload
• ISC3PEER1G	1-Gbps ISC3 Peer
• ISC3PEER2G	2-Gbps ISC3 Peer
• ISC3PEER2R	1-Gbps or 2-Gbps ISC3 peer used in transparent (2R) mode
• ISC3STP1G	ISC-3 STP 1G video payload.
• ISC3STP2G	ISC-3 STP 2G video payload.
• ISCCOMPAT	1-Gbps ISC1, ISC2, and ISC3 compatibility
• MSISC	MSISC
• OCH	Optical channel
• ODU0	Optical Data Unit Level 0
• OMS	Optical Multiplex Section
• OTS	Optical Transport Section
• OTU1	Optical Transport Unit Level 1

Table 23-53 **Output Parameter Support**

Parameter	Description
• OTU3	Optical Transport Unit Level 3
• OTU4	Optical Transport Unit Level 4
• POS	POS port alarm
• REP	Resilient Ethernet Protocol
• SDSDI	270M SDI video payload
• STM1	STM1 alarm
• STM1E	STM1E alarm
• STM4	STM4 alarm
• STM16	STM16 alarm
• STM64	STM64 alarm
• SYNCN	SYNCN alarm
• TCC	TCC alarm
• VC11	VC11 alarm
• VC12	VC12 alarm
• VC3	VC3 alarm
• VC44C	VC44C alarm
• VC38C	VC38C alarm
• VC464C	VC464C alarm
• VC48C	VC48C alarm
• VC4	VC4 alarm
• VC416C	VC416C alarm
• VC42C	VC42C alarm
• VC43C	VC43C alarm
<NTFCNCDE>	(Optional) Two-letter notification code. The parameter type is NOTIF_CODE, which is the two-character notification code associated with an autonomous message.
• CL	The condition causing the alarm has cleared.
• CR	A critical alarm.
• MJ	A major alarm.
• MN	A minor alarm.
• NA	The condition is not alarmed.
• NR	The alarm is not reported.
<TYPEREP>	The type of condition to be retrieved. The parameter type is CONDITION, which is any problem detected on an NCS shelf, whether or not the problem is reported (that is, whether or not it generates a trouble notification). Reported conditions include alarms, NA conditions, and NR conditions. See Table 28-1 on page 28-1 for a list of conditions.
<SRVEFF>	(Optional) The effect on service caused by the standing alarm or condition. The parameter type is SERV_EFF, which is the effect of the alarm on service.

Table 23-53 **Output Parameter Support**

Parameter	Description
• NSA	The condition is non-service affecting.
• SA	The condition is service affecting.
<OCRDAT>	(Optional) Date when the specific event or violation occurred, MM-DD.
<OCRTM>	(Optional) Time when the specific event or violation occurred, HH-MM-SS.
<LOCN>	Location associated with a particular command. Identifies the location from which the PM mode is to be retrieved. The parameter type is LOCATION, which is the location where the action is to take place.
• FEND	Action occurs on the far end of the facility.
• NEND	Action occurs on the near end of the facility.
<DIRECTION>	The PM count retrieval direction. The parameter type is DIRECTION, which is the transmit and receive directions.
• BTH	Both transmit and receive directions
• RCV	Receive direction only
<DESC>	(Optional) Condition description. DESC is a string.

23.42 RTRV-COND-SYNCN

The Retrieve Condition Synchronization (RTRV-COND-SYNCN) command retrieves the synchronization condition.

Usage Guidelines None

Category Synchronization

Security Retrieve

Input Format RTRV-COND-SYNCN:[<TID>]:<AID>:<CTAG>::[<TYPEREQ>],[<LOCN>],[<DIRN>];

Input Example RTRV-COND-SYNCN:TID:SYNC-NE:229::LOS;

Table 23-54 *Input Parameter Support*

Parameter	Description
<AID>	Access identifier from the “ 27.29 SYNC_REF ” section on page 27-34 for the entity that has an alarm condition.
<TYPEREQ>	The type of condition to be retrieved. A null value is equivalent to ALL. The parameter type is CONDITION, which is any problem detected on an NCS shelf, whether or not the problem is reported (that is, whether or not it generates a trouble notification). Reported conditions include alarms, NA conditions, and NR conditions. See Table 28-1 on page 28-1 for a list of conditions.
<LOCN>	Location associated with a particular command. Identifies the location from which the PM mode is to be retrieved. The parameter type is LOCATION, which is the location where the action is to take place.
• FEND	Action occurs on the far end of the facility.
• NEND	Action occurs on the near end of the facility.
<DIRN>	The PM count retrieval direction. The parameter type is DIRECTION, which is the transmit and receive directions.
• BTH	Both transmit and receive directions
• RCV	Receive direction only

Output Format

```

SID DATE TIME
M CTAG COMPLD
  “<AID>,[<AIDTYPE>]:[<NTFCNCDE>],<TYPEREP>,[<SRVEFF>],[<OCRDAT>],
  [<OCRTM>],[<LOCN>],[<DIRN>],[<DESC>]”
;

```

Output Example

```

TID-000 1998-06-20 14:30:00
M 001 COMPLD
  “SYNC-NE,SYCN:MJ,FRNGSYNC,SA,01-01,16-02-15,,
  \“FREE RUNNING SYNCHRONIZATION MODEV””
;

```

Table 23-55 *Output Parameter Support*

Parameter	Description
<AID>	Access identifier from the “ 27.27 SYN ” section on page 27-33 for the entity that has an alarm condition.
<AIDTYPE>	(Optional) Type of facility, link or other addressable entity targeted by the message. The value is always SYCN. The parameter type is MOD2B, which is the alarm type.
• 100GIGE	100 Gigabit Ethernet.
• 1GFC	1-Gigabit Fibre Channel payload
• 1GFICON	1-Gigabit fiber connectivity payload
• 2GFC	2-Gigabit Fibre Channel payload
• 2GFICON	2-Gigabit fiber connectivity payload
• 3GVIDEO	3G-SDI video payload.
• 4GFC	4-Gigabit Fibre Channel payload

Table 23-55 **Output Parameter Support**

Parameter	Description
• 4GFICON	4-Gigabit fiber connectivity payload
• 40GIGE	40-Gigabit Ethernet
• 5GIB	5Gbps InfiniBand (IB_5G) payload
• 8GFC	8-Gigabit Fibre Channel payload
• BITS	BITS alarm
• CHGRP	Channel group
• CLNT	Client facility for MXP/TXP cards
• COM	Common alarm
• DS3I	DS3i-N-12 alarm
• DVBASI	Digital Video Broadband Asynchronous Serial Interface (DVBASI) payload
• E1	E1 alarm
• E100	E100 alarm
• E1000	E1000 alarm
• E3	E3 alarm
• E4	E4 alarm
• ENV	ENV alarm
• EQPT	EQPT alarm
• FSTE	Fast Ethernet port alarm
• ML-100T-8	ML-Series 100T eight port Gigabit Ethernet Card
• CE-100T-8	CE-Series 100T eight port Gigabit Ethernet Card
• CE-MR-6	CE-Series MR six port Gigabit Ethernet Card
• CTX-2500	CTX card
• E1-21-DS3-E3-3,	21 channel WEB card
• E1-63-DS3-E3-3,	63 channel WEB card
• FILLER-CARD	Filler Card
• G1000	G1000 alarm
• GIGE	Gigabit Ethernet port alarm
• HDLC	High-level data link control (HDLC) frame mode.
• HDSDI	1.5G HD-SDI video payload
• ISC1	InterSystem Channel, a protocol defined by IBM (ISC1) payload
• ISC3PEER1G	1-Gbps ISC3 Peer
• ISC3PEER2G	2-Gbps ISC3 Peer
• ISC3PEER2R	1-Gbps or 2-Gbps ISC3 peer used in transparent (2R) mode
• ISC3STP1G	ISC-3 STP 1G video payload.
• ISC3STP2G	ISC-3 STP 2G video payload.
• ISCCOMPAT	1-Gbps ISC1, ISC2, and ISC3 compatibility

Table 23-55 **Output Parameter Support**

Parameter	Description
• MSISC	MSISC
• OCH	Optical channel
• ODU0	Optical Data Unit Level 0
• OMS	Optical Multiplex Section
• OTS	Optical Transport Section
• OTU1	Optical Transport Unit Level 1
• OTU3	Optical Transport Unit Level 3
• OTU4	Optical Transport Unit Level 4
• POS	POS port alarm
• REP	Resilient Ethernet Protocol
• SDSDI	270M SDI video payload
• STM1	STM1 alarm
• STM1E	STM1E alarm
• STM4	STM4 alarm
• STM16	STM16 alarm
• STM64	STM64 alarm
• SYNCN	SYNCN alarm
• TCC	TCC alarm
• VC11	VC11 alarm
• VC12	VC12 alarm
• VC3	VC3 alarm
• VC44C	VC44C alarm
• VC38C	VC38C alarm
• VC464C	VC464C alarm
• VC48C	VC48C alarm
• VC4	VC4 alarm
• VC416C	VC416C alarm
• VC42C	VC42C alarm
• VC43C	VC43C alarm
<NTFCNCDE>	(Optional) Two-letter notification code. The parameter type is NOTIF_CODE, which is the two-character notification code associated with an autonomous message.
• CL	The condition causing the alarm has cleared.
• CR	A critical alarm.
• MJ	A major alarm.
• MN	A minor alarm.
• NA	The condition is not alarmed.

Table 23-55 **Output Parameter Support**

Parameter	Description
• NR	The alarm is not reported.
<TYPEREP>	The type of condition to be retrieved. The parameter type is CONDITION, which is any problem detected on an NCS shelf, whether or not the problem is reported (that is, whether or not it generates a trouble notification). Reported conditions include alarms, NA conditions, and NR conditions. See Table 28-1 on page 28-1 for a list of conditions.
<SRVEFF>	(Optional) The effect on service caused by the standing alarm or condition. The parameter type is SERV_EFF, which is the effect of the alarm on service.
• NSA	The condition is non-service affecting.
• SA	The condition is service affecting.
<OCRDAT>	(Optional) Date when the specific event or violation occurred, MM-DD.
<OCRTM>	(Optional) Time when the specific event or violation occurred, HH-MM-SS.
<LOCN>	Location associated with a particular command. Identifies the location from which the PM mode is to be retrieved. The parameter type is LOCATION, which is the location where the action is to take place.
• FEND	Action occurs on the far end of the facility.
• NEND	Action occurs on the near end of the facility.
<DIRN>	The PM count retrieval direction. The parameter type is DIRECTION, which is the transmit and receive directions.
• BTH	Both transmit and receive directions
• RCV	Receive direction only
<DESC>	(Optional) Condition description. DESC is a string.

23.43 RTRV-CONSOLE-PORT

The Retrieve Console Port (RTRV-CONSOLE-PORT) command retrieves the status of the console port from the ML-Series cards.

Usage Guidelines None

Category Security

Security Retrieve

Input Format RTRV-CONSOLE-PORT:[<TID>]:<AID>:<CTAG>;

Input Example RTRV-CONSOLE-PORT:CISCONODE:SLOT-2:123;

Input Parameters	<AID> Access identifier from the “ 27.13 EQPT ” section on page 27-21.
Output Format	<pre> SID DATE TIME M CTAG COMPLD “<EQPT>:PORT=<PORT>” ; </pre>
Output Example	<pre> TID-000 1998-06-20 14:30:00 M 001 COMPLD “SLOT-2:PORT=ENABLED” ; </pre>

Table 23-56 Output Parameter Support

Parameter	Description
EQPT	Identifies the slot number for the data card. EQPT is a string.
PORT	(Optional) Status of the console port on the data card. The parameter type is PORTSTAT, which is the status of the console port on the card.
• DISABLED	The port is disabled.
• ENABLED	The port is enabled.

23.44 RTRV-COS-ETH

The Retrieve Cost of Service Ethernet (RTRV-COS-ETH) command retrieves the egress parameters of a CoS table associated to an L2 Ethernet port.

Usage Guidelines	None
Category	Ethernet
Security	Provisioning
Input Format	RTRV-COS-ETH:[<TID>]:<AID>:<CTAG>[:];
Input Example	RTRV-COS-ETH:TID:ETH-1-1-1:CTAG;

Input Parameters	<AID>	Ethernet AIDs are used to access L2 Ethernet ports. Access identifier from the “ 27.19 LINEWL ” section on page 27-29.

Output Format	<pre> SID DATE TIME M CTAG COMPLD “<AID>::[QOSENABLED=<QOSENABLED>],[BW0=<BW0>], [WEIGHT0=<WEIGHT0>],[BW1=<BW1>],[WEIGHT1=<WEIGHT1>],[BW2=<BW2>], [WEIGHT2=<WEIGHT2>],[BW3=<BW3>],[WEIGHT3=<WEIGHT3>],[BW4=<BW4>], [WEIGHT4=<WEIGHT4>],[BW5=<BW5>],[WEIGHT5=<WEIGHT5>],[BW6=<BW6>], [WEIGHT6=<WEIGHT6>],[BW7=<BW7>],[WEIGHT7=<WEIGHT7>][:]” ; </pre>

Output Example	<pre> TID-000 1998-06-20 14:30:00 M 001 COMPLD “ETH-5-1-1::QOSENABLED=Y,BW0=10,WEIGHT0=0,BW1=20,WEIGHT1=2,BW2=40, WEIGHT2=4,BW3=60,WEIGHT3=6,BW4=70,WEIGHT4=8,BW5=80,WEIGHT5=10,BW6=85, WEIGHT6=12,BW7=100,WEIGHT7=15:” ; </pre>

Table 23-57 Output Parameter Support

Parameter	Description
<AID>	Ethernet AIDs are used to access L2 Ethernet ports. Access identifier from the “ 27.14 ETH ” section on page 27-23.
<QOSENABLED>	Used to enable or disable the egress quality of service (QoS) policy of an L2 Ethernet port.
• N	Disable the service.
• Y	Enable the service.
<BW0>	Bandwidth percentage, a value between 0 and 100
<WEIGHT0>	Value represents the weighted round-robin (WRR) weight associated to the CoS values. It is an integer value ranging between 0 and 15.
<BW1>	Bandwidth percentage, a value between 0 and 100
<WEIGHT1>	Value represents the WRR weight associated to the CoS values. It is an integer value ranging between 0 and 15.
<BW2>	Bandwidth percentage, a value between 0 and 100
<WEIGHT2>	Value represents the WRR weight associated to the CoS values. It is an integer value ranging between 0 and 15.

Table 23-57 **Output Parameter Support**

Parameter	Description
<AID>	Ethernet AIDs are used to access L2 Ethernet ports. Access identifier from the “ 27.14 ETH ” section on page 27-23.
<BW3>	Bandwidth percentage, a value between 0 and 100
<WEIGHT3>	Value represents the WRR weight associated to the CoS values. It is an integer value ranging between 0 and 15.
<BW4>	Bandwidth percentage, a value between 0 and 100
<WEIGHT4>	Value represents the WRR weight associated to the CoS values. It is an integer value ranging between 0 and 15.
<BW5>	Bandwidth percentage, a value between 0 and 100
<WEIGHT5>	Value represents the WRR weight associated to the CoS values. It is an integer value ranging between 0 and 15.
<BW6>	Bandwidth percentage, a value between 0 and 100
<WEIGHT6>	Value represents the WRR weight associated to the CoS values. It is an integer value ranging between 0 and 15.
<BW7>	Bandwidth percentage, a value between 0 and 100
<WEIGHT7>	Value represents the WRR weight associated to the CoS values. It is an integer value ranging between 0 and 15.

23.45 RTRV-CRS

The Retrieve Cross-Connect (RTRV-CRS) command retrieves all the cross-connections based on the required PATH types.

Usage Guidelines

- A NULL AID defaults to ALL (NE).
- A NULL PATH defaults to all the existing cross-connections.
- The LEVEL in the output field is an optional field, and is used to indicate the bandwidth of the PATH cross-connection.

- Both DRITYPE and DRINODE optional fields are available to support MSSPR-DRI. DRITYPE is applied only if the cross-connect is a drop-and-continue connection (1WAYDC or 2WAYDC), and defaults to SNCP for the DRI. DRINODE must be specified only if at least one end of the connection is on the MS-SPRing, and defaults to NA.
- CKTID is a string of ASCII characters. The maximum length of CKTID is 48. If the CKTID is EMPTY or NULL it will not appear.
- VC values in CRS_TYPE are not supported in this command.

Category Cross Connections

Security Retrieve

Input Format RTRV-CRS:[<TID>]:[<AID>]:<CTAG>[:CRSTYPE=<CRSTYPE>][:];

Input Example RTRV-CRS:CISCO:ALL:123::CRSTYPE=VC4;

Table 23-58 Input Parameter Support

Parameter	Description
<AID>	(Optional) Access identifier from the “ 27.10 CrossConnectId ” section on page 27-15 that can be EQPT, Facility, VC or ALL. The ALL AID defaults to NE, which means it reports all the existing cross-connections on the NE. A null value is equivalent to ALL.
<CRSTYPE>	(Optional) The cross-connection type. Defaults to all existing cross-connections. A null value is equivalent to ALL. The parameter type is PATH, which is the modifier for path commands.
• VC3	Synchronous Transport Signal/Module Level-1 (51 Mbps)
• VC44C	Synchronous Transport Signal/Module Level-12 Concatenated (622 Mbps)
• VC38C	Synchronous Transport Signal/Module Level-18 Concatenated (933 Mbps)
• VC464C	Synchronous Transport Signal/Module Level-192 Concatenated (9952 Mbps)
• VC48C	Synchronous Transport Signal/Module Level-24 Concatenated (1240 Mbps)
• VC4	Synchronous Transport Signal/Module Signal Level-3 Concatenated (155 Mbps)
• VC416C	Synchronous Transport Signal/Module Level-48 Concatenated (2488 Mbps)
• VC42C	Synchronous Transport Signal/Module level-6 (310 Mbps)
• VC43C	Synchronous Transport Signal/Module Level-9 Concatenated (465 Mbps)
• VC12	Virtual Tributary 2. Virtual Channel 12

Output Format SID DATE TIME
M CTAG COMPLD
“<SRC>,<DST>:<CCT>,<CRSTYPE>:[DRITYPE=<DRITYPE>],[DRINODE=<SYNCSW>],
[CKTID=<CKTID>]:<PSTPSTQ>,[<SSTQ>]”
;

Output Example

```
TID-000 1998-06-20 14:30:00
M 001 COMPLD
  "VC4-5-1-2&VC4-6-1-2,VC4-12-1-2&VC4-13-1-2:1WAYDC,VC3:DRITYPE=MSSPR,
  DRINODE=PRI,CKTID=CKTID:UNLOCKED-DISABLED,AUTOMATICINSERVICE"
;
```

Table 23-59 Output Parameter Support

Parameter	Description
<SRC>	Source access identifier from the “27.10 CrossConnectId” section on page 27-15. Indicates the source AID(s) of the cross-connection. SRC is listable.
<DST>	Destination AID of the cross-connection from the “27.10 CrossConnectId” section on page 27-15. DST is listable.
<CCT>	Type of connection. Used for specifying one or two-way connections. The parameter type is CCT, which is the type of cross-connect to be created.
• 1WAY	A unidirectional connection from a source tributary to a destination tributary.
• 1WAYDC	Subnetwork connection protection (SNCP) multicast drop (1-way continue)
• 1WAYEN	SNCP multicast end node (1-way continue)
• 1WAYMON	A bidirectional connection between the two tributaries Note 1WAYMON is not supported with TL1. However, it is supported from CTC. Using CTC, you can create 1WAYMON cross-connects that can be retrieved through TL1.
• 1WAYPCA	A unidirectional connection from a source tributary to a destination tributary on the protection path/fiber
• 2WAY	A bidirectional connection between the two tributaries.
• 2WAYDC	A bidirectional drop and continue connection applicable only to SNCP traditional and integrated DRIs.
• 2WAYPCA	A bidirectional connection between the two tributaries on the extra protection path/fiber.
• DIAG	Diagnostics cross-connect. Supports BERT (MS-SPRing PCA diagnostics cross-connect).
<CRSTYPE>	The cross-connection type. The parameter type is CRS_TYPE, which is the cross-connection type.
• VC	Indicates all the VC cross-connections.
• VC3	VC3 cross-connect
• VC4	VC4 cross-connect
• VC42C	VC42C cross-connect
• VC43C	VC43C cross-connect
• VC44C	VC44C cross-connect
• VC 46C	VC46C cross-connect
• VC48C	VC48C cross-connect
• VC412C	VC412C cross-connect
• VC416C	VC416C cross-connect
• VC464C	VC464C cross-connect
• VC12	VC12 cross-connect

Table 23-59 **Output Parameter Support**

Parameter	Description
<DRITYPE>	(Optional) The DRI connection type. It is applied only if the cross-connection is a drop-and-continue connection type (1WAYDC or 2WAYDC), and defaults to SNCP for the DRI configuration. The parameter type is DRITYPE (DRI type).
• MSSPR	MS-SPRing DRI type
• SNCP	SNCP DRI type
• SNCP-MSSPR	SNCP-MS-SPRing hand off DRI type
<DRINODE>	(Optional) Synchronization switch AID from the “27.30 SYNC SW” section on page 27-35 .
<CKTID>	(Optional) Circuit identification parameter that contains the a common language ID or other alias of the circuit being provisioned. It cannot contain blank spaces. CKTID is a string.
<PSTPSTQ>	Primary state and primary state qualifier separated by a colon. The parameter type is PST_PSTQ, which is the service state of the entity described by the PST and PSTQ.
• Unlocked-Enabled	In service and normal
• Unlocked-Disabled	Out of service and autonomous
• Locked-Disabled	Out of service, autonomous and management
• Locked-Enabled	Out of service and management
<SSTQ>	(Optional) One or more secondary states separated by &, in alphabetical order. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AutomaticInService	Automatic in service
• Disabled	Disabled
• Loopback	Loopback
• MismatchofEquipmentAlarm	Mismatch of equipment and attributes
• Maintenance	Maintenance mode
• OutOfGroup	Out of group
• SoftwareDownload	Software downloading
• Unassigned	Unassigned
• NotInstalled	Unequipped

23.46 RTRV-CRS-<PATH>

The Retrieve Cross-Connect for VC3, VC44C, VC38C, VC464C, VC48C, VC4-12C, VC4, VC416C, VC42C, VC43C, VC11, or VC1 (RTRV-CRS-<PATH>) command retrieves any connections associated with the entered AID(s) or AID range. The information on both ends is returned along with the type of connection. See [Table 29-1 on page 29-1](#) for supported modifiers by platform.

Usage Guidelines

The SNCP VC cross-connection can be retrieved by using “&” in the AID fields of this command.

- To retrieve a 1-way selector or 2-way selector and bridge cross-connection with:
 - from points: F1, F2
 - to points: T1
 - the output will be:
 - 1-way:


```
“F1&F2,T1:CCT,VC4”
```
 - 2-way:


```
If retrieved on point F1 or F2, the output format is the same as the 1-way output.
```

```
If retrieved on point T1, the output will be:
```

```
“T1,F1&F2:CCT,VC4”
```
- To retrieve a 1-way bridge or 2-way selector and bridge cross-connection with:
 - from point: F1
 - to points: T1, T2
 - the output will be:
 - 1-way:


```
“F1,T1&T2:CCT,VC4”
```
 - 2-way:


```
“T1&T2,F1:CCT,VC4”
```
- To retrieve a 1-way subtending SNCP connection or 2-way subtending SNCP cross-connection with:
 - from point: F1, F2
 - to points: T1, T2
 - the output will be:
 - 1-way:


```
“F1&F2,T1&T2:CCT,VC4”
```
 - 2-way:


```
If retrieved on point F1 or F2, the output format is the same as the 1-way output.
```

```
If retrieved on point T1 or T2, the output will be:
```

```
“T1&T2,F1&F2:CCT,VC4”
```
- To retrieve a 2-way selector and bridge cross-connection with:


```
ENT-CRS-<PATH>::F1&F2,S1&S2:<CTAG>::2WAY;
```

 - from points: F1, F2 (F1 is the working side, F2 is the protect side)
 - selector: S1, S2 (s1 is the working side, S2 is the protect side)
 - If retrieved on point F1 or F2, the output will be:


```
“F1&F2,S1&S2:CCT,VC4”
```
 - If retrieved on selector S1 or S2, the output will be:


```
“S1&S2,F1&F2:CCT,VC4”
```

- To retrieve a SNCP IDRI cross-connect with:
from points: F1, F2
to points: T1, T2
the output will be:
“F1&F2,T1&T2:CCT,VC4”
- To retrieve a SNCP DRI cross-connect with:
from points: F1, F2
to points: T1
the output will be:
“F1&F2,T1:CCT,VC4”

The following rules apply:

- All A&B AIDs in the TL1 cross-connection command are in the format of WorkingAID&ProtectAID.
- <VC_PATH> does not include VC for the RTRV-CRS command because VC is not a standard designator as defined by Telcordia GR-833, Section A-2.
- Both the 1WAYPCA and 2WAYPCA is used to specify a PCA cross-connection.
- The facility AID is only valid on slots with a G1000-4 card.
- The virtual facility AID (VFAC) is only valid on slots holding the ML-Series card.
- Both DRITYPE and DRINODE optional fields are available to support MSSPR-DRI. DRITYPE is applied only if the cross-connect is a drop-and-continue connection (1WAYDC or 2WAYDC), and defaults to SNCP for the DRI. DRINODE must be specified only if at least one end of the connection is on the MS-SPRing, and defaults to NA.
- Only RTRV-CRS-VC3 will be allowed on the DS3i-N-12 card. RTRV-CRS-VC4 is not allowed.

Category

Cross Connections

Security

Retrieve

Input Format

RTRV-CRS-<PATH>:[<TID>]:<SRC>:<CTAG>[:::];

Input Example

RTRV-CRS-VC4:KENWOOD:VC4-6-1-1:223;

Input Parameters

<SRC>	Source access identifier from the “27.11 CrossConnectId1” section on page 27-16.

Output Format

```

SID DATE TIME
M CTAG COMPLD
"<SRC>,<DST>:<CCT>,<MOD>:[DRITYPE=<DRITYPE>],[DRINODE=<DRINODE>],
[CKTID=<CKTID>]:<PSTPSTQ>,[<SSTQ>]"
;

```

Output Example

```

TID-000 1998-06-20 14:30:00
M 001 COMPLD
"VC4-5-1-2&VC4-6-1-2,VC4-12-1-2&VC4-13-1-2:1WAYDC,VC4:DRITYPE=MSSPR,
DRINODE=PRI,CKTID=CKTID:UNLOCKED-DISABLED,AUTOMATICINSERVICE"
;

```

Table 23-60 Output Parameter Support

Parameter	Description
<SRC>	Source access identifier from the “27.10 CrossConnectId” section on page 27-15. Indicates the source AID(s) of the cross-connection. SRC is listable.
<DST>	Destination AID of the cross-connection from the “27.10 CrossConnectId” section on page 27-15. DST is listable.
<CCT>	Type of connection. Used for specifying one or two-way connections. The parameter type is CCT, which is the type of cross-connect to be created.
• 1WAY	A unidirectional connection from a source tributary to a destination tributary.
• 1WAYDC	SNCP multicast drop (1-way continue)
• 1WAYEN	SNCP multicast end node (1-way continue)
• 1WAYMON	A bidirectional connection between the two tributaries Note 1WAYMON is not supported with TL1. However, it is supported from CTC. Using CTC, you can create 1WAYMON cross-connects that can be retrieved through TL1.
• 1WAYPCA	A unidirectional connection from a source tributary to a destination tributary on the protection path/fiber.
• 2WAY	A bidirectional connection between the two tributaries.
• 2WAYDC	A bidirectional drop and continue connection applicable only to SNCP traditional and integrated DRIs.
• 2WAYPCA	A bidirectional connection between the two tributaries on the extra protection path/fiber.
• DIAG	Diagnostics cross-connect. Supports BERT (MS-SPRing PCA diagnostics cross-connect).
<MOD>	The connection path bandwidth. The parameter type is MOD2, which is the line/path modifier.
• 10GFC	10-Gigabit Fibre Channel payload
• 10GIGE	10-Gigabit Ethernet
• 1GFC	1-Gigabit Fibre Channel payload
• 1GFICON	1-Gigabit fiber connectivity payload
• 2GFC	2-Gigabit Fibre Channel payload
• 2GFICON	2-Gigabit fiber connectivity payload
• 3GVIDEO	3G-SDI video payload.
• 4GFC	4-Gigabit Fibre Channel payload

Table 23-60 **Output Parameter Support**

Parameter	Description
• 4GFICON	4-Gigabit fiber connectivity payload
• D1VIDEO	D1 video
• DS3I	DS3i-N-12 line
• DV6000	DV6000
• E1	E1
• E3	E3
• E4	E4 frame. Only applicable to STM1E Ports 9 through 12 when it is in E4-FRAMED or E4-UNFRAMED mode.
• ESCON	ESCON
• ETRCLO	ETRCLO
• FSTE	FSTE facility
• G1000	G1000 facility
• GFPOS	Generic Framing Protocol over Packet Over NCS. Virtual ports partitioned using GFP's multiplexing capability
• GIGE	Gigabit Ethernet
• HDTV	HDTV
• ISC3PEER1G	1-Gbps ISC3 Peer
• ISC3PEER2G	2-Gbps ISC3 Peer
• ISC3PEER2R	1-Gbps or 2-Gbps ISC3 peer used in transparent (2R) mode
• ISC3STP1G	ISC-3 STP 1G video payload.
• ISC3STP2G	
• ISCCOMPAT	1-Gbps ISC1, ISC2, and ISC3 compatibility
• STM1	STM1 facility
• STM4	STM4 facility
• STM16	STM16 facility
• STM64	STM64 facility
• OCH	Optical channel
• OCHCC	OCH client connection
• OCHNC	OCH network connection
• OCHTERM	OCH termination
• OMS	Optical Multiplex Section
• OTS	Optical Transport Section
• POS	POS port
• STM1E	STM1E facility. Only applicable to the STM1E facility (when it is in STM1E mode) of NCS STM1E-12 card.
• VC3	VC3 path
• VC4	VC4 path

Table 23-60 **Output Parameter Support**

Parameter	Description
• VC42C	VC42C path
• VC43C	VC43C path
• VC44C	VC44C path
• VC 46C	VC46C path
• VC48C	VC48C path
• VC412C	VC412C path
• VC416C	VC416C path
• VC464C	VC464C path
• VC11	VC11 path
• VC12	VC12 path
<DRITYPE>	(Optional) The DRI connection type. It is applied only if the cross-connection is a drop-and-continue connection type (1WAYDC or 2WAYDC), and defaults to SNCP for the DRI configuration. The parameter type is DRITYPE (DRI type).
• MSSPR	MS-SPRing DRI type
• SNCP	SNCP DRI type
• SNCP-MSSPR	SNCP-MS-SPRing hand off DRI type
<SYNCSW>	(Optional) Synchronization switch AID from the “27.30 SYNCSW” section on page 27-35 .
<CKTID>	(Optional) A string of ASCII characters. Maximum length is 48. CKTID is a string.
<PSTPSTQ>	Primary state and primary state qualifier separated by a colon. The parameter type is PST_PSTQ, which is the service state of the entity described by the PST and PSTQ.
• Unlocked-Enabled	In service and normal
• Unlocked-Disabled	Out of service and autonomous
• Locked-Disabled	Out of service, autonomous and management
• Locked-Enabled	Out of service and management
<SSTQ>	(Optional) One or more secondary states separated by &, in alphabetical order. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AutomaticInService	Automatic in service
• Disabled	Disabled
• Loopback	Loopback
• MismatchofEquipmentAlarm	Mismatch of equipment and attributes
• Maintenance	Maintenance mode
• OutOfGroup	Out of group
• SoftwareDownload	Software downloading
• Unassigned	Unassigned
• NotInstalled	Unequipped

23.47 RTRV-CRS-ETH

This command retrieve an Ethernet Connection between two or more ethernet connection end points within ethernet facilities.

Usage Guidelines

This command accept the ALL AID. Use one of the specified ethernet end points and the connection end point identifier associated in order to identify a cross-connection inside the node.

Category

ETHERNET

Security

Retrieve

Input Format

RTRV-CRS-ETH:[<TID>]:<aid>:<CTAG>[:];

Input Example

```
RTRV-CRS-ETH:TID:ALL:CTAG;
RTRV-CRS-ETH:TID:ETH-5-1-1-ALL:CTAG;
RTRV-CRS-ETH:TID:ETH-1-1-1-11:CTAG;
```

Input Parameters

Table 23-61 Input Parameter Support

Parameter	Description
<AID>	Ethernet connection identifier AIDs used to access L2 ethernet connection end point.
ALL	The ALL aid is applicable for RTRV-only commands, basically the RTRV-rr type of commands.
ETHID[-{1-12}]-{1-5,12-16}-{1-22}-1-{1-20}	Ethernet connection end point aid for GE-XP card.
ETHID[-{1-12}]-{1-6,12-17}-{1-4}-1-{1-20}	Facility aid for 10GE-XP card.

Output Format

```
SID DATE TIME
M CTAG COMPLD
"<src>,<dst>:<ect>:[CKTID=<cktid>]:<pstPstq>,<[sstq]>";
```

Output Example

```
TID-000 1998-06-20 14:30:00
M 001 COMPLD
```

```
"ETH-1-1-1-13,ETH-1-21-1-13&ETH-1-22-1-13:2WAY:CKTID=ETHERNET:IS-NR";
```

Output Parameters

<SRC>	Ethernet connection identifier AIDs used to access L2 ethernet connection end point.
• ALL	The ALL aid is applicable for RTRV-only commands, basically the RTRV-rr type of commands.
• ETHID[-{1-12}]{1-5,12-16} - {1-22}-1-{1-20}	Ethernet connection end point aid for GE-XP card.
• ETHID[-{1-12}]{1-6,12-17} - {1-4}-1-{1-20}	Facility aid for 10GE-XP card.
<DST>	Ethernet connection identifier AIDs used to access L2 ethernet connection end point.
• ALL	The ALL aid is applicable for RTRV-only commands, basically the RTRV-rr type of commands.
• ETHID[-{1-12}]{1-5,12-16} - {1-22}-1-{1-20}	Ethernet connection end point aid for GE-XP card.
• ETHID[-{1-12}]{1-6,12-17} - {1-4}-1-{1-20}	Facility aid for 10GE-XP card.
<ECT>	Defines the type of cross-connect to be created. It is a subset of the CCT.
• 2WAY	A bidirectional connection between the two tributaries
<CKTID>	Circuit identification parameter contains the Common Language Circuit ID or other alias of the circuit being provisioned.
<PST-PSTQ >	Service State of the entity described by the Primary State (PST) and a Primary State Qualifier (PSTQ)
• IS-NRorUnlocked-Enabled	In Service - Normal
• OOS-AUorUnlocked-Disabled	Out of Service - Autonomous
• OOS-AUMAorLocked-Disabled	Out of Service - Autonomous and Management
• OOS-MTorLocked-Enabled	Out of Service - Management
<SST>	Secondary State. This parameter provides additional information pertaining to PST and PSTQ.
AINSorAutomaticInService	Automatic In Service State Transition.
DSBLDorDisabled	Disabled

23.48 RTRV-DFLT-SECU

The Retrieve Default Security (RTRV-DFLT-SECU) command retrieves the system-wide default values associated with several security parameters.

Usage Guidelines

None

Category	Security		
Security	Superuser		
Input Format	RTRV-DFLT-SECU:[<TID>]:<AID>:<CTAG>;		
Input Example	RTRV-DFLT-SECU:CISCO:ALL:123;		
Input Parameters	<table> <tr> <td><AID></td><td>Access identifier. ALL is the only acceptable value. AID is a string.</td></tr> </table>	<AID>	Access identifier. ALL is the only acceptable value. AID is a string.
<AID>	Access identifier. ALL is the only acceptable value. AID is a string.		
Output Format	SID DATE TIME M CTAG COMPLD “<NE>:PAGE=<PAGE>,PCND=<PCND>,MXINV=<MXINV>,DURAL=<DURAL>,TMOUT=<TMO UT>,UOUT=<UOUT>,PFRCD=<PFRCD>,POLD=<POLD>,PINT=<PINT>,LOGIN=<LOGIN>,[PRI VLVL=<PRIVLVL>],[PDIF=<PDIF>],[PWDCHRULE=<PWDCHRULE>],[PWDMINLEN=<PWDM INLEN>],[PWDMAXLEN=<PWDMAXLEN>]” ;		
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD “TCC2:PAGE=40,PCND=5,MXINV=5,DURAL=30,TMOUT=0,UOUT=60, PFRCD=NO,POLD=5,PINT=20,LOGIN=MULTIPLE,PRIVLVL=RTRV,PDIF=1” ; TID-000 1998-06-20 14:30:00 M 001 COMPLD “107161:PAGE=0,PCND=0,MXINV=5,DURAL=30,TMOUT=0,UOUT=0,PFRCD=NO,POLD=1,PIN T=0,LOGIN=MULTIPLE,PRIVLVL=RTRV,PDIF=1,PWDCHRULE=ANY_CHAR,PWDMINLEN=2, PWDMAXLEN=20” ;		

Table 23-62 **Output Parameter Support**

Parameter	Description
<NE>	The node name of the NE where the system values are to be retrieved.
<PAGE>	Password aging interval. It is the number of days before a user is prompted to change his/her password. 0 indicates the policy is turned off and is the default. If PAGE is turned on for all privilege levels and is not specified for each privilege level, it defaults to 45 days. PAGE ranges from 20 to 90 days. PAGE is an integer.
<PCND>	Number of days a password can be used before a new one is mandatory (for example, the warning period). Default is 5 days. PCND ranges from 2 to 20 days. PCND is an integer.

Table 23-62 **Output Parameter Support**

Parameter	Description
<MXINV>	Maximum number of consecutive and invalid session set up attempts allowed to occur before an intrusion attempt is suspected (for example, “Failed Logins Before Lockout” from CTC). 0 indicates the policy is turned off. Default is 5. MXINV ranges from 0 to 10. MXINV is an integer.
<DURAL>	Time interval (in seconds) during which a user ID is locked out when an intrusion attempt is suspected (for example, the “Lockout Duration”). If the user is locked out until unlocked by a Superuser, DURAL=INFINITE. Default is 30 seconds. DURAL ranges from 0 to 600 seconds. DURAL is a string.
<TMOUT>	Interval (in minutes) after which a session is terminated if no messages are exchanged between the user and the NE. 0 indicates that the session will not timeout. DURAL is 0 for RTRV users, 60 minutes for MAINT users, 30 minutes for PROV users, and 15 minutes for SUPER users. TMOUT is an integer.
<UOUT>	UID aging interval, expressed in days. If a user ID has not been used in UOUT days, the user will be forced to change his/her password (or logout) at the next login. No other command is allowed until the password has been changed. 0 indicates the policy is turned off and is the default. UOUT ranges from 45 to 90 days. UOUT is an integer.
<PFRCD>	Indicates a password change is required when a new user establishes a session to the NE for the first time (for example, “Require password change on 1st login”). Default is NO. The parameter type is YES_NO, which indicates whether the user’s password is about to expire, the user is logged into the NE, or the user is locked out of the NE.
• NO	No
• YES	Yes
<POLD>	Number of prior passwords that cannot be reused (for example, “Prevent reusing last X passwords”). Default is 1. POLD ranges from 1 to 10. POLD is an integer.
<PINT>	Number of days that must pass before a password can be changed. If PINT is 0, the policy is turned off. Default is off. PINT ranges from 20 to 95 days. PINT is an integer.
<LOGIN>	Number of times a user can log into an NE. LOGIN is either SINGLE or MULTIPLE. If LOGIN is SINGLE, a user can only log into an NE one time with any given user ID, regardless of the method of login (for example, CTC, TL1, etc.). Default is MULTIPLE. The parameter type is USER_LOGINS, which is the number of times a user can log into the same NE with the same user ID.
• SINGLE	A user can log into the NE only once (includes both CTC and TL1 sessions).
• MULTIPLE	A user can log into the same NE many times.
<PRIVLVL>	(Optional) User’s access privilege. The parameter type is PRIVILEGE, which is the security level.
• MAINT	Maintenance security level, unlimited idle time.
• PROV	Provision security level, 60 minutes of idle time.
• RTRV	Retrieve security level, 30 minutes of idle time.
• SUPER	Superuser security level, 15 minutes of idle time.
• ROOT_USER	Root user.
• SEC_SUPER	Security super user.
• SEC_USER	Security user.
<PDIF>	(Optional) Indicates how many characters must differ between old and new passwords. Default minimum character difference is 1. Ranges from 1 to 5 characters. PDIF is an integer.
<PWDCHRULE>	(Optional) Password Characters Rule. Indicates the password characters rule for the specified minimum length of the password.

Table 23-62 **Output Parameter Support**

Parameter	Description
ONE_EACH_OF_LETTER_NUM_TL1SPECIAL	One letter, one number, and one TL1 special character (% , # , +).
ONE_EACH_OF_LETTER_NUM_SPECIAL	One letter, one number, and one special character.
TWO_EACH_OF_TWO_OF_UPPER_LOWER_NUM_TL1SPECIAL	Two each of any of the two numbers, upper, lower, or TL1 special characters.
TWO_EACH_OF_TWO_OF_UPPER_LOWER_NUM_SPECIAL	Two each of any of the two numbers, upper, lower, or special characters.
ANY_CHAR	Any character.
<PWDMINLEN>	(Optional) Password Minimum Length. Indicates the minimum number of characters that can be set for password configuration. The values are 2, 4, 6, 8, 10 and 12.
<PWDMAXLEN>	(Optional) Password Maximum Length. Indicates the maximum number of characters that can be set for password configuration. The values are 20 or 80.

23.49 RTRV-DS3I

The Retrieve DS3I (RTRV-DS3I) command retrieves the properties of a DS3i-N-12 facility.

Usage Guidelines None

Category Ports

Security Retrieve

Input Format RTRV-DS3I:[<TID>]:<AID>:<CTAG>[:];

Input Example RTRV-DS3I:CISCO:FAC-1-1:1234;

Input Parameters

<AID> Access identifier from the [“27.15 FACILITY” section on page 27-23](#).

Output Format

```
SID DATE TIME
M CTAG COMPLD
“<AID>::FMT=<FMT>,LINECDE=<LINECDE>,LBO=<LBO>,[INHFELPBK=<INHFELPBK>],
[TACC=<TACC>],[TAPTYPE=<TAPTYPE>],[SFBER=<SFBER>],[SDBER=<SDBER>],
[SOAK=<SOAK>],[SOAKLEFT=<SOAKLEFT>],[NAME=<NAME>]:<PSTPSTQ>,<SSTQ>”
;
```

Output Example

```
TID-000 1998-06-20 14:30:00
M 001 COMPLD
“FAC-1-2::FMT=C-BIT,LINECDE=B3ZS,LBO=0-225,INHFELPBK=N,TACC=8,
TAPTYPE=DUAL,SFBER=1E-4,SDBER=1E-6,SOAK=10,SOAKLEFT=12-25,
NAME="DS3I PORTV":UNLOCKED-DISABLED,AUTOMATICINSERVICE”
;
```

Table 23-63 Output Parameter Support

Parameter	Description
<AID>	Access identifier from the “27.15 FACILITY” section on page 27-23 .
<FMT>	Digital signal format. The parameter type is DS_LINE_TYPE, which is the DS123 line type.
• C-BIT	M13 line type.
• M13	Frame format is ESF.
• UNFRAMED	Line type is unframed.
<LINECDE>	Line code. The parameter type is DS_LINE_CODE, which is the DS123 line code.
• B3ZS	Bipolar with three-zero substitution
<LBO>	Line build out settings. LBO is an integer. The parameter type is E_LBO, which is the electrical signal line buildout.
• 0–225	Electrical signal line buildout range is 0–225.
• 226–450	Electrical signal line buildout range is 226–450.
<INHFELPBK>	(Optional) Far-end loopback inhibition attribute of the port. If it is Y, the automatic far-end loopbacks are inhibited. It is either on or off. The system default is N. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<TACC>	(Optional) Indicates whether the digroup being provisioned is to be used as a test access digroup. Default is N. TACC is an integer.
<TAPTYPE>	(Optional) TAP type. The parameter type is TAPTYPE, which is the test access point type.
• DUAL	Dual FAD
• SINGLE	Single FAD
<SFBER>	(Optional) Signal failure threshold. The parameter type is SF_BER, which is the threshold for declaring signal failure on a facility or path.
• 1E-3	SFBER is 1E-3.

Table 23-63 **Output Parameter Support**

Parameter	Description
• 1E-4	SFBER is 1E-4.
• 1E-5	SFBER is 1E-5.
<SDBER>	(Optional) Signal degrade threshold. The parameter type is SD_BER, which is the threshold for declaring signal degrade on a facility or path.
• 1E-5	SDBER is 1E-5.
• 1E-6	SDBER is 1E-6.
• 1E-7	SDBER is 1E-7.
• 1E-8	SDBER is 1E-8.
• 1E-9	SDBER is 1E-9.
<SOAK>	(Optional) Locked-AutomaticInService to Unlocked transition soak time as measured in 15-minute intervals.
<SOAKLEFT>	(Optional) Time remaining for the transition from Locked-AutomaticInService to Unlocked measured in 1 minute intervals. The format is HH-MM where HH ranges from 00 to 48 and MM ranges from 00 to 59. Rules for SOAKLEFT are: • When the port is in Locked, Locked_Maintenance or Unlocked state, the parameter will not appear. • When the port is in Locked_AutomaticInService state but the countdown has not started due to fault signal, the value will be SOAKLEFT=NOT-STARTED. • When the port is in Locked_AutomaticInService state and the countdown has started, the value will be shown in HH-MM format.
<NAME>	(Optional) Port name. NAME is a string.
<PSTPSTQ>	Administrative state in the PST-PSTQ format. The parameter type is PST_PSTQ, which is the service state of the entity described by the PST and the PSTQ.
• Unlocked-Enabled	In service and normal
• Unlocked-Disabled	Out of service and autonomous
• Locked-Disabled	Out of service, autonomous and management
• Locked-Enabled	Out of service and management
<SST>	(Optional) Secondary state. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AutomaticInService	Automatic in service
• Disabled	Disabled
• Loopback	Loopback
• MismatchofEquipmentAlarm	Mismatch of equipment and attributes
• Maintenance	Maintenance mode
• OutOfGroup	Out of group
• SoftwareDownload	Software downloading

Table 23-63 **Output Parameter Support**

Parameter	Description
• Unassigned	Unassigned
• NotInstalled	Unequipped

23.50 RTRV-DSCP-<MOD2>

The RTRV-DSCP-<MOD2> command retrieves Differentiated Service Code Points (DSCP) to COS conversion table associated to a L2 ethernet port or a channel group.

Usage Guidelines

This command is applicable when the INGRESSCOS parameter is set to DSCP value on the ethernet port or channel group.

Category

Ethernet or Channel Group

Security

Retrieve

Input Format

RTRV-DSCP-MOD2:[<TID>]:<AID>:<CTAG>::[<COS>][:];

Input Example

RTRV-DSCP-ETH::ETH-5-1-1:1234;
RTRV-DSCP-CHGRP::CHGRP-1-1:1234::3;

Input Parameters

Input Parameters	Description
<AID>	Access identifier.
• Ethernet	Ethernet AIDs are used to access L2 Ethernet ports. Access identifier from the “27.14 ETH” section on page 27-23.
• Channel Group	Access identifier from the “27.8 CHGRP” section on page 27-14.

Output Format

SID DATE TIME
M CTAG COMPLD
“AID>:<COS>:[DSCPFIRST=<DSCP_FIRST>],[DSCPLAST=<DSCP_LAST>];”
;

Output Example

TID-000 1998-06-20 14:30:00
M 001 COMPLD
“ETH-5-1-1:0:DSCPFIRST=0,DSCPLAST=9:”
;

```
TID-000 1998-06-20 14:30:00
M 001 COMPLD
"CHGRP-5-1-1:0:DSCPFIRST=0,DSCPLAST=9:"
;
```

Table 23-64 Output Parameter Support

Parameter	Description
<AID>	Access identifier.
Ethernet	Ethernet AIDs are used to access L2 Ethernet ports. Access identifier from the “27.14 ETH” section on page 27-23 .
Channel Group	Access identifier from the “27.8 CHGRP” section on page 27-14 .
<INGRESSCOS>	Identifies the COS value set in the S-VLAN tag.
0 to 7	Cos value
DSCP	The COS set according to DSCP to COS mapping table.
TRUST	The Customer COS
VLAN	The COS provisioned on CVLAN basis (QinQ selective mode)
<DSCPFIRST>	DSCP range. Indicates a DSCP value used in the ethernet frame to define the QoS in L3 ethernet transport. It is a number in the range 0..64. Default values is 0
<DSCPLAST>	DSCP range. Indicates a DSCP value used in the ethernet frame to define the QoS in L3 ethernet transport. It is a number in the range 0..64. Default values is 0.

23.51 RTRV-E1

The Retrieve E1 (RTRV-E1) command retrieves the attributes of an E1 port facility.

Usage Guidelines The ADMSSM, RETIME, SABIT, SYNCMSG, SENDDUS, and PROVIDESYNC parameters are only displayed on the DS1/E1-56 card.

Category Ports

Security Retrieve

Input Format	RTRV-E1:[<TID>]:<AID>:<CTAG>[:...];		
Input Example	RTRV-E1:TID:FAC-1-1:1234;		
Input Parameters	<table> <tr> <td><AID></td><td>Access identifier from the “27.15 FACILITY” section on page 27-23.</td></tr> </table>	<AID>	Access identifier from the “27.15 FACILITY” section on page 27-23 .
<AID>	Access identifier from the “27.15 FACILITY” section on page 27-23 .		
Output Format	SID DATE TIME M CTAG COMPLD “<AID>::[<CLKSRC>],<FMT>,<LINECDE>,[<TACC>],[<TAPTYPE>],[<SFBER>],[<SDBER>],[<SOAK>],[<SOAKLEFT>],[<NAME>],[<SYNCSMSG>],[<SENDDUS>],[<RETIME>],[<ADMSSM>],[<PROVIDESYNC>],[<AISONLPBK>]:[<SABIT>],[<PST>]” ;		
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD “FAC-2-1::LINECDE=HDB3,FMT=E1-MF,TACC=8,TAPTYPE=DUAL,SFBER=1E-4, SDBER=1E-6,SOAK=10,SOAKLEFT=12-25,NAME=“E1PORT”,SYNCSMSG=N, SENDDUS=N,RETIME=N,ADMSSM=STU,PROVIDESYNC=N, SABIT=BYTE-4:UNLOCKED-DISABLED,AUTOMATICINSERVICE” ;		

Table 23-65 Output Parameter Support

Parameter	Description
<AID>	Access identifier from the “27.15 FACILITY” section on page 27-23 . The entity in the NE to which the command pertains.
<CLKSRC>	<CLKSRC>
• INTERNAL	INTERNAL
• LOOPBACK TIMING	LOOPBACK TIMING
• SYNCE	SYNCE
• ADAPTIVE	ADAPTIVE
<AISONLPBK>	Indicates if AIS should be sent back in loopback.
• FACILITY	Facility
• TERMINAL	Terminal
• OFF	Off
• ALL	All
<LINECDE>	(Optional) Line code. Defaults to HDB3. The parameter type is LINE_CODE (line code). (Applicable only for NCS platform).
• AMI	Line code value is AMI.
• B3ZS	Binary three-zero substitution.

Table 23-65 **Output Parameter Support**

Parameter	Description
• B6ZS	Line code value is B6ZS.
• B8ZS	Line code value is B8ZS.
• HDB3	Line code value is HDB3. (Applicable only for NCS platform).
• JBZS	JBZS
• ZBTSI	ZBTSI
<FMT>	Digital signal frame format. Defaults to E1-MF. The parameter type is FRAME_FORMAT, which is the frame format for a E1 port.
• AUTOPROV	AUTOPROV
• CBIT	C-BIT line type applies to the DS3XM and DS3E cards.
• D4	Frame format is D4
• DS2 FRAMED	DS2 FRAMED
• E1-CRCMF	NCS E1 CRCMF frame format
• E1-MF	NCS E1 MF frame
• E1-UNFRAMED	NCS E1 unframed format
• E2 FRAMED	E2 FRAMED
• E3-FRAME	E3-FRAME
• E3-PLCP	E3-PLCP
• ESF	Frame format is ESF
• FRAMENA	FRAMENA
• G-751	G-751
• G-832	G-832
• M13	M13 line type applies to the DS3XM and DS3E cards.
• M23	M23
• SYNTRAN	SYNTRAN
• UNFRAMED	Frame format is unframed.
<TACC>	(Optional) TAP number within a range of 0 to 999. Indicates whether the digroup being provisioned is to be used as a test access digroup. When TACC is 0 (zero), the TAP is deleted. Default is N. TACC is an integer.
<TAPTYPE>	(Optional) TAP type. Defaults to DUAL. The parameter type is TAPTYPE, which is the test access point type.
• DUAL	Dual FAD
• SINGLE	Single FAD
<SFBER>	(Optional) Signal failure threshold. Defaults to 1E-4. The parameter type is SF_BER, which is the threshold for declaring signal failure on a facility or path.
• 1E-3	SFBER is 1E-3.
• 1E-4	SFBER is 1E-4.
• 1E-5	SFBER is 1E-5.

Table 23-65 **Output Parameter Support**

Parameter	Description
<SDBER>	(Optional) Signal degrade threshold. Defaults to 1E-7. The parameter type is SD_BER, which is the threshold for declaring signal degrade on a facility or path.
• 1E-5	SDBER is 1E-5.
• 1E-6	SDBER is 1E-6.
• 1E-7	SDBER is 1E-7.
• 1E-8	SDBER is 1E-8.
• 1E-9	SDBER is 1E-9.
<SOAK>	(Optional) Locked-AutomaticInService to Unlocked transition soak time as measured in 15-minute intervals. Defaults to 32. SOAK is an integer.
<SOAKLEFT>	(Optional) Time remaining for the transition from Locked-AutomaticInService to Unlocked measured in 1 minute intervals. The format is HH-MM where HH ranges from 00 to 48 and MM ranges from 00 to 59. Rules for SOAKLEFT are: - When the port is in Locked, Locked_Maintenance or Unlocked state, the parameter will not appear. - When the port is in Locked_AutomaticInService but the countdown has not started due to fault signal, the value will be SOAKLEFT=NOT-STARTED. - When the port is in Locked_AutomaticInService state and the countdown has started, the value will be shown in HH-MM format.
<NAME>	(Optional) NAME is a string. Defaults to NULL. Maximum length is 32 characters.
<SYNCMSG>	(Optional) The facility is enabled to provide the synchronization clock. This applies to an MXPDP-10G card only if the payload is NCS and the card termination mode is as follows: - TRANSPARENT: All client ports are available for all timing selections. No trunk ports are available. - LINE: All ports are available for all timing selections. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<SENDDUS>	(Optional) The facility sends out a Do Not Use for Synchronization Message. This does not apply to the TXPD-10G card. This applies to an MXPDP-10G card only if the payload is NCS and the card termination mode is as follows: - TRANSPARENT: All client ports are available for all timing selections. No trunk ports are available. - LINE: All ports are available for all timing selections. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<RETIME>	(Optional) Indicates the RETIME function for all the facilities on this card. Applies only to the DS1/E1-56 card. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.

Table 23-65 **Output Parameter Support**

Parameter	Description
• Y	Enable an attribute.
<ADMSSM>	(Optional) SSM selectable value. Only displayed when SSM is disabled. The parameter type is SYNC_CLOCK_REF_QUALITY_LEVEL, which is the clock source quality level for NCS.
• DUS_NCS	Do Not Use For Synchronization
• G811	G811 Standard
• RES_NCS	Reserved For Network Synchronization Use
• G812T	G812T Standard
• STU_NCS	Synchronized, Traceability Unknown
• G812TL	G812TL Standard
• SETS	Synchronous Equipment Timing Source
<PROVIDESYNC>	(Optional) Indicates whether the facility provides synchronization. Defaults to N.
• Y	Yes
• N	No
<AISONLPBK>	Indicate if AIS should be sent back in loopback.
• FACILITY	Facility
• TERMINAL	Terminal
• OFF	Off
• ALL	All
<SABIT>	(Optional) When the frame format selection is E1, SABIT is the BIT used to receive and transmit the SSM. The parameter type is SABITS (SA BITS).
• BYTE-4	SABIT is BYTE-4.
• BYTE-5	SABIT is BYTE-5.
• BYTE-6	SABIT is BYTE-6.
• BYTE-7	SABIT is BYTE-7.
• BYTE-8	SABIT is BYTE-8.
<PSTPSTQ>	Administrative state in the PST-PSTQ format. The parameter type is PSTPSTQ, which is the service state of the entity described by the PST and the PSTQ.
• Unlocked-Enabled	In service and normal
• Unlocked-Disabled	Out of service and autonomous
• Locked-Disabled	Out of service, autonomous and management
• Locked-Enabled	Out of service and management
<SSTQ>	(Optional) Secondary state of the entity. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AutomaticInService	Automatic in service
• Disabled	Disabled
• Loopback	Loopback

Table 23-65 **Output Parameter Support**

Parameter	Description
• MismatchofEquipmentAlarm	Mismatch of equipment and attributes
• Maintenance	Maintenance mode
• OutOfGroup	Out of group
• SoftwareDownload	Software downloading
• Unassigned	Unassigned
• NotInstalled	Unequipped

23.52 RTRV-E3

The Retrieve E3 (RTRV-E3) command retrieves the attributes of an E3 port facility.

Usage Guidelines

None

Category

Ports

Security

Retrieve

Input Format

RTRV-E3:[<TID>]:<AID>:<CTAG>[:::];

Input Example

RTRV-E3:TID:FAC-1-1:1234;

Input Parameters

<AID> Access identifier from the [“27.15 FACILITY” section on page 27-23](#).

Output Format

SID DATE TIME
M CTAG COMPLD

“<AID>:[<CLKSRC>],[<FMT>],[<LINECDE>],[<TACC>],[<TAPTYPE>],[<SFBER>],[<SDBER>],
[<SOAK>],[<SOAKLEFT>],[<NAME>],[<AISONLPBK>]:<PST>,[<SST>]”
;

Output Example

```
TID-000 1998-06-20 14:30:00
M 001 COMPLD
  "FAC-1-2::TACC=8,TAPTYPE=SINGLE,SFBER=1E-4,SDBER=1E-6,SOAK=10,
  SOAKLEFT=12-25,NAME=\"E3 PORT\":UNLOCKED-DISABLED,AUTOMATICINSERVICE"
;
```

Table 23-66 **Output Parameter Support**

Parameter	Description
<AID>	Access identifier from the “27.15 FACILITY” section on page 27-23. The entity in the NE to which the command pertains.
<CLKSRC>	<CLKSRC>
• INTERNAL	INTERNAL
• LOOPBACK TIMING	LOOPBACK TIMING
• SYNCE	SYNCE
• ADAPTIVE	ADAPTIVE
<FMT>	(Optional) Digital signal frame format. Defaults to E1-MF. The parameter type is FRAME_FORMAT, which is the frame format for an E1 port.
• AUTOPROV	AUTOPROV
• CBIT	C-BIT line type applies to the DS3XM and DS3E cards.
• DS2 FRAMED	DS2 FRAMED
• E2 FRAMED	E2 FRAMED
• E3-FRAME	E3-FRAME
• E3-PLCP	E3-PLCP
• FRAMENA	FRAMENA
• G-751	G-751
• G-832	G-832
• M13	M13 line type applies to the DS3XM and DS3E cards.
• M23	M23
• SYNTRAN	SYNTRAN
<LINECDE>	(Optional) Line code. Defaults to HDB3. The parameter type is LINE_CODE (line code). (Applicable only for NCS platform).
• B3ZS	Binary three-zero substitution.
• B6ZS	B6ZS
• JBZS	JBZS
• ZBTISI	ZBTISI
<TACC>	(Optional) TAP number within a range of 0 to 999. Indicates whether the digroup being provisioned is to be used as a test access digroup. When TACC is 0 (zero), the TAP is deleted. Default is N. TACC is an integer.
<AISONLPBK>	Indicates if AIS should be sent back in loopback.
• FACILITY	Facility

Table 23-66 Output Parameter Support

Parameter	Description
• TERMINAL	Terminal
• OFF	Off
• ALL	All
<TAPTYPE>	(Optional) TAP type. Defaults to DUAL. The parameter type is TAPTYPE, which is the test access point type.
• DUAL	Dual FAD
• SINGLE	Single FAD
<SFBER>	(Optional) Signal failure threshold. Defaults to 1E-4. The parameter type is SF_BER, which is the threshold for declaring signal failure on a facility or path.
• 1E-3	SFBER is 1E-3.
• 1E-4	SFBER is 1E-4.
• 1E-5	SFBER is 1E-5.
<SDBER>	(Optional) Signal degrade threshold. Defaults to 1E-7. The parameter type is SD_BER, which is the threshold for declaring signal degrade on a facility or path.
• 1E-5	SDBER is 1E-5.
• 1E-6	SDBER is 1E-6.
• 1E-7	SDBER is 1E-7.
• 1E-8	SDBER is 1E-8.
• 1E-9	SDBER is 1E-9.
<SOAK>	(Optional) Locked-AutomaticInService to Unlocked transition soak time as measured in 15-minute intervals. Defaults to 32. SOAK is an integer.
<SOAKLEFT>	(Optional) Time remaining for the transition from Locked-AutomaticInService to Unlocked measured in 1 minute intervals. The format is HH-MM where HH ranges from 00 to 48 and MM ranges from 00 to 59. Rules for SOAKLEFT are: - When the port is in Locked, Locked_Maintenance or Unlocked state, the parameter will not appear. - When the port is in Locked_AutomaticInService but the countdown has not started due to fault signal, the value will be SOAKLEFT=NOT-STARTED. - When the port is in Locked_AutomaticInService state and the countdown has started, the value will be shown in HH-MM format.
<NAME>	(Optional) Port Name. NAME is a string. Defaults to NULL. Maximum length is 32 characters.
<PSTPSTQ>	Administrative state in the PST-PSTQ format. The parameter type is PST_PSTQ, which is the service state of the entity described by the PST and the PSTQ.
• Unlocked-Enabled	In service and normal
• Unlocked-Disabled	Out of service and autonomous
• Locked-Disabled	Out of service, autonomous and management
• Locked-Enabled	Out of service and management

Table 23-66 Output Parameter Support

Parameter	Description
<SSTQ>	(Optional) Secondary state of the entity. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AutomaticInService	Automatic in service
• Disabled	Disabled
• Loopback	Loopback
• MismatchofEquipmentAlarm	Mismatch of equipment and attributes
• Maintenance	Maintenance mode
• OutOfGroup	Out of group
• SoftwareDownload	Software downloading
• Unassigned	Unassigned
• NotInstalled	Unequipped

23.53 RTRV-E4

The Retrieve E4 (RTRV-E4) command retrieves the attributes of an E4 port facility. RTRV-E4 only applies to Ports 9 and 12 of the STM1E card when in E4-FRAMED or E4-UNFRAMED mode.

Usage Guidelines None

Category Ports

Security Retrieve

Input Format RTRV-E4:[<TID>]:<AID>:<CTAG>[:::];

Input Example RTRV-E4:CISCO:FAC-6-9:8888;

Input Parameters <AID> Access identifier from the [“27.15 FACILITY”](#) section on page 27-23.

Output Format

```

SID DATE TIME
M CTAG COMPLD
"<AID>::[PAYLOAD=<PAYLOAD>],[SFBER=<SFBER>],[SDBER=<SDBER>],
[SOAK=<SOAK>],[SOAKLEFT=<SOAKLEFT>],[NAME=<NAME>]:<PSTPSTQ>,<SSTQ>]"
;

```

Output Example

```

TID-000 1998-06-20 14:30:00
M 001 COMPLD
"FAC-6-9::PAYLOAD=E4-UNFRAMED,SFBER=1E-4,SDBER=1E-6,SOAK=10,
SOAKLEFT=12-25,NAME=\"E4 PORT\":Unlocked-Disabled,AutomaticInService"
;

```

Table 23-67 Output Parameter Support

Parameter	Description
<AID>	Access identifier from the “27.15 FACILITY” section on page 27-23 . The entity in the NE to which the command pertains.
<PAYLOAD>	(Optional) The payload for the card. The parameter type is PAYLOAD, which identifies payload type.
• 100GIGE	100 Gigabit Ethernet.
• 10GFC	10-Gigabit Fibre Channel payload
• 10GIGE	10-Gigabit Ethernet
• 1GFC	1-Gigabit Fibre Channel payload
• ETRCLO	ETR/CLO payload mode
• GIGE	Gigabit Ethernet payload
• HDLC	High-level data link control (HDLC) frame mode.
• HDTV	HDTV mode
• ISC1	ISC1 mode
• ISC3	ISC3 mode
• OTU4	Optical Transport Unit Level 4
• STM4	NCS STM4 mode
• STM1	NCS STM1 mode
• STM16	NCS STM16 mode
• PASS-THROUGH	Pass through mode
• NCS	NCS payload mode
• SDI-D1-VIDEO	SDI-D1-Video mode
<SFBER>	(Optional) Signal failure threshold. Defaults to 1E-4. The parameter type is SF_BER, which is the threshold for declaring signal failure on a facility or path.
• 1E-3	SFBER is 1E-3.
• 1E-4	SFBER is 1E-4.
• 1E-5	SFBER is 1E-5.

Table 23-67 **Output Parameter Support**

Parameter	Description
<SDBER>	(Optional) Signal degrade threshold. Defaults to 1E-7. The parameter type is SD_BER, which is the threshold for declaring signal degrade on a facility or path.
• 1E-5	SDBER is 1E-5.
• 1E-6	SDBER is 1E-6.
• 1E-7	SDBER is 1E-7.
• 1E-8	SDBER is 1E-8.
• 1E-9	SDBER is 1E-9.
<SOAK>	(Optional) Locked-AutomaticInService to Unlocked transition soak time as measured in 15-minute intervals. Defaults to 32. SOAK is an integer.
<SOAKLEFT>	(Optional) Time remaining for the transition from Locked-AutomaticInService to Unlocked measured in 1 minute intervals. The format is HH-MM where HH ranges from 00 to 48 and MM ranges from 00 to 59. Rules for SOAKLEFT are: - When the port is in Locked, Locked_Maintenance or Unlocked state, the parameter will not appear. - When the port is in Locked_AutomaticInService but the countdown has not started due to fault signal, the value will be NOT-STARTED. - When the port is in Locked_AutomaticInService state and the countdown has started, the value will be shown in HH-MM format.
<NAME>	(Optional) Facility name. String. Defaults to NULL. Maximum length is 32 characters.
<PSTPSTQ>	Administrative state in the PST-PSTQ format. The parameter type is PST_PSTQ, which is the service state of the entity described by the PST and the PSTQ.
• Unlocked-Enabled	In service and normal
• Unlocked-Disabled	Out of service and autonomous
• Locked-Disabled	Out of service, autonomous and management
• Locked-Enabled	Out of service and management
<SSTQ>	(Optional) Secondary state of the entity. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AutomaticInService	Automatic in service
• Disabled	Disabled
• Loopback	Loopback
• MismatchofEquipmentAlarm	Mismatch of equipment and attributes
• Maintenance	Maintenance mode
• OutOfGroup	Out of group
• SoftwareDownload	Software downloading
• Unassigned	Unassigned
• NotInstalled	Unequipped

23.54 RTRV-EFM

The Retrieve Ethernet in the First Mile (RTRV-EFM) command retrieves the Ethernet in the First Mile (EFM) state on the port and EFM protocol parameters associated with that port.

Usage Guidelines

- This command is applicable only to GE_XP and 10GE_XP cards.
- The card should be in Layer2 over DMDM mode.

Category

Ports

Security

Retrieve

Input Format

RTRV-EFM:[<TID>]:<AID>:<CTAG>;

Input Example

RTRV-EFM::ETH-12-1-1:1;

Input Parameters

Input Parameters	Description
<AID>	Access identifier from the “27.14 ETH” section on page 27-23 .

Output Format

```
SID DATE TIME
M CTAG COMPLD
  “AID>:[STATE=<STATE>], [MODE=<MODE>],
  [LFACTION=<LFACTION>],[DGACTION=<DGACTION>],[SESSIONTIMER=<SESSIONTIMER>]
  ,[EFMREMOTELPBK=<EFMREMOTELPBK>];”
;
```

Output Example

```
TID-000 1998-06-20 14:30:00
M 001 COMPLD
“ETH-7-1-1,STATE=DISABLE,MODE=ACTIVE,LFACTION=NONE,SESSIONTIMER=5,EFMREM
OTELPBK=N:”
;
```

Table 23-68 **Output Parameter Support**

Parameter	Description
<AID>	Access identifier from the “27.14 ETH” section on page 27-23 .
<STATE>	Indicates whether the EFM is enabled or disabled on the port.
• ENABLE	Indicates the EFM is enabled on the port.

Table 23-68 **Output Parameter Support**

Parameter	Description
• DISABLE	Indicates the EFM is disabled on the port.
<MODE>	Indicates the mode of the EFM port.
• ACTIVE	The port is in the active state.
• PASSIVE	The port is in the passive state.
<LFACTION>	Action to be taken for the failure of the link on the port.
• RFIACTION-NONE	No action.
• ERROR-BLOCK	Block the port.
<SESSIONTIMER>	Session expire timer for EFM (in seconds).
<EFMREMOTELPBK>	Indicates the EFM remote loopback state on the port.
• Y	Loopback is enabled on the remote port.
• N	Loopback is disabled on the remote Port.

23.55 RTRV-T3

The Retrieve T3 (RTRV-T3) command retrieves the facility properties of a DS3 or a DS3XM card.

Usage Guidelines

- CTC can set the FMT attribute of a DS3NE line to AUTOPROVISION, to set the framing based on the incoming framing. This would result in the FMT field being blanked out for a few seconds or blanked out forever for a preprovisioned DS3NE card on CTC.
- The autoprovision is not considered a valid DS3 framing type. It is used only to trigger an autosense and subsequent autoprovisioning of a valid DS3 framing type (unframed, M23, C-BIT).
- TL1 does not have the autoprovision mode according to Telcordia GR-199. TL1 maps/returns the autoprovision to be unframed.

Category

Ports

Security

Retrieve

Input Format

RTRV-T3:[<TID>]:<AID>:<CTAG>[:];

Input Example

RTRV-T3::T3-1-1:1;

Input Parameters

<AID>	Access identifier from the “27.15 FACILITY” section on page 27-23 .

Output Format

```

SID DATE TIME
M CTAG COMPLD
"<AID>::[<CLKSRC>],[<FMT>],[<LINECDE>],[<LBO>],[<INHFELPBK>],[<TACC>],[<TAPTYPE>],[<SOAK>],[<SOAKLEFT>],[<SFBER>],[<SDBER>],[<NAME>],[<AISONLPBK>],[<BERTMODE>],[<BERTPATTERN>],[<BERTERRCOUNT>],[<BERTERRRATE>],[<BERTSYNCSTATUS>]:<PST>,[<SST>]"
;

```

Output Example

```
ONS-MANCS 1970-01-02 20:33:28
```

```
M 1 COMPLD
```

```
"T3-1-1::FMT=UNFRAMED,LINECDE=B3ZS,LBO=226-450,INHFELPBK=Y,SOAK=32,SFBER=1E-4,SDBER=1E-7,AISONLPBK=ALL,:locked-enabled,disabled";
```

Table 23-69 Output Parameter Support

Parameter	Description
<AID>	Access identifier from the “27.15 FACILITY” section on page 27-23 .
<CLKSRC>	<CLKSRC>
• INTERNAL	INTERNAL
• LOOPBACK TIMING	LOOPBACK TIMING
• SYNCE	SYNCE
• ADAPTIVE	ADAPTIVE
<FMT>	(Optional) Digital signal format. The parameter type is DS_LINE_TYPE, which is the DS123 line type.
• AUTOPROV	AUTOPROV
• CBIT	C-BIT line type applies to the DS3XM and DS3E cards.
• DS2 FRAMED	DS2 FRAMED
• E2 FRAMED	E2 FRAMED
• E3-FRAME	E3-FRAME
• E3-PLCP	E3-PLCP
• FRAMENA	FRAMENA
• G-751	G-751
• G-832	G-832
• M13	M13 line type applies to the DS3XM and DS3E cards.
• M23	M23
• SYNTRAN	SYNTRAN
• UNFRAMED	Frame format is unframed.
<LINECDE>	(Optional) Line code. The parameter type is DS_LINE_CODE, which is the DS123 line code.
• B3ZS	Binary three-zero substitution.
• B6ZS	B6ZS

Table 23-69 Output Parameter Support

Parameter	Description
• JBZS	JBZS
• ZBTSI	ZBTSI
<LBO>	(Optional) Line buildout settings. LBO is an integer. The parameter type is E_LBO, which is the electrical signal line buildout.
• 0–225	Electrical signal line buildout range is 0–225.
• 226–450	Electrical signal line buildout range is 226–450.
<INHFELPBK>	(Optional) Far-end loopback inhibition attribute of the port. If it is Y, the automatic far-end loopbacks are inhibited. It is either on or off. The system default is N. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<TAP>	(Optional) Defines the STS as a test access port with a selected unique TAP number. The TAP number is within a range of 0, 1 to 999. When TACC is 0 (zero), the TAP is deleted. Default is N.
<TAPTYPE>	(Optional) TAP type. The parameter type is TAPTYPE, which is the test access point type.
• DUAL	Dual FAD
• SINGLE	Single FAD
<SOAK>	(Optional) OOS-AINS to IS transition soak time as measured in 15-minute intervals. SOAK is an integer.
<SOAKLEFT>	(Optional) Time remaining for the transition from OOS-AINS to IS measured in 1 minute intervals. The format is HH-MM where HH ranges from 00 to 48 and MM ranges from 00 to 59. SOAKLEFT is a string. Rules for <SOAKLEFT> are as follows: • When the port is in OOS, OOS_MT, or IS state, the parameter will not appear. • When the port is in OOS_AINS but the countdown has not started due to fault signal, the value will be SOAKLEFT=NOT-STARTED. • When the port is in OOS_AINS state and the countdown has started, the value will be shown in HH-MM format.
<SFBER>	(Optional) The port signal failure threshold. Defaults to 1E-4. The parameter type is SF_BER, which is the threshold for declaring signal failure on a facility or path.
• 1E-3	SFBER is 1E-3.
• 1E-4	SFBER is 1E-4.
• 1E-5	SFBER is 1E-5.
<SDBER>	(Optional) Port signal degrade threshold. Defaults to 1E-7. The parameter type is SD_BER, which is the threshold for declaring signal degrade on a facility or path.
• 1E-5	SDBER is 1E-5.
• 1E-6	SDBER is 1E-6.
• 1E-7	SDBER is 1E-7.
• 1E-8	SDBER is 1E-8.
• 1E-9	SDBER is 1E-9.
<NAME>	(Optional) Port name. NAME is a string.

Table 23-69 **Output Parameter Support**

Parameter	Description
<AISONLPBK>	(Optional) AIS on loopback. The parameter type is AIS_ON_LPBK, which indicates if AIS is sent on a loopback.
• FACILITY	AIS is sent on facility loopbacks.
• ALL	AIS is sent on all loopbacks.
• OFF	AIS is not sent on loopbacks.
• TERMINAL	AIS is sent on terminal loopbacks.
Y	BERT synchronization status is up.
N	BERT synchronization status is down.
<PST>	(Optional) Primary state. Defaults to Unlocked. The parameter type is PST, which indicates the current overall service condition of an entity.
• Unlocked	In service
• Locked	Out of service
<SST>	(Optional) Secondary state. Defaults to AutomaticInService. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AutomaticInService	Automatic in service
• Disabled	Disabled
• Loopback	Loopback
• MismatchofEquipmentAlarm	Mismatch of equipment and attributes
• Maintenance	Maintenance mode
• OutOfGroup	Out of group
• SoftwareDownloaded	Software downloading
• Unassigned	Unassigned
• NotInstalled	Unequipped

23.56 RTRV-EQPT

The Retrieve Equipment (RTRV-EQPT) command retrieves the data parameters and state parameters associated with a card or shelf. The command retrieves the card type, equipped state, and the state of that card. The command modifies the provision details of AR-MXP, AR-XP, and AR-XPE cards and its facilities.

Usage Guidelines

This command returns the PRTYPE, PROTID, RVTM, and RVRTV parameters for a card inside of a protection group according to the following scenarios:

- A working AID/card within a 1:1 protection group will return PRTYPE, PROTID, RVTM, and RVRTV.

- A protection/AID card within a 1:1 protection group will return PRTYPE, RVTM, and RVRTV.
- A working AID/card within a 1:N protection group will return PRTYPE, PROTID, RVTM, and RVRTV=Y.
- A protection AID/card of a 1:1 protection group will return PRTYPE, RVTM, and RVRTV=Y.
- An unprotected AID/card will return the AID type, equip (equip/unequip), status (act/standby), and state (Unlocked/Locked) values.
- Preprovisioned cards (without being plugged in) will display Locked, AutomaticInService for PST and SST. After the card is plugged in and has gone through its initialization sequence, the card automatically goes to Unlocked (PST).
- CARDMODE parameter is displayed for ML-Series and FC_MR-4 cards.

The following action will return an error message:

- The equipment is not provisioned.

Category	Equipment
Security	Retrieve
Input Format	RTRV-EQPT:[<TID>]:<AID>:<CTAG>[:::];
Input Example	RTRV-EQPT::SLOT-4:444;
Input Parameters	<AID> Access identifier from the “27.13 EQPT” section on page 27-21.
Output Format	SID DATE TIME M CTAG COMPLD "<AID>:<AIDTYPE>,<EQUIP>,, [<STATUS>]:[<CARDNAME>],: <PST>,[<SST>];
Output Example	M 321 COMPLD "SLOT-1:TNC,EQUIP,,ACT:CARDNAME=TNC,:IS-NR," "SLOT-3:AR-XP,EQUIP,,STBY:CARDNAME=ROCCIA NERA 7,:OOS-AU,FLT" "SLOT-4:AR-XP,UNEQUIP,,NA::OOS-AU,AINS&UEQ" "SLOT-6:TXP-MR-10E,EQUIP,,STBY:CARDNAME=NCS-10E-L1-C 1529.55,CARDMODE=NCS-TRANS-SQUELCH,:IS-NR," "PPM-3-1:PPM-1,EQUIP,,NA:CARDNAME=SD-SDI/HD-SDI/SDI3G-TX-1310NM,:IS-NR," "PPM-3-5:PPM-1,UNEQUIP,,NA::OOS-AU,AINS&UEQ" "PPM-3-6:PPM-1,UNEQUIP,,NA::OOS-AU,AINS&UEQ"

"PPM-3-7:PPM-1,EQUIP,,NA:CARDNAME=ESCON/ETR-CLO-1310NM,:IS-NR,"

;

Table 23-70 **Output Parameter Support**

Parameter	Description
<AID>	Access identifier from the “27.13 EQPT” section on page 27-21.
<AIDTYPE>	The type of facility, link or other addressable entity targeted by the message. The parameter type is EQUIPMENT-TYPE (equipment type).
• 10GE-XP	2 x 10 Gbps. muxponder/L2 ethernet switch card
• 15216-FLD4-30-3	Edge 4-Ch Bi-Directional OADM Module 1530.33 to 1532.68.
• 15216-FLD4-33-4	Edge 4-Ch Bi-Directional OADM Module 1533.47 to 1535.82.
• 15216-FLD4-36-6	Edge 4-Ch Bi-Directional OADM Module 1536.61 to 1538.98.
• 15216-FLD4-39-7	Edge 4-Ch Bi-Directional OADM Module 1539.77 to 1542.14.
• 15216-FLD4-42-9	Edge 4-Ch Bi-Directional OADM Module 1542.94 to 1545.32.
• 15216-FLD4-46-1	Edge 4-Ch Bi-Directional OADM Module 1546.12 to 1548.51.
• 15216-FLD4-49-3	Edge 4-Ch Bi-Directional OADM Module 1549.32 to 1551.72.
• 15216-FLD4-52-5	Edge 4-Ch Bi-Directional OADM Module 1552.52 to 1554.94.
• 15216-FLD4-55-7	Edge 4-Ch Bi-Directional OADM Module 1555.75 to 1558.17.
• 15216-FLD4-58-9	Edge 4-Ch Bi-Directional OADM Module 1558.98 to 1561.42.
• 32-DMX	32 channel optical demultiplexer
• 32-DMX-L	32 channel optical demultiplexer for L-band
• 32-MUX-O	32 channel unidirectional optical multiplexer This overrides the old equipment type MUX-32 present in the 4.6 and earlier releases.
• 32-WSS	32 channel optical wavelength selective switch for C Band
• 40-DMX-C	40 channel optical demultiplexer for C Band
• 40-MUX-C	40 channel optical multiplexer for C Band
• 40-WSS-C	40 channel optical wavelength switch selector for C Band
• 40-WXC-C	40 channel optical wavelength cross-connect/wavelength router for C Band
• AD-1B	Optical add/drop multiplexed (OADM) 1 band filter
• AD-1C	Optical add/drop multiplexed (OADM) 1 channel filter
• AD-2C	Optical add/drop multiplexed (OADM) 2 channels filter
• AD-4B	Optical add/drop multiplexed (OADM) 4 bands filter
• AD-4C	Optical add/drop multiplexed (OADM) 4 channels filter
• ADM-10G	16 x OC3/OC12/OC48/GIGE and OC192/Trunk ADM 10 Gbps card
• AIC	AIC card
• AICI	AICI Card
• ASAP-4	Any service any port (ASAP) carrier card with four PIM slots
• CE-1000-4	Modena mapper card

Table 23-70 **Output Parameter Support**

Parameter	Description
• CE-100T-8	Exige/Elise mapper card
• CE-MR-10	Lotus20g ce2 card
• CXC	Cross connect card
• DS1-E1-56	DS1-E1-56 card
• DS1I	DS1I card
• DS3I	DS3I card
• DS3IN	DS3IN card
• E1-42	42 port E1 card
• E1000T	E1000T card
• E100T	E100T card
• E3	E3 card
• FC-MR-4	FC-MR-4 card
• FILLER-CARD	Blank filler card
• G1000-4	A 4-port G1000 card
• GE-XP	20 x 1 Gbps muxponder/L2 ethernet switch card
• MD-4	Four channel optical multiplexer/demultiplexer
• ML-100T-8	Exige/Elise mapper card
• ML1000-2	Daytona 2-port GigE
• ML100T-12	Daytona 12-port FSTE
• ML100X-8	8-port 100T card with optical interface
• MRC-12	Humvee - 12-port multirate optical card
• MRC-2.5G-4	4-port MRC 2.5G
• MRC-2.5G-12	12-port MRC 2.5G
• MXP-2.5G-10E	Monviso 10G (4 * 2.5G) muxponder card with enhanced FEC
• MXP-2.5G-10EX	Cengalo 10G (4 * 2.5G) muxponder with enhanced FEC card
• MXP-2.5G-10G	Skane 10G (4 * 2.5G) muxponder card
• MXP-MR-2.5G	Bernina multirate 2.5G muxponder unprotected
• MXPP-MR-2.5G	Bernina multirate 2.5G muxponder protected
• MXPP-MR-10DME	Multirate 10Gbps datamux
• MXPP-MR-10DMEX	Multirate 10Gbps datamux with enhanced dispersion
• ML-MR-10	ML-MR-10 card
• OC192-4/STM64-4	4-port OC192 card
• OC192-4-NCS/STM64-4-NCS	Leatherneck: 4-port OC192 card with tunable laser for C band
• OPT-AMP-17-C	Optical booster/pre-amplifier for C band 17 dBm
• OPT-AMP-23-C	Optical booster/pre-amplifier for C band 23 dBm
• OPT-AMP-L	Optical booster/pre-amplifier for L band

Table 23-70 **Output Parameter Support**

Parameter	Description
• OPT-AMP-C	Optical booster/pre-amplifier for C band
• OPT-BST	Optical booster amplifier
• OPT-BST-E	Optical booster enhanced amplifier for C band
• OPT-BST-L	Optical booster amplifier for L band
• OPT-EDFA-17	MAL-less EDFA Optical Amplifier - C-band - 17dB Gain
• OPT-EDFA-24	MAL-less EDFA Optical Amplifier - C-band - 24dB Gain
• OPT-PRE	Optical pre-amplifier
• OSC-CSM	Optical service channel (OSC) with combiner/seperator module (SCM)
• OSCM	Optical service channel (OSC) module
• PIM-1	1-port pluggable interface module
• PIM-4	4-port pluggable interface module
• PPM-1	Pluggable port module with one SFP port
• PTM-4	Line card.
• PTF-4	Fabric card.
• PTSA	CPT 50 panel
• PTSYS- Fan-Out-Group	PTSYS Fan-Out-Group.
• STM1E-12	STM1E-12 card
• TCC	TCC card
• TXP-MR-10E	Skane 10G multirate transponder card with enhanced FEC
• TXP-MR-10G	Skane 10G multirate transponder card
• TXP-MR-2.5G	Rockwell multirate 2.5G unprotected
• TXPP-MR-2.5G	Rockwell multirate 2.5G protected
• XC	XC card
• XC10G	XC10G card
• XCVT	XCVT card
• XCVXC-10G	XCVXC-10G card
• XCVXC-2.5G	XCVXC-2.5G card
• XCVXL-10G	XCVXL-10G card
• XCVXL-2.5G	XCVXL-2.5G card
<EQUIP>	Indicates if the equipment is physically present. The parameter type is EQUIP, which is the presence of a plug-in unit.
• EQUIP	The unit is equipped—present.
• UNEQUIP	The unit is unequipped—absent.
<ROLE>	Identifies the port role in a Y-cable protection scheme. The parameter type is SIDE, which is the role the unit is playing in the protection group.
• PROT	The entity is a protection unit in the protection group.
• WORK	The entity is a working unit in the protection group.

Table 23-70 **Output Parameter Support**

Parameter	Description
<STATUS>	(Optional) Indicates a status. NCS card status is shown on its card level. The parameter type is STATUS, which is the status of the unit in the protection pair.
• ACT	The entity is the active unit in the shelf.
• NA	Status is unavailable.
• STBY	The entity is the standby unit on the shelf.
• <PROTID>	(Optional) Protection group name. PROTID is a string.
<PRTYPE>	Identifies the protection group type values.
• 1-1	1 to 1 protection
• 1-N	1 to N protection
<RVRTV>	(Optional) Revertive mode. The value Y indicates that protection switching system reverts service to the original line after restoration. The value N indicates that protection switching system does not revert service to the original line after restoration. RVRTV is applicable only for 1+1 protection switching. Null defaults to N. Only applies to SNCP. The parameter type is ON_OFF, which disables or enables an attribute.
• N	Does not revert service to original line after restoration.
• Y	Reverts service to original line after restoration.
<RVTM>	(Optional) Revertive time. RVTM is not allowed to be set while RVRTV is N. Only applies to SNCP. The parameter type is REVERTIVE_TIME (revertive time).
• 0.5 to 12.0	Revertive time is 0.5 to 12.0 minutes.
<CARDNAME>	(Optional) Contains the manufacturing name of the card when it is different from the EQUIPMENT_TYPE.
<IOSCFG>	(Optional) Displays the information about startup IOS config file for the ML series card. A example of this field is "TL1,11.22.33.44//DIR/IOS.CONF,2002/1/1 9:1:1 EST". The following information is included in this field: 1) Where the config file is from: TL1, or CTC/CTM/CLI/TCC; 2) The host (IP address)/directory/file name, if the config file is downloaded from the network; 3) When the startup config file is created (by copying from the network, for example). This field only applies to ML series card. IOSCFG is a string.
<CARDMODE>	(Optional) Card mode. The parameter type is CARDMODE (card mode). Card mode is applicable to cards that have multiple capabilities, for example, the ML-Series card can operate in two distinct modes: Linear Mapper mode and L2/L3 mode.
• 10GLANWAN-LINE-SQUELCH	Changes the card mode from LAN to WAN.
• AMPL-BST	The optical amplifier is working as an optical booster.
• AMPL-PRE	The optical amplifier is working as an optical preamplifier.
• CEMR-AUTO	CE-MR-10 cards supports auto-allocation of back-end channels.
• CEMR-MANUAL	CE-MR-10 cards supports manual-allocation of back-end channels.
• CE-MR-10	Lotus20g ce2 card

Table 23-70 **Output Parameter Support**

Parameter	Description
• CE-MR-6	Lotus20g ce2 card
• DS1E1-DS1ONLY	DS1 mode on DS1/E1 card
• DS1E1-E1ONLY	E1 mode on DS1/E1 card
• NCS-LINE	Line terminating mode
• NCS-SECTION	Section terminating mode
• NCS-TRANS-AIS	Transparent mode AIS
• NCS-TRANS-SQUELCH	Transparent mode SQUELCH
• FCMR-DISTEXTN	FC_MR-4 card with distance extension support
• FCMR-LINERATE	FC_MR-4 card without distance extension support
• ML-GFP	ML-Series card in DOS FPGA using GFP framing type
• ML-HDLC	ML-Series card in DOS FPGA using HDLC framing type
• ML-IEEE-RPR	ML-Series card in DOS FPGA which supports Resilient Packet Ring (RPR).
• MXPMR10DME-4GFC	4-Gbps Fibre Channel/FICON mode for the MXP_MR_10DME_C or MXP_MR_10DME_L card supported on Ports 1 and 5
• MXPMR10DME-4GFC-FCGEISC	4-Gbps Fibre Channel/FICON supported on port one and Fibre Channel, GIGE and ISC modes for the MXP_MR_10DME_C or MXP_MR_10DME_L card supported on Ports 5 to 8
• MXPMR10DME-FCGEISC	Fibre Channel, GIGE, and ISC modes for the MXP_MR_10DME_C or MXP_MR_10DME_L card supported on all eight ports
• MXPMR10DME-FCGEISC-4GFC	Fibre Channel, GIGE, and ISC modes for the MXP_MR_10DME_C or MXP_MR_10DME_L card supported on Ports 1 to 4 and 4 Gbps Fibre Channel/FICON supported on Port 5
• MXPMR10G-FCGEISC	Fibre Channel, GIGE, and ISC modes for the MXP_MR_10DME_C or MXP_MR_10DME_L card supported on all eight ports
• MXPMR10G-4GFC	4-Gbps Fibre Channel/FICON mode for the MXP_MR_10DME_C or MXP_MR_10DME_L card supported on Ports 1 and 5
• MXPMR10G-FCGEISC-4GFC	Fibre Channel, GIGE, and ISC modes for the MXP_MR_10DME_C or MXP_MR_10DME_L card supported on Ports 1 to 4 and 4-Gbps Fibre Channel/FICON supported on Port 5
• MXPMR10G-4GFC-FCGEISC	4-Gbps Fibre Channel/FICON supported on Port 1 and Fibre Channel, GIGE and ISC modes for the MXP_MR_10DME_C or MXP_MR_10DME_L card supported on Ports 5 to 8
• MXPMR25G-ESCON	ESCON mode for the MXP_2.5G_10G card
• MXPMR25G-FCGE	Fibre channel or GIGE mode for the MXP_2.5G_10G card
• MXPMR25G-MIXED	Mixed Fibre Channel, GIGE and ESCON modes for the MXP_2.5G_10G card
• PSM-NORMAL	PSM working in classic configuration.
• PSM-STANDALONE	PSM working in stand-alone mode.
• WXC80-BIDI	80-WXC-C working in bidirectional mode.
• WXC80-DMX	80-WXC-C working as demultiplexer.

Table 23-70 **Output Parameter Support**

Parameter	Description
• WXC80-MUX	80-WXC-C working as multiplexer.
• 40G-MXP-MUXPONDER	40G-MXP-MUXPONDER working as multiplexer.
• 40G-MXP-UNIDIR-REGEN	40G-MXP-UNIDIR-REGEN working as regenerator.
<PEERID>	Indicates the peer trunk facility of the regeneration group on the OTU2-XP card. Accessed using the CHAN AID.
<REGENNAME>	Indicates the name of a regeneration group. Applicable only to NCS flavored cards, which support regeneration group. Regenname is a string. The default value is "NULL".
<PEERNAME>	Indicates the name of a peer group.
<TRANSMODE>	Transition Mode.
• AU3	Au3 mode.
• AU4	Au4 mode.
• SONET	Sonnet mode.
<RETIME>	(Optional) Indicates the RETIME function for all the facilities on this card. Applies only to the DS1/E1-56 card. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<SHELFROLE>	The role of the shelf in the context of the node. When it is omitted it defaults to SC. The parameter is SHELF_ROLE.
<FRPROLE>	Indicates the fast ring protection enable mode for GE-XP/10GE-XP units involved in a protection scheme.
• MASTER	Role is of card master of the ring.
• SLAVE	Role is of card slave of the ring.
<FRPSTATE>	Indicates the fast ring protection enable state.
• DISABLED	Disabled protection
• ENABLED	Enabled protection
• FORCED	Forced protection
<FRPHOLDOFFTIME>	Indicates the hold off timer value. The protection do not start until the hold off expire.
• 100-MSEC	Indicates the hold off timer value as 100 milliseconds.
• 1-MSEC	Indicates the hold off timer value as 1milisecond.
• 200-MSEC	Indicates the hold off timer value as 200 milliseconds.
• 2-MSEC	Indicates the hold off timer value as 2 milliseconds.
• 500-MSEC	Indicates the hold off timer value as 500 milliseconds.
• 50-MSEC	Indicates the hold off timer value as 50 milliseconds.
• 5-MSEC	Indicates the hold off timer value as 50 milliseconds.
• DISABLED	Indicates that the hold off timer is disabled.

Table 23-70 **Output Parameter Support**

Parameter	Description
<ADMINCVLAN>	Customer VLAN identifier for REP. ADMINCVLAN is a number between 1 and 4096. The value 0 is reserved to untagged VLAN.
<ADMINSVLAN >	Service provider VLAN identifier for REP. ADMINSVLAN is a number between 1 and 4096. The value 0 is reserved to untagged VLAN.
<CFMSTATE>	Link Integrity status.
• Y	Enabled
• N	Disabled
<CCTIMER>	Indicates continuity check message timer.
• ONE-MIN	1 minute.
• ONE-SEC	1 second.
• TEN-SEC	10 seconds.
<PROTOPMODE>	PROTOPMODE
<SWITCHWITHCRCALARM>	Switch the GZ card with CRC Alarms
<CRCTHR>	CRC threshold values beyond which alarms are raised. The available threshold values are 10E-2, 10E-3, and 10E-4.
<CRCPOLLINTRVL>	Interval of time after which the polling starts.
<CRCISOAKCNT>	Number of poll cycles during which defect is integrated. The value ranges from 3 to 10.
<USB>	Identifies the USB Port where a passive unit is connected.
<CLOCKTYPE>	The parameter type is CLOCKTYPE. Sets the lock type.
• INTERNAL	Clock type set to INTERNAL.
• TNC	Clock type set to TNC.
<PST>	(Optional) Primary state of the entity. The parameter type is PST, which indicates the current overall service condition of an entity.
• Unlocked	In Service
• Locked	Out of Service
<SST>	Secondary state of the entity. SST is listable. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AutomaticInService	Automatic in service
• Disabled	Disabled
• Loopback	Loopback
• MismatchofEquipmentAlarm	Mismatch of equipment and attributes
• Maintenance	Maintenance mode
• OutOfGroup	Out of group
• SoftwareDownload	Software downloading
• Unassigned	Unassigned
• NotInstalled	Unequipped

23.57 RTRV-ESCON

The Retrieve Enterprise System Connection (RTRV-ESCON) command retrieves the Fibre Channel-specific settings for ports that have been configured to carry ESCON traffic using the ENT-ESCON command.

Usage Guidelines The MXPP_MR_2.5G card only supports GFP-T frame type.

Category NCS

Security Retrieve

Input Format RTRV-ESCON:[<TID>]:<AID>:<CTAG>;

Input Example RTRV-ESCON::CISCO:FAC-1-1:123;

Input Parameters <AID> Access identifier from the [“27.15 FACILITY”](#) section on page 27-23.

Output Format

```
SID DATE TIME
M CTAG COMPLD
“<AID>:.,[<ROLE>],[<STATUS>]:[ENCAP=<ENCAP>]”
;
```

Output Example

```
TID-000 1998-06-20 14:30:00
M 001 COMPLD
“FAC-1-1:.,WORK,ACT:ENCAP=GFP-T”
;
```

Table 23-71 Output Parameter Support

Parameter	Description
<AID>	Access identifier from the “27.15 FACILITY” section on page 27-23.
<ROLE>	(Optional) Port role in a Y-cable protection scheme. The parameter type is SIDE, which is the role the unit is playing in the protection group.
• PROT	The entity is a protection unit in the protection group.

Table 23-71 Output Parameter Support

Parameter	Description
• GFP_F	GFP Frame mode
• GFP_T	GFP Transparent mode
• HDLC	HDLC Frame mode
• HDLC_LEX	HDLC LAN Extension Frame mode
• HDLC_X86	HDLC X.86 Frame mode

23.58 RTRV-ETH

The Retrieve Ethernet (RTRV-ETH) command retrieves the front-end port information of an Ethernet card.

Usage Guidelines

This command retrieves the front-end port information of (10/100/1000 Mbps) ethernet cards. RTRV-POS will display the MTU, which is common for front and backend ports.

SELECTIVEAUTO parameter is applicable only when EXPSPEED and EXPDUPLEX is not set to AUTO mode.



Note

This command is available in Software Release 8.0.1 and all subsequent releases. It is not available in R8.0.0 and earlier.

Category

Ethernet

Security

Provisioning

Input Format

RTRV-ETH:[<TID>]:<aid>:<CTAG>[::];

Input Example

RTRV-ETH:TID:FAC-1-1:CTAG;

Input Parameters

<AID>	Ethernet AIDs are used to access L2 Ethernet ports. Access identifier from the “27.14 ETH” section on page 27-23.

Output Format

SID DATE TIME
M CTAG COMPLD
"<AID>::[LINKSTATE=<LINKSTATE>],[FLOWCTRL=<FLOWCTRL>],[DUPLEX=<DUPLEX>],
[SPEED=<SPEED>],[FLOW=<FLOW>],[EXPDUPLEX=<EXPDUPLEX>],
[EXPSPEED=<EXPSPEED>],[VLANCOS=<VLANCOS>],[IPTOS=<IPTOS>],


```
[OPTICS=<OPTICS>],[NAME=<NAME>],[SOAK=<SOAK>],[SOAKLEFT=<SOAKLEFT>],
[SELECTIVEAUTO=<SELECTIVEAUTO>],[LIENABLE=<LIENABLE>],[LITIMER=<LITIMER>]:
<PST_PSTQ>,[<SSTQ>]";
```

Output Example

```
TID-000 1998-06-20 14:30:00
M 001 COMPLD
"FAC-1-1::ADMINSTATE=DOWN,LINKSTATE=DOWN,FLOWCTRL=SYMMETRIC,
DUPLEX=AUTO,SPEED=AUTO,FLOW=FLOW,EXPDUPLEX=EXPDUPLEX,
EXPSPEED=EXPSPEED,VLANCOS=VLANCOS,IPTOS=IPTOS,OPTICS=1000-BASE-LX,
NAME=\"ETH PORT\",SOAK=32,SOAKLEFT=\"12-25\",
SELECTIVEAUTO=N,LIENABLE=Y,LITIMER=200:OOS-AU,
AINS\";
```

Table 23-72 **Output Parameter Support**

Parameter	Description
<AID>	Ethernet AIDs are used to access L2 Ethernet ports. Access identifier from the “27.14 ETH” section on page 27-23
<ADMINSTATE>	(Optional) Administration type. The parameter type is UP_DOWN (up or down).
• DOWN	Down
• UP	Up
<LINKSTATE>	Link state. The parameter type is UP_DOWN, which indicates an up or down value.
• DOWN	Down
• UP	Up
<MTU>	(Optional) Maximum transmission unit. MTU is an integer.
<FLOWCTRL>	Flow control. The parameter is FLOW, which indicates the type of flow control that has been negotiated for an Ethernet port. Defaults to NONE.
• ASYMMETRIC	Asymmetric flow control
• ASYMMETRIC_LOCAL	Asymmetric local flow control
• NONE	No flow control
• PASSTHRU	Pass-through flow control
• SYMMETRIC	Symmetric flow control
<OPTICS>	(Optional) Optics. The parameter type is OPTICS, which is the type of Gigabit Ethernet optics being used.
• 1000_BASE_CX	1000BaseCX
• 1000_BASE_LX	1000BaseLX
• 1000_BASE_SX	1000BaseSX
• 1000_BASE_T	1000BaseT
• 1000_BASE_ZX	1000BaseZX
• 100_BASE_BX_D	100BaseBX_D
• 100_BASE_BX_U	100BaseBX_U
• CWDM_1470	CWDM 1470

Table 23-72 **Output Parameter Support**

Parameter	Description
• CWDM_1490	CWDM 1490
• CWDM_1510	CWDM 1510
• CWDM_1530	CWDM 1530
• CWDM_1550	CWDM 1550
• CWDM_1570	CWDM 1570
• CWDM_1590	CWDM 1590
• CWDM_1610	CWDM 1610
• ITU_100G_1530_33	ITU-100G 1530.33
• ITU_100G_1531_12	ITU-100G 1531.12
• ITU_100G_1531_90	ITU-100G 1531.90
• ITU_100G_1532_68	ITU-100G 1532.68
• ITU_100G_1534_25	ITU-100G 1534.25
• ITU_100G_1535_04	ITU-100G 1535.04
• ITU_100G_1535_82	ITU-100G 1535.82
• ITU_100G_1536_61	ITU-100G 1536.61
• ITU_100G_1538_19	ITU-100G 1538.19
• ITU_100G_1538_98	ITU-100G 1538.98
• ITU_100G_1539_77	ITU-100G 1539.77
• ITU_100G_1540_56	ITU-100G 1540.56
• ITU_100G_1542_14	ITU-100G 1542.14
• ITU_100G_1542_94	ITU-100G 1542.94
• ITU_100G_1543_73	ITU-100G 1543.73
• ITU_100G_1544_53	ITU-100G 1544.53
• ITU_100G_1546_12	ITU-100G 1546.12
• ITU_100G_1546_92	ITU-100G 1546.92
• ITU_100G_1547_72	ITU-100G 1547.72
• ITU_100G_1548_51	ITU-100G 1548.51
• ITU_100G_1550_12	ITU-100G 1550.12
• ITU_100G_1550_92	ITU-100G 1550.92
• ITU_100G_1551_72	ITU-100G 1551.72
• ITU_100G_1552_52	ITU-100G 1552.52
• ITU_100G_1554_13	ITU-100G 1554.13
• ITU_100G_1554_94	ITU-100G 1554.94
• ITU_100G_1555_75	ITU-100G 1555.75
• ITU_100G_1556_55	ITU-100G 156.55
• ITU_100G_1558_17	ITU-100G 1558.17

Table 23-72 **Output Parameter Support**

Parameter	Description
• ITU_100G_1558_98	ITU-100G 1558.98
• ITU_100G_1559_79	ITU-100G 1559.79
• ITU_100G_1560_61	ITU-100G 1560.61
• UNKNOWN	Unknown Optical Type
• UNPLUGGED	Unplugged
<DUPLEX>	The parameter is ETHER_DUPLEX, which indicates duplex mode. Defaults to AUTO.
• AUTO	Auto mode
• FULL	Full mode
• HALF	Half mode
<SPEED>	The parameter type is ETHER_SPEED, which indicates Ethernet speed. Defaults to AUTO.
• 100_MBPS	100 Megabits per seconds
• 10_GBPS	10 Gigabits per second
• 10_MBPS	10 Megabits per second
• 1_GBPS	1 Gigabit per second
• 40_GBPS	40 Gigabit per second
• AUTO	Automatic
• AUTO_FDX	Enable auto negotiation with full duplex.
<FLOW>	(Optional) Flow. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<EXPDUPLX>	(Optional) Ethernet duplex mode. The parameter type is ETHER_DUPLEX, which is the duplex mode.
• AUTO	Auto mode
• FULL	Full mode
• HALF	Half mode
<EXPSPEED>	(Optional) Expected speed. Due to the auto-negotiation feature, actual speed may differ from expected speed. The parameter type is ETHER_SPEED, which is the Ethernet speed.
• 100_MBPS	100 Megabits per second
• 10_GBPS	10 Gigabits per second
• 10_MBPS	10 Megabits per second
• 1_GBPS	1 Gigabit per second
• AUTO	Auto
<SELECTIVEAUTO>	(Optional) Selective auto-negotiation. The parameter is Y or N (enable or disable auto-negotiation) This indicates selective auto-negotiation of EXPSPEED and EXPDUPLX only.
• Y	Enable selective auto-negotiation.

Table 23-72 **Output Parameter Support**

Parameter	Description
• N	Disable selective auto-negotiation. The default value is N.
<VLANCOS>	(Optional) Priority queueing threshold based on VLAN class of service for incoming Ethernet packets. VLANCOS is an integer.
<IPTOS>	(Optional) Priority queueing threshold based on IP type of service for incoming Ethernet packets. IPTOS is an integer.
<NAME>	(Optional) Facility name. NAME is a string.
<SOAK>	(Optional) OOS-AINS to IS transition soak time as measured in 15-minute intervals. SOAK is an integer.
<SOAKLEFT>	(Optional) Time remaining for the transition from Locked-AutomaticInService to Unlocked measured in 1 minute intervals. The format is HH-MM where HH ranges from 00 to 48 and MM ranges from 00 to 59. Rules for SOAKLEFT are as follows: - When the port is in Locked;Locked,Maintenance; or Unlocked state, the parameter is not displayed. - When the port is in Locked,AutomaticInService state but the countdown has not started due to a fault signal, the value will be SOAKLEFT=NOT-STARTED. - When the port is in Locked,AutomaticInService state and the countdown has started, the value will be shown in HH-MM format.
<LIENABLE>	(Optional) Enable or Disable link integrity timer. Takes either Y or N. Value Y enables the LITIMER and value N disables LITIMER. By default LITIMER is enabled.
<LITIMER>	(Optional) Link integrity timer duration in the range between 200 ms and 10000 ms in multiples on 100 ms.
<PSTPSTQ>	Administrative state in the PST_PSTQ format. The parameter type is PST_PSTQ, which is the service state of the entity described by the PST and the PSTQ.
• Unlocked-Enabled	In service and normal
• Unlocked-Disabled	Out of service and autonomous
• Locked-Disabled	Out of service, autonomous and management
• Locked-Enabled	Out of service and management
<SSTQ>	(Optional) Secondary state of the entity. the parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AutomaticInService	Automatic in service
• Disabled	Disabled
• Loopback	Loopback
• MismatchofEquipmentAlarm	Mismatch of equipment and attributes
• Maintenance	Maintenance mode
• OutOfGroup	Out of group
• SoftwareDownload	Software downloading
• Unassigned	Unassigned
• NotInstalled	Unequipped

23.59 RTRV-EXT-CONT

The Retrieve External Control (RTRV-EXT-CONT) command retrieves the control state of an external control. The command can be used to audit the result of an OPR-EXT-CONT or RLS-EXT-CONT command.

Usage Guidelines

- If the CONTTYPE is null, the existing CONTTYPE on this AID will be returned.
- The duration is not supported. It defaults to CONTS.

Category

Environment

Security

Retrieve

Input Format

RTRV-EXT-CONT:[<TID>]:<AID>:<CTAG>[:<CONTTYPE>];

Input Example

RTRV-EXT-CONT:CISCO:ENV-OUT-2:123::AIRCOND;

Table 23-73 *Input Parameter Support*

Parameter	Description
<AID>	Access identifier from the “27.12 ENV” section on page 27-20 . The only valid AID for RTRV-EXT-CONT is ENV-OUT-{1-2}.
<CONTTYPE>	(Optional) Environmental control type. A null value is equivalent to ALL. The parameter type is CONTTYPE, which is the environmental control type.
• AIRCOND	Air conditioning
• ENGINE	Engine
• FAN	Fan
• GEN	Generator
• HEAT	Heat
• LIGHT	Light
• MISC	Miscellaneous
• SPKLR	Sprinkler

Output Format

SID DATE TIME
M CTAG COMPLD
“<AID>:[<CONTTYPE>],<DUR>,[<CONTSTATE>]”
;

Output Example

```
TID-000 1998-06-20 14:30:00
M 001 COMPLD
  "ENV-OUT-2:AIRCOND,CONTS,OPEN"
;
```

Table 23-74 **Output Parameter Support**

Parameter	Description
<AID>	Access identifier from the “27.12 ENV” section on page 27-20 . Identifies the external control for which the control state is being retrieved.
<CONTTYPE>	(Optional) Environmental control type. The parameter type is CONTTYPE, which is the environmental control type.
• AIRCOND	Air conditioning
• ENGINE	Engine
• FAN	Fan
• GEN	Generator
• HEAT	Heat
• LIGHT	Light
• MISC	Miscellaneous
• SPKLR	Sprinkler
<DUR>	Duration of operation. The duration for which the external control can be operated. The parameter type is Duration (duration).
• CONTS	Continuous duration
<CONTSTATE>	(Optional) Control state of the external control. The parameter type is CONT_MODE, which is the current state of the environmental control.
• NA	Not applicable.
• OPER	The environmental control state is CLOSE.
• RLS	The environmental control state is OPEN.

23.60 RTRV-FAC

The Retrieve Facility (RTRV-FAC) command retrieves the payload type of the facility. It can also dump all the facilities on a given card and is applicable to all cards.

**Note**

You must retrieve card information only from the working card and not from the protect card.

Usage Guidelines

None

Category Ports

Security Retrieve

Input Format RTRV-FAC:[<TID>]:<SRC>:<CTAG>[:];

Input Example RTRV-FAC:CISCO:FAC-2-9:2223;

Input Parameters <SRC> Source access identifier from the [“27.15 FACILITY” section on page 27-23](#).

Output Format

```

SID DATE TIME
M CTAG COMPLD
“<SRC>::PAYLOAD=<PAYLOAD>:<PSTPSTQ>,[<SSTQ>]”
;
```

Output Example

```

TID-000 1998-06-20 14:30:00
M 001 COMPLD
“FAC-2-9::PAYLOAD=E4-FRAMED:UNLOCKED-DISABLED,AUTOMATICINSERVICE”
;
```

Table 23-75 Output Parameter Support

Parameter	Description
<SRC>	Source access identifier from the “27.15 FACILITY” section on page 27-23 .
<PAYLOAD>	(Optional) Payload type of the facility. The parameter type is PAYLOAD, which identifies payload type.
• 100GIGE	100 Gigabit Ethernet.
• 10GFC	10-Gigabit Fibre Channel payload
• 10GIGE	10-Gigabit Ethernet
• 1GFC	1-Gigabit Fibre Channel payload
• 1GFICON	1-Gigabit fiber connectivity payload
• 2GFC	2-Gigabit Fibre Channel payload
• 2GFICON	2-Gigabit fiber connectivity payload
• 3GVIDEO	3G-SDI video payload.
• 40GIGE	40-Gigabit Ethernet
• 5GIB	5Gbps InfiniBand (IB_5G) payload
• 8GFC	8-Gigabit Fibre Channel payload
• AUTO	Auto

Table 23-75 **Output Parameter Support**

Parameter	Description
• DV6000	Video mode
• DVBASI	Digital Video Broadband Asynchronous Serial Interface (DVBASI) payload
• E4-FRAMED	E4-FRAMED payload mode for NCS STM1E-12 card
• E4-UNFRAMED	E4-UNFRAMED payload mode for NCS STM1E-12 card
• ESCON	ESCON mode
• ETRCLO	ETR/CLO payload mode
• FSTE	FSTE payload
• GIGE	Gigabit Ethernet Payload
• HDLC	High-level data link control (HDLC) frame mode.
• HDTV	HDTV mode
• ISC1	ISC1 mode
• ISC3	ISC3 mode
• ISC3STP1G	ISC-3 STP 1G video payload.
• ISC3STP2G	ISC-3 STP 2G video payload.
• OTL	Optical Channel Transport Lane.
• OTU1	Optical Transport Unit Level 1
• OTU2	Optical Transport Unit Level 2
• OTU3	Optical Transport Unit Level 3
• OTU4	Optical Transport Unit Level 4
• STM4	NCS STM4 mode
• STM1	NCS STM1 mode
• STM16	NCS STM16 mode
• STM256	NCS STM256 mode
• PASS-THROUGH	Pass through mode
• NCS	NCS Payload mode
• SDI-D1-VIDEO	SDI-D1-Video mode
• SDSDI	270M SDI video payload.
<PSTPSTQ>	Administrative state in the PST-PSTQ format. The parameter type is PST_PSTQ, which is the service state of the entity described by the PST and the PSTQ.
• Unlocked-Enabled	In service and normal
• Unlocked-Disabled	Out of service and autonomous
• Locked-Disabled	Out of service, autonomous and management
• Locked-Enabled	Out of service and management
<SSTQ>	(Optional) Secondary state. SSTQ is a string.

23.61 RTRV-FFP

The Retrieve Facility Protection Group (RTRV-FFP) command retrieves all optical 1+1 protection groups.

Usage Guidelines None

Category Protection

Security Retrieve

Input Format RTRV-FFP:[<TID>]:<AID>:<CTAG>[:];

Input Example RTRV-FFP:HERNDON:FAC-1-1:1;

Input Parameters

<AID>	Optical facility access identifier from the “27.15 FACILITY” section on page 27-23.

Output Format

```

SID DATE TIME
M CTAG COMPLD
“<WORK>,<PROTECT>:<LEVEL>:[PROTID=<PROTID>],[RVRTV=<RVRTV>],
[RVTM=<RVTM>],[PSDIRN=<PSDIRN>],[VRGRDTM=<VRGRDTM>],
[DTGRDTM=<DTGRDTM>],[RCGRDTM=<RCGRDTM>],[OPOTYPE=<OPOTYPE>]”
;
```

Output Example

```

TID-000 1998-06-20 14:30:00
M 001 COMPLD
“FAC-2-1,FAC-1-1:STM16:PROTID="PROT_NAME",RVRTV=Y,RVTM=1.0,PSDIRN=BI,
VRGRDTM=0.5,DTGRDTM=1.0,RCGRDTM=1.0,OPOTYPE=OPTIMIZED”
;
```

Table 23-76 Output Parameter Support

Parameter	Description
<WORK>	The working port access identifier from the “27.15 FACILITY” section on page 27-23.
<PROTECT>	The protected port access identifier from the “27.15 FACILITY” section on page 27-23.
<LEVEL>	Optical rate the protection group was defined against. The parameter type is STM_TYPE, which is the modifier used to differentiate various levels of STM.
• STM4	Optical Carrier Level 12 (622 Mbps)
• STM64	Optical Carrier Level 192 (10 Gbps)

Table 23-76 Output Parameter Support

Parameter	Description
• STM1	Optical Carrier Level 3 (155 Mbps)
• STM16	Optical Carrier Level 48 (2.4 Gbps)
<PROTID>	(Optional) Protection group name. PROTID is a string.
<RVRTV>	(Optional) Revertive mode. The value Y indicates that protection switching system reverts service to the original line after restoration. The value N indicates that protection switching system does not revert service to the original line after restoration. RVRTV is applicable only for 1+1 protection switching. Defaults to N, non-revertive.
• N	Does not revert service to original line after restoration.
• Y	Reverts service to original line after restoration.
<RVTM>	(Optional) Revertive time. The parameter type is REVERTIVE_TIME (revertive time).
• 0.5 to 12.0	Revertive time is 0.5 to 12.0 minutes.
<PSDIRN>	(Optional) Protection switch operation. Direction of reversion. The parameter type is UNI_BI, which is unidirectional and bidirectional switch operations.
• BI	Bidirectional protection switching
• UNI	Unidirectional protection switching
<VRGRDTM>	(Optional) Verification guard timer. Only applies to optimized 1+1. The parameter type is VERIFICATION_GUARD_TIMER, which is the optimized 1+1 verification guard timer.
• 0.5	500 ms
• 1.0	1 second
<DTGRDTM>	(Optional) Detection guard timer. Only applies to optimized 1+1. The parameter type is DETECTION_GUARD_TIMER, which is the optimized 1+1 detection guard timer.
• 0.0	0 seconds
• 0.05	50 ms
• 0.1	100 ms
• 0.5	500 ms
• 1.0	1 second
• 2.0	2 seconds
• 3.0	3 seconds
• 4.0	4 seconds
• 5.0	5 seconds
<RCGRDTM>	(Optional) Recovery guard timer. Only applies to optimized 1+1. The parameter type is RECOVERY_GUARD_TIMER, which is the optimized 1+1 recovery guard timer.
• 0.0	0 seconds
• 0.05	50 ms
• 0.1	100 ms
• 0.5	500 ms
• 1.0	1 second
• 2.0	2 seconds

Table 23-76 **Output Parameter Support**

Parameter	Description
• 3.0	3 seconds
• 4.0	4 seconds
• 5.0	5 seconds
• 6.0	6 seconds
• 7.0	7 seconds
• 8.0	8 seconds
• 9.0	9 seconds
• 10.0	10 seconds
<OPOTYPE>	(Optional) 1+1 protection type. The parameter type is ONE_PLUS_ONE, which is the 1+1 protection type.
• OPTIMIZED	Optimized 1+1
• STANDARD	Standard 1+1

23.62 RTRV-FFP-<MOD2NCSPAYLOAD>

The Retrieve Facility Protection Group for 10GFC, 10GIGE, 40GIGE, 100GIGE, 1GFC, 1GFICON, 2GFC, 2GFICON, 5GIB, 8GFC, D1VIDEO, DV6000, DVBASI, ETRCLO, FSTE, GIGE, HDTV, ISC1, ISC3, OTU2, OTU3, PASSTHRU, OTU1, OTU4, ISC3STP1G, or ISC3STP2G (RTRV-FFP-<MOD2NCSPAYLOAD>) command retrieves the values facility protection that exists on that port.

Usage Guidelines	The command does not support 3GVIDEO, SDSDI, HDSDI, and AUTO payloads on AR-MXP, AR-XP, and AR-XPE cards.
Category	Performance
Security	Retrieve
Input Format	RTRV-FFP-<MOD2NCSPAYLOAD>[:<TID>]:<SRC>:<CTAG>[:];
Input Example	RTRV-FFP-GIGE:CISCO:VFAC-3-1-1:1;
Input Parameters	<SRC> Source access identifier from the “27.15 FACILITY” section on page 27-23. The AR-MXP, AR-XP, and AR-XPE cards use the VFAC Access Identifier.

Output Format

```
SID DATE TIME M CTAG COMPLD
"<AID>,<AIDTYPE>]:<NTFCNCDE>,<CONDTYPE>,<SRVEFF>,<OCRDAT>],
[<OVRTM>],<LOCN>,<DIRN>]:<DESC>]"
;
```

Output Example

```
TID-000 1998-06-20 14:30:00
M 001 COMPLD
"VFAC-1-1-1,VFAC-2-1-1::PROTOTYPE=Y-CABLE,PROTID=\"DC-METRO\",
RVRTV=N,RVTM=1.0,PSDIRN=BI"
;
```

Table 23-77 Output Parameter Support

Parameter	Description
<AIDUNIONID>	Access identifier from the “27.15 FACILITY” section on page 27-23 .
<AIDUNIONID1>	Access identifier from the “27.15 FACILITY” section on page 27-23 .
<PROTOTYPE>	(Optional) The type of facility protection. The parameter type is PROTOTYPE, which is the protection type for NCS client facilities.
Y-CABLE	Y-cable protection for the client ports on TXP_MR_10G, MXP_2.5G_10G, TXP_MR_2.5G, and TXPP_MR_2.5G cards.
<PROTID>	(Optional) Y-cable protection group identifier. PROTID is a string.
<RVRTV>	(Optional) Revertive mode. The value Y indicates that protection switching system reverts service to the original line after restoration. The value N indicates that protection switching system does not revert service to the original line after restoration. RVRTV is applicable only for 1+1 protection switching. Null defaults to N. The parameter type is ON_OFF (disable or enable an attribute).
N	Does not revert service to original line after restoration.
Y	Reverts service to original line after restoration.
<RVTM>	(Optional) Revertive time. Defaults to 5.0 minutes. The parameter type is REVERTIVE_TIME (revertive time).
0.5 to 12.0	Revertive time is 0.5 to 12.0 minutes.
<PSDIRN>	(Optional) Protection switch operation. Identifies the switching mode. Defaults to UNI. The parameter type is UNI_BI, which is the unidirectional and bidirectional switch operations.
BI	Bidirectional protection switching
UNI	Unidirectional protection switching

23.63 RTRV-FFP-<STM_TYPE>

The Retrieve Facility Protection Group for STM1, STM4, STM16, and STM64 (RTRV-FFP-<STM_TYPE>) command retrieves the optical facility protection information. See [Table 29-1 on page 29-1](#) for supported modifiers by platform.

Usage Guidelines None

Category Protection

Security Retrieve

Input Format RTRV-FFP-<STM_TYPE>[:<TID>]:<AID>:<CTAG>[:::];

Input Example RTRV-FFP-STM1:PETALUMA:FAC-1-1:1;

Input Parameters <AID> Access identifier from the [“27.15 FACILITY” section on page 27-23](#).

Output Format

```

SID DATE TIME
M CTAG COMPLD
“<WORK>,<PROTECT>::[PROTID=<PROTID>],[RVRTV=<RVRTV>],[RVTM=<RVTM>],
[PSDIRN=<PSDIRN>],[VRGRDTM=<VRGRDTM>],[DTGRDTM=<DTGRDTM>],
[RCGRDTM=<RCGRDTM>],[OPOTYPE=<OPOTYPE>]”
;
```

Output Example

```

TID-000 1998-06-20 14:30:00
M 001 COMPLD
“FAC-2-1,FAC-1-1::PROTID=“PROT_NAME”,RVRTV=Y,RVTM=1.0,PSDIRN=BI,
VRGRDTM=0.5,DTGRDTM=1.0,RCGRDTM=1.0,OPOTYPE=OPTIMIZED”
;
```

Table 23-78 Output Parameter Support

Parameter	Description
<WORK>	Access identifier from the “27.15 FACILITY” section on page 27-23 . Identifies the working port.
<PROTECT>	Access identifier from the “27.15 FACILITY” section on page 27-23 . Identifies the protection port.
<PROTID>	(Optional) Free form text string name given to the 1+1 protection group. PROTID is a string.
<RVRTV>	(Optional) Revertive mode. The value Y indicates that protection switching system reverts service to the original line after restoration. The value N indicates that protection switching system does not revert service to the original line after restoration. RVRTV is applicable only for 1+1 protection switching. Defaults to N. Null defaults to N. The parameter type is ON_OFF (disable or enable an attribute).
• N	Does not revert service to original line after restoration.
• Y	Reverts service to original line after restoration.
<RVTM>	(Optional) Revertive time. Defaults to 5.0 minutes. The parameter type is REVERTIVE_TIME (revertive time)

Table 23-78 Output Parameter Support

Parameter	Description
• 0.5 to 12.0	Revertive time is 0.5 to 12.0 minutes
<PSDIRN>	(Optional) Protection switch operation. Identifies the switching mode. Defaults to UNI. The parameter type is TRANS_MODE, which is the G1000 transponder mode.
• BI	Bidirectional
• NONE	Not in transponder mode
• UNI	Unidirectional
<VRGRDTM>	(Optional) Verification guard timer. Only applies to optimized 1+1. The parameter type is VERIFICATION_GUARD_TIMER, which is the optimized 1+1 verification guard timer.
• 0.5	500 ms
• 1.0	1 second
<DTGRDTM>	(Optional) Detection guard timer. Only applies to optimized 1+1. The parameter type is DETECTION_GUARD_TIMER, which is the optimized 1+1 detection guard timer.
• 0.0	0 seconds
• 0.05	50 ms
• 0.1	100 ms
• 0.5	500 ms
• 1.0	1 second
• 2.0	2 seconds
• 3.0	3 seconds
• 4.0	4 seconds
• 5.0	5 seconds
<RCGRDTM>	(Optional) Recovery guard timer. Only applies to optimized 1+1. The parameter type is RECOVERY_GUARD_TIMER, which is the optimized 1+1 recovery guard timer.
• 0.0	0 seconds
• 0.05	50 ms
• 0.1	100 ms
• 0.5	500 ms
• 1.0	1 second
• 2.0	2 seconds
• 3.0	3 seconds
• 4.0	4 seconds
• 5.0	5 seconds
• 6.0	6 seconds
• 7.0	7 seconds
• 8.0	8 seconds
• 9.0	9 seconds
• 10.0	10 seconds

Table 23-78 **Output Parameter Support**

Parameter	Description
<OPOTYPE>	(Optional) 1+1 protection type. The parameter type is ONE_PLUS_ONE, which is the 1+1 protection type.
• OPTIMIZED	Optimized 1+1
• STANDARD	Standard 1+1

23.64 RTRV-FFP-<OCN_TYPE>

The Retrieve Facility Protection Group for OC3, OC12, OC48, OC192, or OC768 (RTRV-FFP-<OCN_TYPE>) command retrieves the optical facility protection information.

Usage Guidelines

See [Table 29-1 on page 29-1](#) for supported modifiers by platform.

Category

Protection

Security

Retrieve

Input Format

RTRV-FFP-<OCN_TYPE>[:<TID>]:<AID>:<CTAG>[:::];

Input Example

RTRV-FFP-OC3:PETALUMA:OC3-1-1:1;

Input Parameters

<AID>	Access identifier from the “27.15 FACILITY” section on page 27-23 .

Output Format

```
SID DATE TIME
M CTAG COMPLD
  "<WORK>,<PROTECT>::[PROTOTYPE=<PROTOTYPE>],[PROTID=<PROTID>],
  [RVRTV=<RVRTV>],[RVTM=<RVTM>],[PSDIRN=<PSDIRN>],[VRGRDTM=<VRGRDTM>],
  [DTGRDTM=<DTGRDTM>],[RCGRDTM=<RCGRDTM>],[OPOTYPE=<OPOTYPE>]"
;
```

Output Example

```
TID-000 1998-06-20 14:30:00
M 001 COMPLD
  "FAC-2-1,FAC-1-1::PROTOTYPE=Y-CABLE,PROTID="PROT_NAME",RVRTV=Y,RVTM=1.0,
  PSDIRN=BI,VRGRDTM=0.5,DTGRDTM=1.0,RCGRDTM=1.0,OPOTYPE=OPTIMIZED"
;
```

Output Parameters

<WORK>	Access identifier from the “27.15 FACILITY” section on page 27-23. Identifies the working port.
<PROTECT>	Access identifier from the “27.15 FACILITY” section on page 27-23. Identifies the protection port.
<PROTOTYPE>	(Optional) Protection group type. Applicable only to DWDM cards. The parameter type is PROTOTYPE, which is the protection type for DWDM client facilities.
• Y-CABLE	Y-cable protection for the client ports on TXP_MR_10G, MXP_2.5G_10G, TXP_MR_2.5G, and TXPP_MR_2.5G cards.
<PROTID>	(Optional) Free-form text string name given to the 1+1 protection group. PROTID is a string.
<RVRTV>	(Optional) Revertive mode. The value Y indicates that protection switching system reverts service to the original line after restoration. The value N indicates that protection switching system does not revert service to the original line after restoration. RVRTV is applicable only for 1+1 protection switching. Defaults to N, non-revertive.
• N	Does not revert service to original line after restoration.
• Y	Reverts service to original line after restoration.
<RVTM>	(Optional) Revertive time. Defaults to 5.0 minutes. The parameter type is REVERTIVE_TIME.
• 0.5 to 12.0	Revertive time is 0.5 to 12.0 minutes.
<PSDIRN>	(Optional) Protection switch operation. Identifies the switching mode. Defaults to UNI. The parameter type is TRANS_MODE, which is the G1000 transponder mode.
• BI	Bidirectional
• NONE	Not in transponder mode
• UNI	Unidirectional
<VRGRDTM>	(Optional) Verification guard timer. Only applies to optimized 1+1. The parameter type is VERIFICATION_GUARD_TIMER, which is the optimized 1+1 verification guard timer.
• 0.5	500 ms
• 1.0	1 second
<DTGRDTM>	(Optional) Detection guard timer. Only applies to optimized 1+1. The parameter type is DETECTION_GUARD_TIMER, which is the optimized 1+1 detection guard timer.
• 0.0	0 seconds
• 0.05	50 ms
• 0.1	100 ms
• 0.5	500 ms
• 1.0	1 second
• 2.0	2 seconds
• 3.0	3 seconds
• 4.0	4 seconds
• 5.0	5 seconds

• 0.5	500 ms
• 1.0	1 second
• 2.0	2 seconds
• 3.0	3 seconds
• 4.0	4 seconds
• 5.0	5 seconds

23.65 RTRV-FFP-OCH

The Retrieve Facility Protection Group Optical Channel (RTRV-FFP-OCH) command retrieves the protection group information for the TXP_MR_2.5G and the TXPP_MR_2.5G card trunk ports.

Usage Guidelines	None

Category	NCS

Security	Retrieve

Input Format RTRV-FFP-OCH:[<TID>]:<AID>:<CTAG>[:::];

Input Example RTRV-FFP-OCH:VA454-22:CHAN-2-2:100;

Input Parameters <AID> Access identifier from the [“27.7 CHANNEL” section on page 27-12.](#)

Output Format SID DATE TIME
M CTAG COMPLD
“<WORK>,<PROTECT>::[PROTTYPE=<PROTTYPE>],[PROTID=<PROTID>],
[RVRTV=<RVRTV>],[RVTM=<RVTM>],[PSDIRN=<PSDIRN>]”
;

Output Example TID-000 1998-06-20 14:30:00
M 001 COMPLD
“CHAN-2-2,CHAN-2-3::PROTTYPE=SPLITTER,PROTID=“TRUNK PROT”,RVRTV=Y,
RVTM=1.0,PSDIRN=UNI”
;

Table 23-79 Output Parameter Support

Parameter	Description
<WORK>	The working port access identifier from the “27.7 CHANNEL” section on page 27-12.
<PROTECT>	The protected port access identifier from the “27.7 CHANNEL” section on page 27-12.
<PROTTYPE>	(Optional) Protection group type, PROTTYPE is a string.
<PROTID>	(Optional) Protection group name, PROTID is a string.
<RVRTV>	(Optional) Revertive mode. The value Y indicates that protection switching system reverts service to the original line after restoration. The value N indicates that protection switching system does not revert service to the original line after restoration. RVRTV is applicable only for 1+1 protection switching. Defaults to N. Null defaults to N. The parameter type is ON_OFF (disable or enable an attribute).
• N	Does not revert service to original line after restoration.
• Y	Reverts service to original line after restoration.
<RVTM>	(Optional) Revertive time. The parameter type is REVERTIVE_TIME (revertive time).
• 0.5 to 12.0	Revertive time is 0.5 to 12.0 minutes.
<PSDIRN>	(Optional) Protection switch operation. Direction of reversion. The parameter type is UNI_BI, which is the unidirectional and bidirectional switch operations.
• BI	Bidirectional protection switching
• UNI	Unidirectional protection switching

23.66 RTRV-FFP-OTS

The Retrieve Facility Protection Group OTS (RTRV-FFP-OTS) command retrieves the protection group information for the TXP_MR_2.5G and TXPP_MR_2.5G card trunk port and OTU2-XP and optical protection switching unit.

Usage Guidelines	None								
Category	NCS								
Security	Retrieve								
Input Format	RTRV-FFP-OTS:[<TID>]:<AID>:<CTAG>[:];								
Input Example	RTRV-FFP-OTS:VA454-22:CHAN-2-2:100;								
Input Parameters	<table> <tr> <td><AID></td><td>Access identifier from the “27.7 CHANNEL” section on page 27-12.</td></tr> </table>	<AID>	Access identifier from the “27.7 CHANNEL” section on page 27-12.						
<AID>	Access identifier from the “27.7 CHANNEL” section on page 27-12.								
Output Format	<pre> SID DATE TIME M CTAG COMPLD “<WORK>,<PROTECT>::[PROTOTYPE=<PROTOTYPE>],[PROTID=<PROTID>], [RVRTV=<RVRTV>],[RVTM=<RVTM>],[PSDIRN=<PSDIRN>]” ; </pre>								
Output Example	<pre> TID-000 1998-06-20 14:30:00 M 001 COMPLD “CHAN-2-2,CHAN-2-3::PROTOTYPE=SPLITTER,PROTID=\“TRUNK PROT”,RVRTV=Y, RVTM=1.0,PSDIRN=UNI” ; </pre>								
Output Parameters	<table> <tr> <td><WORK></td><td>The working port access identifier from the “27.7 CHANNEL” section on page 27-12.</td></tr> <tr> <td><PROTECT></td><td>The protected port access identifier from the “27.7 CHANNEL” section on page 27-12.</td></tr> <tr> <td><PROTOTYPE></td><td>Protection type for NCS Client facilities</td></tr> <tr> <td>Y-CABLE</td><td>Y-Cable Protection for the Client Ports on Skane and Rockwell cards</td></tr> </table>	<WORK>	The working port access identifier from the “27.7 CHANNEL” section on page 27-12.	<PROTECT>	The protected port access identifier from the “27.7 CHANNEL” section on page 27-12.	<PROTOTYPE>	Protection type for NCS Client facilities	Y-CABLE	Y-Cable Protection for the Client Ports on Skane and Rockwell cards
<WORK>	The working port access identifier from the “27.7 CHANNEL” section on page 27-12.								
<PROTECT>	The protected port access identifier from the “27.7 CHANNEL” section on page 27-12.								
<PROTOTYPE>	Protection type for NCS Client facilities								
Y-CABLE	Y-Cable Protection for the Client Ports on Skane and Rockwell cards								

SPLITTER	Splitter Protection for the Trunk Ports on Rockwell/Cengalo TXP, Bernina MXP Protected cards, Optical Protection Unit card and the OTU2-XP card.
<PROTID>	is the protecting card slot number of the protection group. Applicable only to Electrical cards which support 1-1 and/or 1-N. protid is the AID PRSLOT.
<RVRTV>	(Optional) Revertive mode. The value Y indicates that protection switching system reverts service to the original line after restoration. The value N indicates that protection switching system does not revert service to the original line after restoration. RVRTV is applicable only for 1+1 protection switching. Defaults to N. Null defaults to N. The parameter type is ON_OFF (disable or enable an attribute).
• N	Does not revert service to original line after restoration.
• Y	Reverts service to original line after restoration.
<RVTM>	(Optional) Revertive time. The parameter type is REVERTIVE_TIME.
• 0.5 to 12.0	Revertive time is 0.5 to 12.0 minutes.
<PSDIRN>	(Optional) Protection switch operation. Direction of reversion. The parameter type is UNI_BI, which is the unidirectional and bidirectional switch operations.
• BI	Bidirectional protection switching
• UNI	Unidirectional protection switching

23.67 RTRV-FOG

The Retrieve Fan-Out-Group (ENT-FOG) command retrieves Fan-Out-Groups.

Usage Guidelines

- This command is applicable to PTSYS.
- Retrieves the CPT 50 panel provisioning information.
- Retrieves all the provisioned FOGs or specific FOG with the “ALL” AID.

Category

Equipment

Security

Retrieve

Input Format

RTRV-FOG:[<TID>]:<AID>:<CTAG>;

Input Examples

RTRV-FOG::ALL:1;

Input Parameters	<AID>	Access identifier from the “27.13 EQPT” section on page 27-21 .

Output Format	<pre> SID DATE TIME M CTAG COMPLD “<AID>:[PTSYSID=<PTSYSID>],[FOGID=<FOGID>],[FOMEM=<FOMEM>], [<PEERMEM=<PEERMEM>],[STATE=<STATE>],[QUEUEMODE=<QUEUEMODE>],[PBNAME= <PBNAME>]”; </pre>

Output Example	<pre> TID-000 1998-06-20 14:30:00 M 001 COMPLD “FOG-1-36:PTSYSID=1,FOGID=36,FOMEM=FAC-2-2-1,STATE=UNKNOWN” </pre>

Table 23-80 **Output Parameter Support**

Parameter	Description
<AID>	AID of the FOG to be retrieved.
<PTSYSID>	PTSYS number or ID.
<FOGID>	This is AID of the provisioned FOG. The valid range is [-{1}]-{36-55}.
<FOMEM>	Ports of line and fabric cards.
<PEERMEM>	Ports of CPT 50 panel.
<STATE>	FOG state.
• Discovered	Discovered state.
• Invalid	Not discovered.
• UNKNOWN	Not known
<QUEUEMODE>	QUEUEMODE
• NOPRI	NOPRI
• STRICT	STRICT
<PBNAME>	PBNAME

23.68 RTRV-FSTE

The Retrieve Fast Ethernet (RTRV-FSTE) command retrieves the front end port information of the 10/100 Mbps Fast Ethernet card.

Usage Guidelines	This command retrieves the front-end port information of fast (10/100 Mbps) ethernet cards. MTU is not displayed for Elise and Exige. RTRV-POS will display the MTU, which is common for front and backend ports. SELECTIVEAUTO parameter is applicable only when EXPSPEED and EXPDUPLEX is not set to AUTO mode.

Category	Ports		
Security	Retrieve		
Input Format	RTRV-FSTE:[<TID>]:<AID>:<CTAG>;		
Input Example	RTRV-FSTE:TID:FAC-1-1:CTAG;		
Input Parameters	<table> <tr> <td><AID></td><td>Access identifier from the “27.15 FACILITY” section on page 27-23.</td></tr> </table>	<AID>	Access identifier from the “27.15 FACILITY” section on page 27-23.
<AID>	Access identifier from the “27.15 FACILITY” section on page 27-23.		
Output Format	SID DATE TIME M CTAG COMPLD "<AID>:[<ROLE>],[<STATUS>]:[<ADMINSTATE>],[<LINKSTATE>],[<MTU>],[<FLOWCTRL>],[<OPTICS>],[<DUPLEX>],[<SPEED>],[<FLOW>],[<EXPDUPLICATION>],[<EXPSPEED>],[<VLANCOS THRESHOLD>],[<IPTOSTHRESHOLD>],[<NAME>],[<SUPPRESS>],[<SOAK>],[<SOAKLEFT>],[<SELECTIVEAUTO>],[<LIENABLE>],[<LITIMER>],[<LBCL>],[<OPT>],[<OPR>],[<FREQ>],[<LOSSB>],[<ACTFLOW>],[<ACTDUPLEX>],[<ACTSPEED>],[<CIR>],[<CBS>],[<EBS>],[<OSC>],[<SQUELCHMODE=<SQUELCHMODE>]:<PST>,[<SST>]" ;		
Output Example	TCC2 2002-02-07 05:37:40 M 1 COMPLD "VFAC-4-1-1:WORK,STBY:MTU=9700,DUPLEX=FULL,SPEED=100_MBPS,SOAK=32,FREQ=USE-TWL1,LOSSB=AUTOPROV,AUTONEG=Y,SQUELCHMODE=SQUELCH:OOS-MA,DSBLD" ;		

Table 23-81 **Output Parameter Support**

Parameter	Description
<AID>	Access identifier from the “27.15 FACILITY” section on page 27-23.
<ROLE>	Identifies the port role in a Y-cable protection scheme. The parameter type is SIDE, which is the role the unit is playing in the protection group.
<STATUS>	Identifies a port status in a Y-cable protection scheme. The parameter type is STATUS, which is the status of the unit in the protection pair.
<ADMINSTATE>	(Optional) Administration type. The parameter type is UP_DOWN (up or down).
• DOWN	Down
• UP	Up
<LINKSTATE>	(Optional) Link protocol. The parameter type is UP_DOWN (up or down).
• DOWN	Down
• UP	Up

<ADMINSTATE>	(Optional) Administration type. The parameter type is UP_DOWN (up or down).
• DOWN	Down
• UP	Up
<LINKSTATE>	(Optional) Link protocol. The parameter type is UP_DOWN (up or down).
• DOWN	Down
• UP	Up

Table 23-81 **Output Parameter Support**

Parameter	Description
• ITU_100G_1535_82	ITU-100G 1535.82
• ITU_100G_1536_61	ITU-100G 1536.61
• ITU_100G_1538_19	ITU-100G 1538.19
• ITU_100G_1538_98	ITU-100G 1538.98
• ITU_100G_1539_77	ITU-100G 1539.77
• ITU_100G_1540_56	ITU-100G 1540.56
• ITU_100G_1542_14	ITU-100G 1542.14
• ITU_100G_1542_94	ITU-100G 1542.94
• ITU_100G_1543_73	ITU-100G 1543.73
• ITU_100G_1544_53	ITU-100G 1544.53
• ITU_100G_1546_12	ITU-100G 1546.12
• ITU_100G_1546_92	ITU-100G 1546.92
• ITU_100G_1547_72	ITU-100G 1547.72
• ITU_100G_1548_51	ITU-100G 1548.51
• ITU_100G_1550_12	ITU-100G 1550.12
• ITU_100G_1550_92	ITU-100G 1550.92
• ITU_100G_1551_72	ITU-100G 1551.72
• ITU_100G_1552_52	ITU-100G 1552.52
• ITU_100G_1554_13	ITU-100G 1554.13
• ITU_100G_1554_94	ITU-100G 1554.94
• ITU_100G_1555_75	ITU-100G 1555.75
• ITU_100G_1556_55	ITU-100G 156.55
• ITU_100G_1558_17	ITU-100G 1558.17
• ITU_100G_1558_98	ITU-100G 1558.98
• ITU_100G_1559_79	ITU-100G 1559.79
• ITU_100G_1560_61	ITU-100G 1560.61
• UNKNOWN	Unknown Optical Type
• UNPLUGGED	Unplugged
<FREQ>	(Optional) The parameter type is OPTICAL_WLEN, which is the optical wavelength.
• 1529.16	Wavelength 1529.16
• 1562.23	Wavelength 1562.23
• 1562.64	Wavelength 1562.64
• 1563.05	Wavelength 1563.05
• 1563.45	Wavelength 1563.45
• 1563.86	Wavelength 1563.86
• 1564.27	Wavelength 1564.27

Table 23-81 **Output Parameter Support**

Parameter	Description
• 1564.68	Wavelength 1564.68
• 1565.09	Wavelength 1565.09
• 1565.50	Wavelength 1565.50
• 1565.90	Wavelength 1565.90
• 1566.31	Wavelength 1566.31
• 1566.72	Wavelength 1566.72
•	
<DUPLEX>	(Optional) Duplex mode. The parameter type is ETHER_DUPLEX (duplex mode).
• AUTO	Auto mode
• FULL	Full mode
• HALF	Half mode
<SPEED>	(Optional) Speed. The parameter type is ETHER_SPEED, which is the Ethernet speed.
• 100_MBPS	100 Mbps
• 10_GBPS	10 Gbps
• 10_MBPS	10 Mbps
• 1_GBPS	1 Gbps
• AUTO	Auto
<FLOW>	(Optional) Flow. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<EXPDUPLEX>	(Optional) Ethernet duplex mode. The parameter type is ETHER_DUPLEX, which is the duplex mode.
• AUTO	Auto mode
• FULL	Full mode
• HALF	Half mode
<EXPSPEED>	(Optional) Expected speed. Due to the auto-negotiation feature, actual speed may differ from expected speed. The parameter type is ETHER_SPEED, which is the Ethernet speed.
• 100_MBPS	100 Mbps
• 10_GBPS	10 Gbps
• 10_MBPS	10 Mbps
• 1_GBPS	1 Gbps
• 40_GBPS	40 Gigabit per second
• AUTO	Automatic
• AUTO_FDX	Enable auto negotiation with full duplex.

Table 23-81 Output Parameter Support

Parameter	Description
<SELECTIVEAUTO>	(Optional) Selective auto-negotiation. The parameter is Y or N (enable or disable auto-negotiation) This indicates selective auto-negotiation of EXPSPEED and EXPDUPLEX only.
• Y	Enable selective auto-negotiation.
• N	Disable selective auto-negotiation. The default value is N.
<VLANCOS>	(Optional) Priority queuing threshold based on VLAN class of service of incoming Ethernet packets. VLANCOS is an integer in the range 0 to 7. Defaults to 7.
<IPTOS>	(Optional) Priority queuing threshold based on IP type of service of incoming Ethernet packets. IPTOS is an integer in the range 0 to 255. Defaults to 255.
<NAME>	(Optional) Facility name. NAME is a string.
<SUPPRESS>	Pre-service alarm flag for data ports.
• ON	Enable suppress.
• OFF	Disable suppress. Default is Off.
<SOAK>	(Optional) Locked-AutomaticInService to Unlocked transition soak time as measured in 15-minute intervals. SOAK is an integer.
<LIENABLE>	(Optional) Enable or Disable link integrity timer. Takes either Y or N. Value Y enables the LITIMER and value N disables LITIMER. By default LITIMER is enabled.
<LITIMER>	(Optional) Link integrity timer duration in the range between 200 ms and 10000 ms in multiples on 100 ms.
<SOAKLEFT>	(Optional) Time remaining for the transition from Locked-AutomaticInService to Unlocked measured in 1 minute intervals. The format is HH-MM where HH ranges from 00 to 48 and MM ranges from 00 to 59. Rules for SOAKLEFT are as follows: - When the port is in Locked, Locked_Maintenance or Unlocked state, the parameter will not appear. - When the port is in Locked_AutomaticInService but the countdown has not started due to a fault signal, the value will be SOAKLEFT=NOT-STARTED. - When the port is in Locked_AutomaticInService state and the countdown has started, the value will be shown in HH-MM format.
<CIR>	Ingress committed information rate. The value ranges from 0.0 to 100.0. The default value is 100.0.
<SQUELCHMODE>	Shuts down the far-end laser in response to certain defects
• NONE	Transparent
• SQUELCH	Squelch is enabled
<PSTPSTQ>	Administrative state in the PST_PSTQ format. The parameter type is PST_PSTQ, which is the service state of the entity described by the PST and the PSTQ.
• Unlocked-Enabled	In service and normal
• Unlocked-Disabled	Out of service and autonomous
• Locked-Disabled	Out of service, autonomous and management
• Locked-Enabled	Out of service and management

Table 23-81 **Output Parameter Support**

Parameter	Description
<SSTQ>	(Optional) Secondary state of the entity. the parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AutomaticInService	Automatic in service
• Disabled	Disabled
• Loopback	Loopback
• MismatchofEquipmentAlarm	Mismatch of equipment and attributes
• Maintenance	Maintenance mode
• OutOfGroup	Out of group
• SoftwareDownload	Software downloading
• Unassigned	Unassigned
• NotInstalled	Unequipped

23.69 RTRV-FTPSERVER

The Retrieve FTP Server (RTRV-FTPSERVER) command retrieves FTP server entries.

Usage Guidelines FTP server entries cannot be retrieved using the TIMER filter.

Category ENE

Security Retrieve

Input Format RTRV-FTPSERVER:[<TID>]::<CTAG>:::[IPADDR=<IPADDR>],[IPMASK=<IPMASK>],[ENABLE=<ENABLE>],[TIMER=<TIMER>];

Input Examples

1. RTRV-FTPSERVER:::A:::IPADDR=10.20.30.40;
2. RTRV-FTPSERVER:TID::CTAG:::IPADDR="[3ffe:0501:0008:0000:0260:97ff:fe40:efab/64]",ENAB
LE=Y,TIMER=45;

Input Parameters

Table 23-82 Input Parameter Support

Parameter	Description
<IPADDR>	Specifies the IP address of the FTP Server.
<IPMASK>	Specifies the subnet mask of the FTP Server.
<ENABLE>	Specifies the enable/disable option of the FTP Server. The parameter type is ON_OFF (disable or enable an attribute).
• OFF	Disable an attribute.
• ON	Enable an attribute.
<TIMER>	Specifies the timeout value of the FTP Server in minutes.

Output Format

```
SID DATE TIME
M CTAG COMPLD
",,IPADDR=<IPADDR>,IPMASK=<IPMASK>, ENABLE=<ENABLE>,TIMER=<TIMER>"
;
```

Output Examples

1. SID DATE TIME
M CTAG COMPLD
",,IPADDR=10.20.30.40,IPMASK=255.0.0.0, ENABLE=Y,TIMER=10"
;
1. SID DATE TIME
M CTAG COMPLD
",,IPADDR="[3ffe:0501:0008:0000:0260:97ff:fe40:efab/64]", ENABLE=Y,TIMER=10"
;

Table 23-83 Output Parameter Support

Parameter	Description
<IPADDR>	Specifies the IP address of the FTP Server.
<IPMASK>	Specifies the subnet mask of the FTP Server.
<ENABLE>	Specifies the enable/disable option of the FTP Server. The parameter type is ON_OFF (disable or enable an attribute).
• OFF	Disable an attribute.
• ON	Enable an attribute.
<TIMER>	Specifies the timeout value of the FTP Server in minutes.

23.70 RTRV-G1000

The Retrieve G1000 Facility (RTRV-G1000) command retrieves the G1000 facilities configuration.

Usage Guidelines	None
Category	Ports
Security	Retrieve
Input Format	RTRV-G1000:[<TID>]:<AID>:<CTAG>;
Input Example	RTRV-G1000:TID:FAC-1-1:CTAG;
Input Parameters	<AID> Access identifier from the “27.15 FACILITY” section on page 27-23 .
Output Format	SID DATE TIME M CTAG COMPLD “<AID>::[MFS=<MFS>],[FLOW=<FLOW>],[LAN=<LAN>],[OPTICS=<OPTICS>], [TRANS=<TRANS>],[TPORT=<TPORT>],[LOWMRK=<LOWMRK>], [HIWMRK=<HIWMRK>],[AUTONEG=<AUTONEG>],[ENCAP=<ENCAP>], [NAME=<NAME>],[SOAK=<SOAK>],[SOAKLEFT=<SOAKLEFT>],[LIENABLE=<LIENABLE>], [LITIMER=<LITIMER>]:<PSTPSTQ>,<SSTQ>” ;
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD “FAC-1-1::MFS=1548,FLOW=N,LAN=ASYMMETRIC,OPTICS=UNKNOWN,TRANS=NONE, TPORT=FAC-5-1,LOWMRK=20,HIWMRK=492,AUTONEG=Y,ENCAP=GFP_T, NAME=“G1000 PORT”,SOAK=32,SOAKLEFT=“12-25”, LIENABLE=Y, LITIMER=300:UNLOCKED-DISABLED, AUTOMATICINSERVICE” ;

Table 23-84 Output Parameter Support

Parameter	Description
<AID>	Access identifier from the “27.15 FACILITY” section on page 27-23 .
<MFS>	(Optional) Maximum frame size. The parameter type is MFS_TYPE, which is the maximum frame size used by an Ethernet card.
• 1548	Normal frame size
• JUMBO	Jumbo frame size
<FLOW>	(Optional) Flow control. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.

Table 23-84 **Output Parameter Support**

Parameter	Description
<LAN>	(Optional) Local-area network. The parameter type is FLOW, which is the type of flow control that has been negotiated for an Ethernet port.
• ASYMMETRIC	Asymmetric flow control
• ASYMMETRIC_LOCAL	Asymmetric local flow control
• NONE	No flow control
• PASSTHRU	Passthrough flow control
• SYMMETRIC	Symmetric flow control
<OPTICS>	(Optional) Gigabit Interface Converter (GBIC) type. The parameter type is OPTICS, which is the type of Gigabit Ethernet optics being used.
• 1000_BASE_CX	1000BaseCX
• 1000_BASE_LX	1000BaseLX
• 1000_BASE_SX	1000BaseSX
• 1000_BASE_T	1000BaseT
• 1000_BASE_ZX	1000BaseZX
• 100_BASE_BX_D	100BaseBX_D
• 100_BASE_BX_U	100BaseBX_U
• CWDM_1470	CWDM 1470
• CWDM_1490	CWDM 1490
• CWDM_1510	CWDM 1510
• CWDM_1530	CWDM 1530
• CWDM_1550	CWDM 1550
• CWDM_1570	CWDM 1570
• CWDM_1590	CWDM 1590
• CWDM_1610	CWDM 1610
• ITU_100G_1530_33	ITU-100G 1530.33
• ITU_100G_1531_12	ITU-100G 1531.12
• ITU_100G_1531_90	ITU-100G 1531.90
• ITU_100G_1532_68	ITU-100G 1532.68
• ITU_100G_1534_25	ITU-100G 1534.25
• ITU_100G_1535_04	ITU-100G 1535.04
• ITU_100G_1535_82	ITU-100G 1535.82
• ITU_100G_1536_61	ITU-100G 1536.61
• ITU_100G_1538_19	ITU-100G 1538.19
• ITU_100G_1538_98	ITU-100G 1538.98
• ITU_100G_1539_77	ITU-100G 1539.77
• ITU_100G_1540_56	ITU-100G 1540.56
• ITU_100G_1542_14	ITU-100G 1542.14

Table 23-84 Output Parameter Support

Parameter	Description
• ITU_100G_1542_94	ITU-100G 1542.94
• ITU_100G_1543_73	ITU-100G 1543.73
• ITU_100G_1544_53	ITU-100G 1544.53
• ITU_100G_1546_12	ITU-100G 1546.12
• ITU_100G_1546_92	ITU-100G 1546.92
• ITU_100G_1547_72	ITU-100G 1547.72
• ITU_100G_1548_51	ITU-100G 1548.51
• ITU_100G_1550_12	ITU-100G 1550.12
• ITU_100G_1550_92	ITU-100G 1550.92
• ITU_100G_1551_72	ITU-100G 1551.72
• ITU_100G_1552_52	ITU-100G 1552.52
• ITU_100G_1554_13	ITU-100G 1554.13
• ITU_100G_1554_94	ITU-100G 1554.94
• ITU_100G_1555_75	ITU-100G 1555.75
• ITU_100G_1556_55	ITU-100G 1556.55
• ITU_100G_1558_17	ITU-100G 1558.17
• ITU_100G_1558_98	ITU-100G 1558.98
• ITU_100G_1559_79	ITU-100G 1559.79
• ITU_100G_1560_61	ITU-100G 1560.61
• UNKNOWN	Unknown Optical Type
• UNPLUGGED	Unplugged
<TRANS>	(Optional) Transponder mode. The parameter type is TRANS_MODE, which is the G1000 transponder mode.
• BI	Bidirectional
• NONE	Not in transponder mode
• UNI	Unidirectional
<TPORT>	(Optional) Transponding port access identifier from the “27.15 FACILITY” section on page 27-23 .
<LOWMRK>	(Optional) Low watermark value. LOWMRK is an integer.
<HIWMRK>	(Optional) High watermark value. HIWMRK is an integer.
<AUTONEG>	(Optional) Automatic negotiation. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<ENCAP>	(Optional) Frame encapsulation type. The parameter type is ENCAP, which is the frame encapsulation type.
• GFP_F	GFP frame mode

Table 23-84 **Output Parameter Support**

Parameter	Description
• GFP_T	GFP transparent mode
• HDLC	HDLC frame mode
• HDLC_LEX	HDLC LAN extension frame mode
• HDLC_X86	HDLC X.86 frame mode
• CBR	CBR mapping mode.
• GFP	GFP mapping mode.
• GMP	GMP mapping mode is supported only on 8GFC on 10x10G-LC card.
• TRP	Transparent mapping mode.
<NAME>	(Optional) Facility name. String.
<SOAK>	(Optional) Locked-AutomaticInService to Unlocked transition soak time as measured in 15-minute intervals. SOAK is an integer.
<LIENABLE>	(Optional) Enable or Disable link integrity timer. Takes either Y or N. Value Y enables the LITIMER and value N disables LITIMER. By default LITIMER is enabled.
<LITIMER>	(Optional) Link integrity timer duration in the range between 200 ms and 10000 ms in multiples of 100 ms.
<PSTPSTQ>	Administrative state in the PST-PSTQ format. The parameter type is PST_PSTQ, which is the service state of the entity described by the PST and the PSTQ.
• Unlocked-Enabled	In service and normal
• Unlocked-Disabled	Out of service and autonomous
• Locked-Disabled	Out of service, autonomous and management
• Locked-Enabled	Out of service and management
<SSTQ>	(Optional) Secondary state. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AutomaticInService	Automatic in service
• Disabled	Disabled
• Loopback	Loopback
• MismatchofEquipmentAlarm	Mismatch of equipment and attributes
• Maintenance	Maintenance mode
• OutOfGroup	Out of group
• SoftwareDownload	Software downloading
• Unassigned	Unassigned
• NotInstalled	Unequipped

23.71 RTRV-GFP

The Retrieve Generic Framing Protocol (RTRV-GFP) command retrieves the attributes of GFP encapsulation and applies to the FC_MR-4, CE-1000-4, and CE-100T-8 cards.

Usage Guidelines None

Category Ports

Security Retrieve

Input Format RTRV-GFP:[<TID>]:<SRC>:<CTAG>;

Input Example RTRV-GFP:CISCO:FAC-1-1:123;

Input Parameters <SRC> Source access identifier from the [“27.15 FACILITY” section on page 27-23](#).

Note The FAC AID is used for the FC_MR-4 card.

Output Format

```
SID DATE TIME
M CTAG COMPLD
“<AID>::[FCS=<FCS>],[AUTOTHGFPBUF=<AUTOTHGFPBUF>],
[GFPBUF=<GFPBUF>],[FILTER=<FILTER>]”
;
```

Output Example

```
TID-000 1998-06-20 14:30:00
M 001 COMPLD
“FAC-1-1::FCS=FCS-32,AUTOTHGFPBUF=Y,GFPBUF=16,FILTER=EGRESS”
;
```

Table 23-85 Output Parameter Support

Parameter	Description
<AID>	Access identifier from the “27.15 FACILITY” section on page 27-23 .
<FCS>	(Optional) Payload frame check sequence. The parameter type is FCS, which is the frame check sequence.
• FCS-16	Frame check sequencing using 16 bits
• FCS-32	Frame check sequencing using 32 bits
• NONE	No frame check sequence

Table 23-85 **Output Parameter Support**

Parameter	Description
<AUTOTHGFPBUF>	(Optional) The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<GFPBUF>	(Optional) GFP buffer size. GFPBUF is an integer.
<FILTER>	The parameter type is GFP_FILTER, which provides filter feature in GFP.
• EGRESS	Active filter feature egress port
• NONE	Turn off filter feature

23.72 RTRV-GIGE

The Retrieve Gigabit (GIGE/10GIGE) Ethernet command retrieves the attributes and state of Gigabit Ethernet facilities.

Usage Guidelines

None

Category

Ports

Security

Retrieve

Input Format

RTRV-GIGE:[<TID>]:<AID>:<CTAG>;

Input Example

RTRV-GIGE:TID:FAC-1-1:CTAG;

Input Parameters

<AID> Access identifier from the [“27.15 FACILITY”](#) section on page 27-23.

Output Format

SID DATE TIME M CTAG COMPLD
 "<AID>:.,[<ROLE>],[<STATUS>]:[<ADMINSTATE>],[<LINKSTATE>],[<MTU>],[<MFS>],[<FLOW>],[<FLOWCTRL>],[<AUTONEG>],[<HIWMRK>],[<LOWMRK>],[<OPTICS>],[<DUPLEX>],[<SPEED>],[<NAME>],[<MACADDR>],[<LBCL>],[<OPT>],[<OPR>],[<FREQ>],[<LOSSB>],[<SUPPRESS>],[<SOAK>],[<SOAKLEFT>],[<SQUELCH>],[<CIR>],[<CBS>],[<EBS>],[<LIENABLE>],[<LITIMER>],[<ACTFLOW>],[<ACTDUPLEX>],[<ACTSPEED>],[<OSC>],[<ENCAP>],[<PAUSEFRAME>],[<CLNTDST>],[<SYNCSMSG>],[<SENDDUS>],[<ADMSSM>],[<PROVIDESYNC>],[<ESMC>],[<EXPSPEED>],[<EXPDUPLEX>],[<SELECTIVEAUTO>],[<INTERCONMODE>],[<SQUELCHMODE>]:<PORTMODE>,[<PST>]"

;

Output Example

TCC2 2002-02-07 05:35:58

M 1 COMPLD

"VFAC-4-1-1:,,WORK,STBY:MTU=9700,,AUTONEG=Y,DUPLEX=FULL,SPEED=1_GBPS,MACA
 DDR=08-E5-78-6C-02-7F,FREQ=USE-TWL1,LOSSB=AUTOPROV,SOAK=32,ACTDUPLEX=AUT
 O,ACTSPEED=AUTO,SYNCMSG=Y,SENDDUS=N,ADMSSM=STU,PROVIDESYNC=N,ESMC=N,
 SQUELCHMODE=SQUELCH:OOS-MA,DSBLD"

;

Table 23-86 Output Parameter Support

Parameter	Description
<AID>	Access identifier from the “27.15 FACILITY” section on page 27-23.
<ROLE>	Identifies the port role in a Y-cable protection scheme. The parameter type is SIDE, which is the role the unit is playing in the protection group.
• PROT	The entity is a protection unit in the protection group.
• WORK	The entity is a working unit in the protection group.
<STATUS>	Identifies a port status in a Y-cable protection scheme. The parameter type is STATUS, which is the status of the unit in the protection pair.
• ACT	The entity is the active unit in the shelf.
• NA	Status is unavailable.
• STBY	The entity is the standby unit in the shelf.
<ADMINSTATE>	(Optional) Administration type. The parameter type is UP_DOWN (up or down).
• DOWN	Down
• UP	Up
<LINKSTATE>	(Optional) Link protocol. The parameter type is UP_DOWN (up or down).
• DOWN	Down
• UP	Up
<MTU>	(Optional) Maximum transmission unit. MTU is an integer.
<MFS>	The max frame size used by an Ethernet card.
<ENCAP>	(Optional) Encapsulation frame type. The parameter type is ENCAP, which is the frame encapsulation type.
• CBR	
• GFP_F	GFP Frame mode
• GFP_T	GFP Transparent mode
• HDLC	HDLC Frame mode
• HDLC_LEX	HDLC LAN Extension Frame mode
• HDLC_X86	HDLC X.86 Frame mode

Table 23-86 **Output Parameter Support**

Parameter	Description
<FLOWCTRL>	(Optional) Flow control. The parameter type is FLOW, which is the type of flow control that has been negotiated for an Ethernet port.
• ASYMMETRIC	Asymmetric flow control
• ASYMMETRIC_LOCAL	Asymmetric local flow control
• NONE	No flow control
• PASSTHRU	Passthrough flow control
• SYMMETRIC	Symmetric flow control
<AUTONEG>	(Optional) Automatic negotiation. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<LOWMRK>	(Optional) Low watermark value. LOWMRK is an integer.
<HIWMRK>	(Optional) High watermark value. HIWMRK is an integer.
<OPTICS>	(Optional) Optics type. The parameter type is OPTICS, which is the type of Gigabit Ethernet optics being used.
• 1000_BASE_CX	1000BaseCX
• 1000_BASE_LX	1000BaseLX
• 1000_BASE_SX	1000BaseSX
• 1000_BASE_T	1000BaseT
• 1000_BASE_ZX	1000BaseZX
• 100_BASE_BX_D	100BaseBX_D
• 100_BASE_BX_U	100BaseBX_U
• CWDM_1470	CWDM 1470
• CWDM_1490	CWDM 1490
• CWDM_1510	CWDM 1510
• CWDM_1530	CWDM 1530
• CWDM_1550	CWDM 1550
• CWDM_1570	CWDM 1570
• CWDM_1590	CWDM 1590
• CWDM_1610	CWDM 1610
• ITU_100G_1530_33	ITU-100G 1530.33
• ITU_100G_1531_12	ITU-100G 1531.12
• ITU_100G_1531_90	ITU-100G 1531.90
• ITU_100G_1532_68	ITU-100G 1532.68
• ITU_100G_1534_25	ITU-100G 1534.25
• ITU_100G_1535_04	ITU-100G 1535.04
• ITU_100G_1535_82	ITU-100G 1535.82

Table 23-86 **Output Parameter Support**

Parameter	Description
• ITU_100G_1536_61	ITU-100G 1536.61
• ITU_100G_1538_19	ITU-100G 1538.19
• ITU_100G_1538_98	ITU-100G 1538.98
• ITU_100G_1539_77	ITU-100G 1539.77
• ITU_100G_1540_56	ITU-100G 1540.56
• ITU_100G_1542_14	ITU-100G 1542.14
• ITU_100G_1542_94	ITU-100G 1542.94
• ITU_100G_1543_73	ITU-100G 1543.73
• ITU_100G_1544_53	ITU-100G 1544.53
• ITU_100G_1546_12	ITU-100G 1546.12
• ITU_100G_1546_92	ITU-100G 1546.92
• ITU_100G_1547_72	ITU-100G 1547.72
• ITU_100G_1548_51	ITU-100G 1548.51
• ITU_100G_1550_12	ITU-100G 1550.12
• ITU_100G_1550_92	ITU-100G 1550.92
• ITU_100G_1551_72	ITU-100G 1551.72
• ITU_100G_1552_52	ITU-100G 1552.52
• ITU_100G_1554_13	ITU-100G 1554.13
• ITU_100G_1554_94	ITU-100G 1554.94
• ITU_100G_1555_75	ITU-100G 1555.75
• ITU_100G_1556_55	ITU-100G 156.55
• ITU_100G_1558_17	ITU-100G 1558.17
• ITU_100G_1558_98	ITU-100G 1558.98
• ITU_100G_1559_79	ITU-100G 1559.79
• ITU_100G_1560_61	ITU-100G 1560.61
• UNKNOWN	Unknown Optical Type
• UNPLUGGED	Unplugged
<DUPLEX>	(Optional) Duplex mode. The parameter type is ETHER_DUPLEX, which is the duplex mode.
• AUTO	Auto mode
• FULL	Full mode
• HALF	Half mode
<SPEED>	(Optional) Speed. The parameter type is ALS_MODE, which is the automatic laser shutdown mode.
• AUTO	Automatic
• DISABLED	Disabled
• MAN	Manual

Table 23-86 **Output Parameter Support**

Parameter	Description
• MAN-RESTART	Manual restart for test
<NAME>	(Optional) Facility name. NAME is a string.
<FREQ>	(Optional) The parameter type is OPTICAL WLEN, which is the optical wavelength.
• 1310	Wavelength 1310
• 1470	Wavelength 1470
• 1490	Wavelength 1490
• 1510	Wavelength 1510
• 1529.16	Wavelength 1529.16
• 1529.55	Wavelength 1529.55
• 1529.94	Wavelength 1529.94
• 1530	Wavelength 1530
• 1530.33	Wavelength 1530.33
• 1530.73	Wavelength 1530.73
• 1531.12	Wavelength 1531.12
• 1531.51	Wavelength 1531.51
• 1531.90	Wavelength 1531.90
• 1532.29	Wavelength 1532.29
• 1532.68	Wavelength 1532.68
• 1533.07	Wavelength 1533.07
• 1533.47	Wavelength 1533.47
• 1533.86	Wavelength 1533.86
• 1534.25	Wavelength 1534.25
• 1534.64	Wavelength 1534.64
• 1535.04	Wavelength 1535.04
• 1535.43	Wavelength 1535.43
• 1535.82	Wavelength 1535.82
• 1536.22	Wavelength 1536.22
• 1536.61	Wavelength 1536.61
• 1537	Wavelength 1537
• 1537.40	Wavelength 1537.40
• 1537.79	Wavelength 1537.79
• 1538.19	Wavelength 1538.19
• 1538.58	Wavelength 1538.58
• 1538.98	Wavelength 1538.98
• 1539.37	Wavelength 1539.37
• 1539.77	Wavelength 1539.77

Table 23-86 **Output Parameter Support**

Parameter	Description
• 1540.16	Wavelength 1540.16
• 1540.56	Wavelength 1540.56
• 1540.95	Wavelength 1540.95
• 1541.35	Wavelength 1541.35
• 1541.75	Wavelength 1541.75
• 1542.14	Wavelength 1542.14
• 1542.35	Wavelength 1542.35
• 1542.54	Wavelength 1542.54
• 1542.94	Wavelength 1542.94
• 1543.33	Wavelength 1543.33
• 1543.73	Wavelength 1543.73
• 1544.13	Wavelength 1544.13
• 1544.53	Wavelength 1544.53
• 1544.92	Wavelength 1544.92
• 1545.32	Wavelength 1545.32
• 1545.72	Wavelength 1545.72
• 1546.12	Wavelength 1546.12
• 1546.52	Wavelength 1546.52
• 1546.92	Wavelength 1546.92
• 1547.32	Wavelength 1547.32
• 1547.72	Wavelength 1547.72
• 1548.12	Wavelength 1548.12
• 1548.51	Wavelength 1548.51
• 1548.92	Wavelength 1548.92
• 1549.32	Wavelength 1549.32
• 1549.71	Wavelength 1549.71
• 1550	Wavelength 1500
• 1550.12	Wavelength 1550.12
• 1550.52	Wavelength 1550.52
• 1550.92	Wavelength 1550.92
• 1551.32	Wavelength 1551.32
• 1551.72	Wavelength 1551.72
• 1552.12	Wavelength 1552.12
• 1552.52	Wavelength 1552.52
• 1552.93	Wavelength 1552.93
• 1553.33	Wavelength 1553.33

Table 23-86 **Output Parameter Support**

Parameter	Description
• 1553.73	Wavelength 1553.73
• 1554.13	Wavelength 1554.13
• 1554.13	Wavelength 1554.13
• 1554.94	Wavelength 1554.94
• 1555.34	Wavelength 1555.34
• 1555.75	Wavelength 1555.75
• 1556.15	Wavelength 1556.15
• 1556.55	Wavelength 1556.55
• 1556.96	Wavelength 1556.96
• 1557.36	Wavelength 1557.36
• 1557.77	Wavelength 1557.77
• 1558.17	Wavelength 1558.17
• 1558.58	Wavelength 1558.58
• 1558.98	Wavelength 1558.98
• 1559.39	Wavelength 1559.39
• 1559.79	Wavelength 1559.79
• 1560.20	Wavelength 1560.20
• 1560.61	Wavelength 1560.61
• 1561.01	Wavelength 1561.01
• 1561.42	Wavelength 1561.42
• 1561.83	Wavelength 1561.83
• 1562.23	Wavelength 1562.23
• 1562.64	Wavelength 1562.64
• 1563.05	Wavelength 1563.05
• 1563.45	Wavelength 1563.45
• 1563.86	Wavelength 1563.86
• 1564.27	Wavelength 1564.27
• 1564.68	Wavelength 1564.68
• 1565.09	Wavelength 1565.09
• 1565.50	Wavelength 1565.50
• 1565.90	Wavelength 1565.90
• 1566.31	Wavelength 1566.31
• 1566.72	Wavelength 1566.72
• 1570	Wavelength 1570
• 1570.83	Wavelength 1570.83
• 1571.24	Wavelength 1571.24

Table 23-86 **Output Parameter Support**

Parameter	Description
• 1571.65	Wavelength 1571.65
• 1572.06	Wavelength 1572.06
• 1572.48	Wavelength 1572.48
• 1572.89	Wavelength 1572.89
• 1573.30	Wavelength 1573.30
• 1573.71	Wavelength 1573.71
• 1574.13	Wavelength 1574.13
• 1574.54	Wavelength 1574.54
• 1574.95	Wavelength 1574.95
• 1575.37	Wavelength 1575.37
• 1575.78	Wavelength 1575.78
• 1576.20	Wavelength 1576.20
• 1576.61	Wavelength 1576.61
• 1577.03	Wavelength 1577.03
• 1577.44	Wavelength 1577.44
• 1577.86	Wavelength 1577.86
• 1578.27	Wavelength 1578.27
• 1578.69	Wavelength 1578.69
• 1579.10	Wavelength 1579.10
• 1579.52	Wavelength 1579.52
• 1579.93	Wavelength 1579.93
• 1580.35	Wavelength 1580.35
• 1580.77	Wavelength 1580.77
• 1581.18	Wavelength 1581.18
• 1581.60	Wavelength 1581.60
• 1582.02	Wavelength 1582.02
• 1582.44	Wavelength 1582.44
• 1582.85	Wavelength 1582.85
• 1583.27	Wavelength 1583.27
• 1583.69	Wavelength 1583.69
• 1584.11	Wavelength 1584.11
• 1584.53	Wavelength 1584.53
• 1584.95	Wavelength 1584.95
• 1585.36	Wavelength 1585.36
• 1585.78	Wavelength 1585.78
• 1586.20	Wavelength 1586.20

Table 23-86 **Output Parameter Support**

Parameter	Description
• 1586.62	Wavelength 1586.62
• 1587.04	Wavelength 1587.04
• 1587.46	Wavelength 1587.46
• 1587.88	Wavelength 1587.88
• 1588.30	Wavelength 1588.30
• 1588.73	Wavelength 1588.73
• 1589.15	Wavelength 1589.15
• 1589.57	Wavelength 1589.57
• 1589.99	Wavelength 1589.99
• 1590	Wavelength 1590
• 1590.41	Wavelength 1590.41
• 1590.83	Wavelength 1590.83
• 1591.26	Wavelength 1591.26
• 1591.68	Wavelength 1591.68
• 1592.10	Wavelength 1592.10
• 1592.52	Wavelength 1592.52
• 1592.95	Wavelength 1592.95
• 1593.37	Wavelength 1593.37
• 1593.79	Wavelength 1593.79
• 1594.22	Wavelength 1594.22
• 1594.64	Wavelength 1594.64
• 1595.06	Wavelength 1595.06
• 1595.49	Wavelength 1595.49
• 1596.34	Wavelength 1596.34
• 1596.76	Wavelength 1596.76
• 1597.19	Wavelength 1597.19
• 1597.62	Wavelength 1597.62
• 1598.04	Wavelength 1598.04
• 1598.47	Wavelength 1598.47
• 1598.89	Wavelength 1598.89
• 1599.32	Wavelength 1599.32
• 1599.75	Wavelength 1599.75
• 1600.06	Wavelength 1600.06
• 1601.03	Wavelength 1601.03
• 1601.46	Wavelength 1601.46
• 1601.88	Wavelength 1601.88

Table 23-86 **Output Parameter Support**

Parameter	Description
• 1602.31	Wavelength 1602.31
• 1602.74	Wavelength 1602.74
• 1603.17	Wavelength 1603.17
• 1603.60	Wavelength 1603.60
• 1604.03	Wavelength 1604.03
• 1610	Wavelength 1610
• USE-TWL1	Use Tunable Wavelength 1
<LOSSB>	(Optional) The parameter type is REACH, which is the reach value.
• 100GBASE-LR4	100GBASE-LR4
• 100GBASE-SR10	100GBASE-SR10
• 40GBASE-FR	40GBASE-FR
• 40GBASE-LR4	40GBASE-LR4
• 40GBASE-SR4	Reach supported on 40GIGE payload on CFP-LC card.
• 4I1-9D1F	4I1-9D1F
• C4S1-2D1	C4S1-2D1
• FE-BX	FE-BX
• FX	FX
• GE-BX	GE-BX
• GE-EX	GE-EX
• LX-10	LX-10
• TEN-GE-LRM	TEN-GE-LRM
• TEN-GE-ZR	TEN-GE-ZR
• VSR2000-3R2	VSR2000-3R2
• AUTOPROV	Autoprovisioning
• CWDM-40KM	CWDM 40 kilometers.
• CX	Reach CX
• CX1	Reach CX1
• DX	Reach DX
• HX	Reach HX
• I1	Reach I1
• IR-1	Reach IR-1
• IR-2	Reach IR-2
• L1	Reach L1
• L2	Reach L2
• L3	Reach L3
• LR-1	Reach LR-1

Table 23-86 **Output Parameter Support**

Parameter	Description
• LR-2	Reach LR-2
• LR-3	Reach LR-3
• LX	Reach LX
• P1I1-2D1	Long haul 10G Ethernet with 1310 nm wavelength
• P1L1-1D2	Longhaul 2.5G Ethernet with 1550 nm wavelength
• P1L1-2D2	Long haul 10G Ethernet with 1550 nm wavelength
• P1S1-1D1	Shorthaul 2.5G Ethernet with 1310 nm wavelength
• P1S1-2D1	Short haul 10G Ethernet in 1310 nm wavelength
• SC	Reach SC
• S1	Reach S1
• S2	Reach S2
• SR	Reach SR
• SR-1	Reach SR-1
• SX	Reach SX
• T	Reach T
• TEN-GE-ER	10 GE extended range
• TEN-GE-LR	10 GE long range
• TEN-GE-SR	10 GE short range
• ULH	Reach ULH
• VSR	Reach VSR
• VX	Reach VX
• ZX	Reach ZX
<SOAK>	(Optional) Locked-AutomaticInService to Unlocked transition soak time as measured in 15-minute intervals. SOAK is an integer.
<LIENABLE>	(Optional) Enable or disable link integrity timer. Takes either Y or N. Value Y enables the LITIMER and value N disables LITIMER. By default LITIMER is enabled.
<LITIMER>	(Optional) Link integrity timer duration in the range between 200 ms and 10000 ms in multiples of 100 ms.
<ACTFLOW>	The type of flow control.
• ASYMMETRIC	Asymmetric flow control
• ASYMMETRIC_LOCAL	Asymmetric local flow control.
• NONE	No flow control
• PASSTHRU	Pass-through flow control
• SYMMETRIC	Symmetric flow control
<ACTDUPLEX>	Ethernet duplex mode. Default value is -AUTO.
• AUTO	Auto mode

Table 23-86 **Output Parameter Support**

Parameter	Description
• FULL	Full mode
• HALF	Half mode
<ACTSPEED>	Ethernet speed.
• 100_MBPS	100 MBPS
• 10_GBPS	10 GBPS
• 10_MBPS	10 MBPS
• 1_GBPS	1 GBPS
• 40_GBPS	40 Gigabit per second
• AUTO	Automatic
• AUTO_FDX	Enable auto negotiation with full duplex.
<SOAKLEFT>	(Optional) Time remaining for the transition from Locked-AutomaticInService to Unlocked measured in 1 minute intervals. The format is HH-MM where HH ranges from 00 to 48 and MM ranges from 00 to 59. Rules for SOAKLEFT are as follows: - When the port is in Locked, Locked_Maintenance or Unlocked state, the parameter will not appear. - When the port is in Locked_AutomaticInService but the countdown has not started due to a fault signal, the value will be SOAKLEFT=NOT-STARTED. - When the port is in Locked_AutomaticInService state and the countdown has started, the value will be shown in HH-MM format.
<ENCAP>	(Optional) Frame encapsulation type. The parameter type is ENCAP, which is the frame encapsulation type.
• CBR	CBR mapping mode
• GFP_F	GFP frame mode
• GFP_T	GFP transparent mode
• GMP	GMP mapping mode. Supported only on 8GFC on 10x10G-LC card.
• HDLC	HDLC frame mode
• HDLC_LEX	HDLC LAN extension frame mode
• HDLC_X86	HDLC X.86 frame mode
<PAUSEFRAME>	To Enable or Disable the Pause Frame.
• Y	Enable
• N	Disable
<EXPSPEED>	(Optional) Expected speed. Due to the auto-negotiation feature, actual speed may differ from expected speed. The parameter type is ETHER_SPEED, which is the Ethernet speed.
• 100_MBPS	100 Mbps
• 10_GBPS	10 Gbps
• 10_MBPS	10 Mbps
• 1_GBPS	1 Gbps

Table 23-86 **Output Parameter Support**

Parameter	Description
• 40_GBPS	40 Gigabit per second
• AUTO	Automatic
• AUTO_FDX	Enable auto negotiation with full duplex.
<EXPDUPLX>	(Optional) Ethernet duplex mode. The parameter type is ETHER_DUPLEX, which is the duplex mode.
• AUTO	Auto mode
• FULL	Full mode
• HALF	Half mode
<SELECTIVEAUTO>	(Optional) Selective auto-negotiation. The parameter is Y or N (enable or disable auto-negotiation) This indicates selective auto-negotiation of EXPSPEED and EXPDUPLX only.
• Y	Enable selective auto-negotiation.
• N	Disable selective auto-negotiation. The default value is N.
<INTERCONMODE>	Inter connect mode
<CLNTDST>	Client distance in kilometers.
• 10KM	10 kilometers.
• 30KM	30 kilometers.
<CIR>	Ingress committed information rate. The value ranges from 0.0 to 100.0. The default value is 100.0.
<SQUELCHMODE>	Shuts down the far-end laser in response to certain defects
• NONE	Transparent
• SQUELCH	Squelch is enabled
<PST>	Primary state. The parameter type is PST, which is the current overall service condition of an entity.
• Unlocked	In service
• Locked	Out of service
<SST>	Secondary state. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AutomaticInService	Automatic in service
• Disabled	Disabled
• Loopback	Loopback
• MismatchofEquipmentAlarm	Mismatch of equipment and attributes
• Maintenance	Maintenance mode
• OutOfGroup	Out of group
• SoftwareDownload	Software downloading
• Unassigned	Unassigned
• NotInstalled	Unequipped

23.73 RTRV-HDLC

The Retrieve High-Level Data Link Control (RTRV-HDLC) command retrieves HDLC-related attributes.

Usage Guidelines None

Category Ports

Security Retrieve

Input Format RTRV-HDLC:[<TID>]:<AID>:<CTAG>;

Input Example RTRV-HDLC:TID:VFAC-1-1-1:123;

Input Parameters	<AID>	Access identifier from the “27.15 FACILITY” section on page 27-23.

Output Format

```

SID DATE TIME
M CTAG COMPLD
“<AID>::[FCS=<FCS>],[CRC=<CRS>]”
;
```

Output Example

```

TID-000 1998-06-20 14:30:00
M 001 COMPLD
“VFAC-1-1-1::FCS=FCS-16,CRC=CRC-16”
;
```

Table 23-87 Output Parameter Support

Parameter	Description
<AID>	Access identifier from the “27.15 FACILITY” section on page 27-23.
<FCS>	(Optional) Payload frame check sequence. The parameter type is FCS, which is the frame check sequence.
• FCS-16	Frame check sequencing using 16 bits
• FCS-32	Frame check sequencing using 32 bits
• NONE	No frame check sequence

Table 23-87 **Output Parameter Support**

Parameter	Description
<CRC>	Cyclic Redundancy Check.
• CRC-16	Cyclic Redundancy Check using 16 bits.
• CRC-32	Cyclic Redundancy Check using 32 bits.

23.74 RTRV-HDR

The Retrieve Header (RTRV-HDR) command retrieves the header of a TL1 response message. It is used by TL1 clients to determine if the link to the NE is still active and if the NE is responding to commands.

Category	System
Security	Retrieve
Input Format	RTRV-HDR:[<TID>]::<CTAG>;
Input Example	RTRV-HDR:SONOMA::232;
Input Parameters	None

23.75 RTRV-INV

The Retrieve Inventory (RTRV-INV) command retrieves a listing of the equipment inventory. For each unit in the system, it identifies the unit's firmware numbers and Common Language Equipment Identifier (CLEI) codes, and the system's product ID and version ID.

Usage Guidelines	For multishelf, the inventory parameters are retrieved by using RTRV-INV and the BP AID. Because there is more than one shelf, the SHELFID is specified in BP AID.
Category	System
Security	Retrieve

Input Format RTRV-INV:[<TID>]:<AID>:<CTAG>[:];

Input Examples RTRV-INV:OCCIDENTAL:SLOT-15:301;

Input Parameters

<AID>	Access identifier from the “27.13 EQPT” section on page 27-21 or the “27.1 ALL” section on page 27-1.

Output Format

```

SID DATE TIME
M CTAG COMPLD
  “<AID>,<AIDTYPE>::[PLUGTYPE=<PLUGTYPE>],[PN=<PN>],[HWREV=<HWREV>],
  [FWREV=<FWREV>],[SN=<SN>],[CLEI=<CLEI>],[TWL=<TWL>],
  [PLUGINVENDORID=<PLUGINVENDORID>],[PLUGINPN=<PLUGINPN>],
  [PLUGINHWREV=<PLUGINWREV>], [PLUGINFWREV=<PLUGINFWREV>],
  [PLUGINSN=<PLUGINSN>],[ILOSSREF=<ILOSSREF>],[PID=<PID>],[VID=<VID>],
  [FPGA=<FPGA>],[MODULETYPE=<MODULETYPE>]”
;

```

Output Example

```

TID-000 1998-06-20 14:30:00
M 001 COMPLD
  “SLOT-15,OC3-IR-4::PLUGTYPE=SX-IR-SW-SN,PN=87-31-00002,HWREV=004K,
  FWREV=76-99-00009-004A,SN=013510,CLEI=NOCLEI,TWL1=1546.12,TWL2=1546.92,
  TWL3=1547.72,TWL4=1548.51,PLUGINVENDORID=012345,PLUGINPN=ABCDE,
  PLUGINHWREV=ABCDE,PLUGINFWREV=01-02-03,PLUGINSN=01234,ILOSSREF=1.0,
  PID=CISCO_NCS,VID=V01,FPGA=F451,MODULETYPE=101”
;

```

Table 23-88 Output Parameter Support

Parameter	Description
<AID>	Access identifier from the “27.13 EQPT” section on page 27-21.
<AIDTYPE>	Specifies the type of (AID) facility, link or other addressable entity targeted by the message. The parameter type is EQUIPMENT_TYPE (equipment type). AIDTYPE is a string.
• 10GE-XP	2 x 10 Gbps. muxponder/L2 ethernet switch card
• 15216-MD-40-EVEN	Thermal Multiplex/Demultiplex Passive Unit, spaced at 50 GHz on even grid
• 15216-MD-40-ODD	Thermal Multiplex/Demultiplex Passive Unit, spaced at 50 GHz on odd grid
• 15216-MD-ID-50	Thermal Interleaver Passive Unit, spaced at 50 GHz grid
• 15216-FLD4-30-3	Edge 4-Ch Bi-Directional OADM Module 1530.33 to 1532.68.
• 15216-FLD4-33-4	Edge 4-Ch Bi-Directional OADM Module 1533.47 to 1535.82.
• 15216-FLD4-36-6	Edge 4-Ch Bi-Directional OADM Module 1536.61 to 1538.98.
• 15216-FLD4-39-7	Edge 4-Ch Bi-Directional OADM Module 1539.77 to 1542.14.
• 15216-FLD4-42-9	Edge 4-Ch Bi-Directional OADM Module 1542.94 to 1545.32.
• 15216-FLD4-46-1	Edge 4-Ch Bi-Directional OADM Module 1546.12 to 1548.51.

Table 23-88 Output Parameter Support

Parameter	Description
• 15216-FLD4-49-3	Edge 4-Ch Bi-Directional OADM Module 1549.32 to 1551.72.
• 15216-FLD4-52-5	Edge 4-Ch Bi-Directional OADM Module 1552.52 to 1554.94.
• 15216-FLD4-55-7	Edge 4-Ch Bi-Directional OADM Module 1555.75 to 1558.17.
• 15216-FLD4-58-9	Edge 4-Ch Bi-Directional OADM Module 1558.98 to 1561.42.
• 32-DMX	32 channel optical demultiplexer
• 32-DMX-L	32 channel optical demultiplexer for L-band
• 32-DMX-O	32 channel unidirectional optical demultiplexer This overrides the old equipment type DMX-32 present in the 4.6 and earlier releases.
• 32-MUX-O	32 channel unidirectional optical multiplexer This overrides the old equipment type MUX-32 present in the 4.6 and earlier releases.
• 32-WSS	32 channel optical wavelength selective switch for C Band
• 40-DMX-C	40 channel optical demultiplexer for C Band
• 40-MUX-C	40 channel optical multiplexer for C Band
• 40G-MXP-C	40 Gbit/Sec Multirate Muxponder
• 40-SMR1-C	The single module 40-channel ROADM on C-band
• 40-SMR2-C	The single module 40-channel ROADM with EDFA on C-band
• 40G-TXP-C	40 Gigabits per second Multirate Transponder
• 40-WXC-C	40 channel optical wavelength cross-connect/wavelength router for C Band
• 80-WXC-C	80-channel wavelength cross-connect spaced at 100 GHz grid
• AD-1B	Optical add/drop multiplexed (OADM) 1 band filter
• AD-1C	Optical add/drop multiplexed (OADM) 1 channel filter
• AD-2C	Optical add/drop multiplexed (OADM) 2 channels filter
• AD-4B	Optical add/drop multiplexed (OADM) 4 bands filter
• AD-4C	Optical add/drop multiplexed (OADM) 4 channels filter
• ADM-10G	16 x OC3/OC12/OC48/GIGE and OC192/Trunk ADM 10 Gbps card
• AIC	AIC card
• AICI	AICI Card
• ASAP-4	Any service any port (ASAP) carrier card with four PIM slots
• CE-1000-4	Modena mapper card
• CE-100T-8	Exige/Elise mapper card
• CE-MR-10	Lotus20g ce2 card
• CE-MR-6	GT3 CE2 Card
• CTX-2500	CTX card
• CXC	Cross connect card
• DCU	Dispersion Compensation Unit

Table 23-88 **Output Parameter Support**

Parameter	Description
• DS1-84-DS3-EC1-3	DS1-84-DS3-EC1-3 card
• DS1-E1-56	DS1-E1-56 card
• DS1I	DS1I card
• DS3	DS3 card
• DS3-EC1-48	DS3-EC1-48 card type
• DS3E	DS3E card
• DS3I	DS3I card
• DS3IN	DS3IN card
• E1-42	42 port E1 card
• E1-21-DS3-E3-3	E1-21-DS3-E3-3
• E1-63-DS3-E3-3	E1-63-DS3-E3-3
• E1000T	E1000T card
• E100T	E100T card
• E3	E3 card
• EC1	EC1 card
• FILLER-CARD	Blank filler card
• FMEC-155E-1TO3	The equipment type for FMEC STM1E12 card with 1:3 protection
• FMEC-155E-UNPROT	The equipment type for FMEC STM1E12 card without protection
• G1000-4	A 4-port G1000 card
• GE-XP	20 x 1 Gbps muxponder/L2 ethernet switch card
• MD-4	Four channel optical multiplexer/demultiplexer
• MESH-PP-SMR	The passive unit Patch Panel device used to connect up to four 40-SMR2-C cards.
• ML-100T-8	Exige/Elise mapper card
• ML1000-2	Daytona 2-port GigE
• ML100T-12	Daytona 12-port FSTE
• ML100X-8	8-port 100T card with optical interface
• MRC-12	Humvee - 12-port multirate optical card
• MRC-2.5G-4	4-port MRC 2.5G
• MRC-2.5G-12	12-port MRC 2.5G
• MXP-2.5G-10E	Monviso 10G (4 * 2.5G) muxponder card with enhanced FEC
• MXP-2.5G-10G	Skane 10G (4 * 2.5G) muxponder card
• MXP-MR-2.5G	Bernina multirate 2.5G muxponder unprotected
• MXPP-MR-2.5G	Bernina multirate 2.5G muxponder protected
• MXP-MR-10DME	Multirate 10Gbps datamux
• OC192-4/STM64-4	4-port OC192 card
• OC192-4-NCS/STM64-4-NCS	Leatherneck: 4-port OC192 card with tunable laser for C band

Table 23-88 Output Parameter Support

Parameter	Description
• OC48-16/STM16-16	16-port OC48 card
• OPT-AMP-17-C	Optical booster/pre-amplifier for C band 17 dBm
• OPT-AMP-23-C	Optical booster/pre-amplifier for C band 23 dBm
• OPT-AMP-L	Optical booster/pre-amplifier for L band
• OPT-AMP-C	Optical booster/pre-amplifier for C band
• OPT-BST	Optical booster amplifier
• OPT-BST-E	Optical booster enhanced amplifier for C band
• OPT-BST-L	Optical booster amplifier for L band
• OPT-EDFA-17	MAL-less EDFA Optical Amplifier - C-band - 17dB Gain
• OPT-EDFA-24	MAL-less EDFA Optical Amplifier - C-band - 24dB Gain
• OPT-PRE	Optical pre-amplifier
• OPT-RAMP-C	Raman pump amplifier C-band
• OPT-RAMP-CE	An extended version of Raman pump amplifier
• OPT-RAMP-E	Raman pump amplifier E-band
• OSC-CSM	Optical service channel (OSC) with combiner/seperator module (SCM)
• OSCM	Optical service channel (OSC) module
• OTU2-XP	A 4x10G transponder that is capable to operate with multiple bit rates - 10G FC, 10GE, and OC192/STM64
• PIM-1	1-port pluggable interface module
• PIM-4	4-port pluggable interface module
• PP-4-SMR	Patch-Panel, 4 degrees, for SMR cards
• PP-MESH-4	Patch-Panel, 4 degrees
• PP-MESH-8	Patch-Panel, 8 degrees
• PPM-1	Pluggable port module with one SFP port
• PSM	Protection Service Module card
• PT-10GE	Line card.
• PTF-10GE	Fabric card.
• PTSA-GE	CPT 50 panel
• PT-SYSTEM	Packet transport system.
• PTSYS-FOG	PTSYS Fan-Out-Group.
• SHELF	To add the NCS SSC to multishelf.
• SHELF-M6	SHELF-M6
• STM1E-12	STM1E-12 card
• TCC	TCC card
• TDC-CC	Coarse tunable dispersion compensation unit
• TDC-FC	Fine tunable dispersion compensation unit

Table 23-88 **Output Parameter Support**

Parameter	Description
• TNC	Transport Node Controller card
• TSC	Transport Shelf Controller card
• TXP-MR-10E	Skane 10G multirate transponder card with enhanced FEC
• TXP-MR-10G	Skane 10G multirate transponder card
• TXP-MR-2.5G	Rockwell multirate 2.5G unprotected
• TXPP-MR-2.5G	Rockwell multirate 2.5G protected
• XC	XC card
• XC10G	XC10G card
• XCVT	XCVT card
• XCVXC-10G	XCVXC-10G card
• XCVXC-2.5G	XCVXC-2.5G card
• XCVXL-10G	XCVXL-10G card
• XCVXL-2.5G	XCVXL-2.5G card
<PLUGTYPE>	(Optional) Describes the type of plug-in. PLUGTYPE is a string.
<PN>	(Optional) Hardware part number. PN is a string.
<HWREV>	(Optional) Hardware revision. HWREV is a string.
<FWREV>	(Optional) Firmware revision. It is also known as Bootrom revision. FWREV is a string.
<SN>	(Optional) Serial number. SN is a string.
<CLEI>	(Optional) Common language equipment identifier code for the equipment. CLEI is a string.
<TWL1>	(Optional) Tunable wavelength 1.
• 1310	Wavelength 1310
• 1470	Wavelength 1470
• 1490	Wavelength 1490
• 1510	Wavelength 1510
• 1529.55	Wavelength 1529.55
• 1529.94	Wavelength 1529.94
• 1530	Wavelength 1530
• 1530.33	Wavelength 1530.33
• 1530.73	Wavelength 1530.73
• 1531.12	Wavelength 1531.12
• 1531.51	Wavelength 1531.51
• 1531.90	Wavelength 1531.90
• 1532.29	Wavelength 1532.29
• 1532.68	Wavelength 1532.68
• 1533.07	Wavelength 1533.07

Table 23-88 **Output Parameter Support**

Parameter	Description
• 1533.47	Wavelength 1533.47
• 1533.86	Wavelength 1533.86
• 1534.25	Wavelength 1534.25
• 1534.64	Wavelength 1534.64
• 1535.04	Wavelength 1535.04
• 1535.43	Wavelength 1535.43
• 1535.82	Wavelength 1535.82
• 1536.22	Wavelength 1536.22
• 1536.61	Wavelength 1536.61
• 1537	Wavelength 1537
• 1537.40	Wavelength 1537.40
• 1537.79	Wavelength 1537.79
• 1538.19	Wavelength 1538.19
• 1538.58	Wavelength 1538.58
• 1538.98	Wavelength 1538.98
• 1539.37	Wavelength 1539.37
• 1539.77	Wavelength 1539.77
• 1540.16	Wavelength 1540.16
• 1540.56	Wavelength 1540.56
• 1540.95	Wavelength 1540.95
• 1541.35	Wavelength 1541.35
• 1541.75	Wavelength 1541.75
• 1542.14	Wavelength 1542.14
• 1542.35	Wavelength 1542.35
• 1542.54	Wavelength 1542.54
• 1542.94	Wavelength 1542.94
• 1543.33	Wavelength 1543.33
• 1543.73	Wavelength 1543.73
• 1544.13	Wavelength 1544.13
• 1544.53	Wavelength 1544.53
• 1544.92	Wavelength 1544.92
• 1545.32	Wavelength 1545.32
• 1545.72	Wavelength 1545.72
• 1546.12	Wavelength 1546.12
• 1546.52	Wavelength 1546.52
• 1546.92	Wavelength 1546.92

Table 23-88 **Output Parameter Support**

Parameter	Description
• 1547.32	Wavelength 1547.32
• 1547.72	Wavelength 1547.72
• 1548.12	Wavelength 1548.12
• 1548.51	Wavelength 1548.51
• 1548.92	Wavelength 1548.92
• 1549.32	Wavelength 1549.32
• 1549.71	Wavelength 1549.71
• 1550	Wavelength 1500
• 1550.12	Wavelength 1550.12
• 1550.52	Wavelength 1550.52
• 1550.92	Wavelength 1550.92
• 1551.32	Wavelength 1551.32
• 1551.72	Wavelength 1551.72
• 1552.12	Wavelength 1552.12
• 1552.52	Wavelength 1552.52
• 1552.93	Wavelength 1552.93
• 1553.33	Wavelength 1553.33
• 1553.73	Wavelength 1553.73
• 1554.13	Wavelength 1554.13
• 1554.13	Wavelength 1554.13
• 1554.94	Wavelength 1554.94
• 1555.34	Wavelength 1555.34
• 1555.75	Wavelength 1555.75
• 1556.15	Wavelength 1556.15
• 1556.55	Wavelength 1556.55
• 1556.96	Wavelength 1556.96
• 1557.36	Wavelength 1557.36
• 1557.77	Wavelength 1557.77
• 1558.17	Wavelength 1558.17
• 1558.58	Wavelength 1558.58
• 1558.98	Wavelength 1558.98
• 1559.39	Wavelength 1559.39
• 1559.79	Wavelength 1559.79
• 1560.20	Wavelength 1560.20
• 1560.61	Wavelength 1560.61
• 1561.01	Wavelength 1561.01

Table 23-88 **Output Parameter Support**

Parameter	Description
• 1561.42	Wavelength 1561.42
• 1561.83	Wavelength 1561.83
• 1570	Wavelength 1570
• 1570.83	Wavelength 1570.83
• 1571.24	Wavelength 1571.24
• 1571.65	Wavelength 1571.65
• 1572.06	Wavelength 1572.06
• 1572.48	Wavelength 1572.48
• 1572.89	Wavelength 1572.89
• 1573.30	Wavelength 1573.30
• 1573.71	Wavelength 1573.71
• 1574.13	Wavelength 1574.13
• 1574.54	Wavelength 1574.54
• 1574.95	Wavelength 1574.95
• 1575.37	Wavelength 1575.37
• 1575.78	Wavelength 1575.78
• 1576.20	Wavelength 1576.20
• 1576.61	Wavelength 1576.61
• 1577.03	Wavelength 1577.03
• 1577.44	Wavelength 1577.44
• 1577.86	Wavelength 1577.86
• 1578.27	Wavelength 1578.27
• 1578.69	Wavelength 1578.69
• 1579.10	Wavelength 1579.10
• 1579.52	Wavelength 1579.52
• 1579.93	Wavelength 1579.93
• 1580.35	Wavelength 1580.35
• 1580.77	Wavelength 1580.77
• 1581.18	Wavelength 1581.18
• 1581.60	Wavelength 1581.60
• 1582.02	Wavelength 1582.02
• 1582.44	Wavelength 1582.44
• 1582.85	Wavelength 1582.85
• 1583.27	Wavelength 1583.27
• 1583.69	Wavelength 1583.69
• 1584.11	Wavelength 1584.11

Table 23-88 **Output Parameter Support**

Parameter	Description
• 1584.53	Wavelength 1584.53
• 1584.95	Wavelength 1584.95
• 1585.36	Wavelength 1585.36
• 1585.78	Wavelength 1585.78
• 1586.20	Wavelength 1586.20
• 1586.62	Wavelength 1586.62
• 1587.04	Wavelength 1587.04
• 1587.46	Wavelength 1587.46
• 1587.88	Wavelength 1587.88
• 1588.30	Wavelength 1588.30
• 1588.73	Wavelength 1588.73
• 1589.15	Wavelength 1589.15
• 1589.57	Wavelength 1589.57
• 1589.99	Wavelength 1589.99
• 1590	Wavelength 1590
• 1590.41	Wavelength 1590.41
• 1590.83	Wavelength 1590.83
• 1591.26	Wavelength 1591.26
• 1591.68	Wavelength 1591.68
• 1592.10	Wavelength 1592.10
• 1592.52	Wavelength 1592.52
• 1592.95	Wavelength 1592.95
• 1593.37	Wavelength 1593.37
• 1593.79	Wavelength 1593.79
• 1594.22	Wavelength 1594.22
• 1594.64	Wavelength 1594.64
• 1595.06	Wavelength 1595.06
• 1595.49	Wavelength 1595.49
• 1596.34	Wavelength 1596.34
• 1596.76	Wavelength 1596.76
• 1597.19	Wavelength 1597.19
• 1597.62	Wavelength 1597.62
• 1598.04	Wavelength 1598.04
• 1598.47	Wavelength 1598.47
• 1598.89	Wavelength 1598.89
• 1599.32	Wavelength 1599.32

Table 23-88 **Output Parameter Support**

Parameter	Description
• 1599.75	Wavelength 1599.75
• 1600.06	Wavelength 1600.06
• 1601.03	Wavelength 1601.03
• 1601.46	Wavelength 1601.46
• 1601.88	Wavelength 1601.88
• 1602.31	Wavelength 1602.31
• 1602.74	Wavelength 1602.74
• 1603.17	Wavelength 1603.17
• 1603.60	Wavelength 1603.60
• 1604.03	Wavelength 1604.03
• 1610	Wavelength 1610
• USE-TWL1	Use Tunable Wavelength 1
<PLUGINVENDORID>	(Optional) Plug-in vendor ID. PLUGINVENDORID is an integer.
<PLUGINPN>	(Optional) Third-party plug-in module HW part number. Applicable only to optical service channel cards, optical amplifier cards, dispersion compensation units, multiplexer and demultiplexer cards, and OADM cards. PLUGINPN is a string.
<PLUGINHWREV>	(Optional) Third-party plug-in module hardware revision. Applicable only to optical service channel cards, optical amplifier cards, dispersion compensation units, multiplexer and demultiplexer cards, and OADM cards. PLUGINHWREV is a string.
<PLUGINFWREV>	(Optional) Third-party plug-in module firmware. Applicable only to optical service channel cards, optical amplifier cards, dispersion compensation units, multiplexer and demultiplexer cards, and OADM cards. PLUGINFWREV is a string.
<PLUGINSN>	(Optional) Third-party plug-in module serial number. Applicable only to optical service channel cards, optical amplifier cards, dispersion compensation units, multiplexer and demultiplexer cards, and OADM cards. PLUGINSN is a string.
<ILOSSREF>	(Optional) The insertion loss reference calculated by the unit as worst insertion loss of all the unit. The parameter type is REVERTIVE_TIME (revertive time).
• 0.5 to 12.0	Revertive time is 0.5 to 12.0 minutes.
<PID>	(Optional) Product ID of the module. PID is a string.
<VID>	(Optional) Vendor ID. VID is a string.
<FPGA>	(Optional) FPGA version. FPGA is a string.
<MODULETYPE>	(Optional) Describes the type of embedded plug-in module. MODULETYPE is a string.

**Note**

If the SFP contains manufacturing information or data that is not compliant with Telcordia GR-831 (Appendix A), the system automatically adds quotes (\"") around the invalid characters in the TL1 response. TL1 is Telcordia GR-831 compliant after Software Release 7.0.4.

23.76 RTRV-L2-ETH

The Retrieve Layer 2 Ethernet (RTRV-L2-ETH) command retrieves the Layer 2 port information of the Ethernet card.

Usage Guidelines None

Category Ethernet

Security Retrieve

Input Format RTRV-L2-ETH:[<TID>]:<AID>:<CTAG>[:];

Input Example RTRV-L2-ETH:PETALUMA:FAC-1-1:CTAG;

Input Parameters	<AID>	Ethernet AIDs are used to access L2 Ethernet ports. Access identifier from the “27.14 ETH” section on page 27-23.

Output Format

```
SID DATE TIME
M CTAG COMPLD
"<AID>::[<NIMODE>],[<MACLEARNING>],[<INGRESSCOS>],[<ETHERCETYPE>],[<ETHERS
TYPE>],[<ALWMACADDR>],[<INHMACADDR>],[<BPDU>],[<BRIDGESTATE>],[<ACTBRIDG
ESTATE>],[<QNQMODE>],[<TRNSPSVLAN>],[<NAME>],[<IGMPROUTER>],[<AISACTION>],[
<PROTACTION>],[<IGMPONCVLAN>],[<IGMPCVLAN>],[<DLF>],[<DLFTHRES>],[<MCAST>]
,[<MCASTTHRES>],[<BCAST>],[<BCASTTHRES>],[<CLRCRCALM>]:"
```

Output Example MS-55- 2010-11-09 01:26:55

M c COMPLD

```
"ETH-5-1-22-1::NIMODE=NNI,MACLEARNING=Y,INGRESSCOS=0,ETHERCETYPE=8100,ETH
ERSTYPE=8100,BPDU=Y,BRIDGESTATE=FORWARDING,ACTBRIDGESTATE=FORWARDING,
QNQMODE=SELECTIVE,IGMPROUTER=NONE,AISACTION=AIS-NONE,PROTACTION=PROT-
SQUELCH,IGMPONCVLAN=N,DLF=N,DLFTHRES=0,MCAST=N,MCASTTHRES=0,BCAST=N,
BCASTTHRES=0,CLRCRCALM=N:"
```

Table 23-89 **Output Parameter Support**

Parameter	Description
<AID>	Ethernet AIDs are used to access L2 Ethernet ports. Access identifier from the “ 27.14 ETH ” section on page 27-23.
<NIMODE>	Identifies the Ethernet network interface mode.
• NNI	(Default) Network-network interface mode
• UNI	User-network interface mode
<MACLEARNING>	MAC address learning mode. This activates MAC address learning on the interface to avoid packet broadcasting.
• Y	Enables MAC learning
• N	Disables MAC learning
<INGRESSCOS>	Identifies the COS value set in the S-VLAN tag.
• 0 to 7	Set a Cos value
• DSCP	The COS is set according to DSCP to COS mapping table.
• TRUST	Use the Customer COS
• VLAN	The COS will be provisioned on CVLAN basis (QinQ selective mode)
<ETHERCETYPE>	Identifies a customer specific Ethernet type. If the customer uses a nonstandard Ethernet type, the incoming packets will be accepted only if the customer VLAN (CE-VLAN) Ethernet type matches this parameter.
<ETHERSTYPE>	Identifies a customer specific Ethernet type. If the customer uses a nonstandard Ethernet type, the incoming packets will be accepted only if the CE-VLAN Ethernet type matches this parameter.
<ALWMACADDR>	Identifies the allowed MAC addresses filtered out by the L2 Ethernet port. Every single MAC address is in the format of aa-bb-cc-dd-ee-ff, where every digit is in a hexadecimal form.
<INHMACADDR>	Identifies the inhibited MAC addresses filtered out by the L2 Ethernet port. Every single MAC address is in the format of aa-bb-cc-dd-ee-ff, where every digit is in a hexadecimal form.
<BPDU>	Bridge Protocol Data Unit (BPDU) management mode; Drop/Passthrough BPDU tagged packets.
• Y	Enables the BPDU tag.
• N	Disables the BPDU tag.
<BRIDGESTATE>	Defines if the traffic is blocked on the port.
• UNKNOWN	Unknown state
• DISABLED	Disabled state
• BLOCKING	Blocking state
• LISTENING	Listening state
• LEARNING	Learning state
• FORWARDING	Forwarding state
• BROKEN	Broken state
<ACTBRIDGESTATE>	Defines if the traffic is blocked on the port.
• UNKNOWN	Unknown state

Table 23-89 Output Parameter Support

Parameter	Description
• DISABLED	Disabled state
• BLOCKING	Blocking state
• LISTENING	Listening state
• LEARNING	Learning state
• FORWARDING	Forwarding state
• BROKEN	Broken state
<QNQMODE>	This is used to represent the IEEE 802.1Q tunneling (QinQ) mode operations.
• SELECTIVE	The S-VLAN tag is added only on specified CE-VLANs. The other packets are dropped.
• TRANSPARENT	The S-VLAN tag is always added where all packets having the S-VLAN-ID identified by the TRNPSVLAN parameter are allowed.
<TRNPSVLAN>	VLAN identifier. A VLAN ID is a number between 1 and 4096. The value 0 is reserved for untagged VLANs. This identifier is used for CE-VLAN IDs and S-VLAN IDs.
<NAME>	(Optional) Facility name. NAME is a string.
<CMDMDE>	(Optional) Command mode. Normal (NORM) mode is the default behavior for all commands but you can specify forced (FRCD) mode to force the system to override a state where the command would normally be denied. The FRCD mode of operation is applicable to delete a virtual concatenated (VCAT) member cross-connect in Unlocked-Enabled or Locked-Disabled, AutomaticInService service states.
<PST>	Primary state. The parameter type is PST, which indicates the current overall service condition of an entity.
• IS	In service
• OOS	Out of service
<SST>	Secondary state. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AINS	Automatic in service
• DSBLD	Disabled
• LPBK	Loopback
• MEA	Mismatch of equipment and attributes
• MT	Maintenance mode
• OOG	Out of group
• SWDL	Software downloading
• UAS	Unassigned
• UEQ	Unequipped
<AISACTION>	VLAN-AIS Action. Indicates what action take place on port when VLAN-AIS alarm is raisedValues
• AIS-SQUELCH	The port is squelched
• AIS-NONE	No action after VLAN-AIS
<IGMPROUTER>	IGMP M Router port. Indicates the type of connection between this port and the IGMP M Router.
• STATIC	A static connection is present between this port and the IGMP M Router

Table 23-89 **Output Parameter Support**

Parameter	Description
• NONE	No connection is present
<PROTACTION>	Indicates the action that takes place on the standby port in the protection unit when a ONEPLUSONEL2 protection is activated.
• PROT-SQUELCH	The port is squelched.
• PROT-NONE	Ethernet traffic is blocked.
<IGMPCVLAN>	Indicates the customer VLAN value for IGMP on CVLAN.
<IGMPONCVLAN>	Indicates IGMP on customer VLAN.
<DLF>	To enable or disable storm control on DLFP packet.
<DLFTHRES>	Indicates the DLFP packet threshold value for storm control.
<MCAST>	To enable or disable the storm control on multicast packet.
<MCASTTHRES>	Indicates the multicast packet threshold value for storm control.
<BCAST>	To enable or disable the storm control on broadcast packet.
<BCASTTHRES>	Indicates the broadcast packet threshold value for storm control.
<CLRCRCALM>	Clears the DATA-CRC alarm.

23.77 RTRV-L2-TOPO

The Retrieve Layer 2 topology (RTRV-L2-TOPO) command retrieves the LACP, REP, and EFM topology configuration information.

Usage Guidelines	The RTRV-L2-TOPO command retrieves the normal and detailed logs of a port that is configured with LACP, REP, or EFM topology.
Category	Ports
Security	Retrieve
Input Format	RTRV-L2-TOPO:[<TID>]:<AID>:<CTAG>:::PROTOCOL=<PROTOCOL>,[LOGLEVEL=<LOGLEVEL>],[IDENTIFIER=<IDENTIFIER>];
Input Example	RTRV-L2-TOPO::SLOT-16:1:::PROTOCOL=REP-INTERFACES,IDENTIFIER=2;

Input Parameters

Input Parameters	Description
<AID>	Access identifier from the 27.15 FACILITY , page 27-23 .
<PROTOCOL>	Indicates protocol for which L2 topology details are displayed.
• ETH-OAM-DISCOVERY	Topology information of Ethernet OAM Discovery.
• ETH-OAM-STATS	Topology information of the Ethernet OAM Statistics.
• ETH-OAM-STATUS	Topology information of the Ethernet OAM Status.
• ETH-OAM-SUMMARY	Summary of the Ethernet OAM protocol.
• LACP	Link Aggregation Control Protocol.
• LACP-PARTNER	LACP partner.
• REP-INTERFACES	REP interface.
• REP-TOPOLOGY	REP topology.
• REP-TOPOLOGY-ARCHIVE	REP archive.
<LOGLEVEL>	The parameter type is LOGLEVEL.
• DETAILED	Detailed
• NORMAL	Normal
<IDENTIFIER>	Identifier

Output Format

```
SID DATE TIME
M CTAG COMPLD
"TOPODETAIL"
;
```

Output Example

[illegible]

Table 23-90 **Output Parameter Support**

Parameter	Description
<AID>	Access identifier from the 27.15 FACILITY , page 27-23.

23.78 RTRV-LM-EFM

The Retrieve Link Monitoring Ethernet in the First Mile (RTRV-LM-EFM) command retrieves the Ethernet in the First Mile (EFM) link monitoring parameters and the action associated with each of the parameters.

Usage Guidelines

- This command is applicable only to GE_XP and 10GE_XP cards.
- The card should be in Layer2 over DMDM mode.

Category

Ports

Security

Retrieve

Input Format

RTRV-LM-EFM:[<TID>]:<AID>:<CTAG>;

Input Example

RTRV-LM-EFM::ETH-12-1-1:1;

Input Parameters

Input Parameters	Description
<AID>	Access identifier from the “27.14 ETH” section on page 27-23 .

Output Format

SID DATE TIME
M CTAG COMPLD
“AID>:[IMPARAM=<IMPARAM>], [HIGHTH=<HIGHTH>],
[LOWTH=<LOWTH>],[ACTION=<ACTION>],[WINDOW=<WINDOW>];”
;

Output Example

TID-000 1998-06-20 14:30:00
M 001 COMPLD
“ETH-7-1-1,LMPARAM=ERR-FRAME,LOWTH=1,HIGHTH=0,ACTION=NONE,WINDOW=10”
;

Table 23-91 **Output Parameter Support**

Parameter	Description
<AID>	Access identifier from the 27.15 FACILITY , page 27-23.
<LMPARAM>	Name of the link monitoring parameter.
• ERR-FRAME	Error frames.

Table 23-91 **Output Parameter Support**

Parameter	Description
• ERR-FRAME-PRD	Error frame period.
• ERR-FRAME-SEC	Error frames second.
<LOWTH>	The lowest value of the link monitoring parameter. It is an integer.
<HIGHTH>	The highest value of the link monitoring parameter. It is an integer.
<ACTION>	Action to be taken when the link monitoring parameter crosses the HIGH value, which is set by the user. The value can be NONE or DISABLED.
<WINDOW>	This indicates the window associated with each of the link monitoring parameter (number of packets, number of frames or the timer). It is an integer.

23.79 RTRV-LMP

The Retrieve Link Management Protocol (RTRV-LMP) command retrieves the global LMP protocol attributes.

Usage Guidelines This command is only available on platforms that support the LMP protocol.

Category LMP

Security Provisioning

Input Format RTRV-LMP:[<TID>]::<CTAG>;

Input Example RTRV-LMP:PETALUMA::704;

Input Parameters None

Output Format SID DATE TIME
M CTAG COMPLD
"::ENABLE=<ENABLE>,[WDM=<WDM>],[ROLE=<ROLE>],[NODEID=<NODEID>],
[OPSTATE=<OPSTATE>]"
;

Output Example

```
TID-000 1998-06-20 14:30:00
M 001 COMPLD
  "::ENABLE=Y,WDM=Y,ROLE=PEER,NODEID=198.133.219.25,OPSTATE=UP"
;
```

Table 23-92 *Output Parameter Support*

Parameter	Description
<ENABLE>	LMP protocol status.
• Y	Protocol is enabled.
• N	Protocol is disabled.
<WDM>	Determines if the LMP WDM extensions are in effect.
• Y	The LMP WDM extensions are in effect.
• N	The LMP WDM extensions are not in effect.
<ROLE>	The role the LMP protocol is configured to play.
• OLS	The LMP protocol is configured to respond as an Optical Line System.
• PEER	The LMP protocol is configured to respond as a peer node.
<NODEID>	LMP node ID. NODEID is a stable IP address that is always reachable if there is any connectivity to it. The default LMP node ID value is the IP address of the node.
<OPSTATE>	Indicates the operational status of the LMP protocol stack.
• UP	LMP protocol is active.
• DOWN	LMP protocol is not active.

23.80 RTRV-LMP-CTRL

The Retrieve Link Management Protocol Control Channel (RTRV-LMP-CTRL) command retrieves the attributes of an LMP control channel.

Usage Guidelines This command is only available on platforms that support the LMP protocol.

Category LMP

Security Provisioning

Input Format RTRV-LMP-CTRL:[<TID>]:<SRC>:<CTAG>;

Input Example RTRV-LMP-CTRL:PETALUMA:CC-123:704;

Input Parameters	<SRC>	The LMP control channel AID.
	• CTRL-ALL	Specifies all the control channels.
	• CTRL-{1-4}	Specifies an individual control channel.

Output Format

```

SID DATE TIME
M CTAG COMPLD
"<AID>::REMOTEID=<REMOTEID>,LOCALPORT=<LOCALPORT>,REMOTEIP=<REMOTEIP>,
[HELLO=<HELLO>],[HELLOMIN=<HELLOMIN>],[HELLOMAX=<HELLOMAX>],
[DEAD=<DEAD>],[DEADMIN=<DEADMIN>],[DEADMAX=<DEADMAX>],
[OPSTATE=<OPSTATE>]:[<PST>[,<SST>]]]"
;
```

Output Example

```

TID-000 1998-06-20 14:30:00
M 001 COMPLD
"CTRL-2::REMOTEID=15.15.15.115,LOCALPORT=FAC-1-1-1,REMOTEIP=126.0.0.1,HELLO=50,
HELLOMIN=300,HELLOMAX=5000,DEAD=12000,DEADMIN=2000,DEADMAX=20000,
OPSTATE=UP:OOS,DSBLD"
;
```

Table 23-93 **Output Parameter Support**

Parameter	Description
<REMOTEID>	Distinguishes the LMP control channel messages that are using the same LOCALPORT to send messages.
<LOCALPORT>	LOCALPORT is the pathway that the LMP control channel will use to send and receive messages.
<REMOTEIP>	Remote IP address with which the LMP control channel sends and receives messages.
<HELLO>	The time interval in which the LMP protocol sends HELLO messages.
<HELLOMIN>	Minimum hello time the LMP control channels can send out HELLO messages to the remote node.
<HELLOMAX>	The maximum amount of time the LMP control channel can wait between HELLO messages.
<DEAD>	Time interval an LMP control channel will wait for a HELLO message from the remote side before listing the control channel as down.
<DEADMIN>	The minimum amount of time that an LMP control channel can wait before listing the control channel status as down.
<DEADMAX>	The maximum amount of time that an LMP control channel can wait before listing the control channel status as down.
<OPSTATE>	Indicates the operational status of the LMP protocol stack.
• UP	The control channel is communicating with its counterpart on the remote node.
• DOWN	The control channel is not communicating with its counterpart on the remote node.
• GOING DOWN	The LMP stack sets the ControlChannelDown bit in all the messages it sends. This is mainly because of administrative action.
• GOING UP	The control channel is in the process of transitioning to the UP state.

Table 23-93 **Output Parameter Support**

Parameter	Description
• CFG-SND	The control channel is in the parameter negotiation state. In this state, the node periodically sends a Config message, and is expecting the other side to reply with either a ConfigAck or ConfigNack message. The control channel Finite State Machine (FSM) does not transition into the Active state until the remote side positively acknowledges the parameters.
• CFG-RCV	The control channel is in the parameter negotiation state. In this state, the node is waiting for acceptable configuration parameters from the remote side. After such parameters are received and acknowledged, the FSM can transition to the Active state response.
• ACTIVE	In this state, the node periodically sends a Hello message and is waiting to receive a valid Hello message. After a valid Hello message is received, it can transition to the up state.
• ACT-FAILED	Activation of the control channel failed
• UNKNOWN	Unknown or unexpected state
<PST>	Primary state. The parameter type is PST, which indicates the current overall service condition of an entity.
• IS	In Service
• OOS	Out of Service
<SST>	Secondary state of the entity. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AINS	Automatic In-Service
• DSBLD	Disabled
• LPBK	Loopback
• MEA	Mismatch of Equipment
• MT	Maintenance
• OOG	Out of Group
• SWDL	Software Download
• UAS	Unassigned
• UEQ	Unequipped

23.81 RTRV-LMP-TLINK

The Retrieve Link Management Protocol (RTRV-LMP-TLINK) command retrieves the attributes of an LMP traffic engineering (TE) link.

Usage Guidelines

This command is limited to nodes that support the LMP protocol, and where the LMP protocol has been enabled.

Category

LMP

Security Provisioning

Input Format RTRV-LMP-TLINK:[<TID>]:<SRC>:<CTAG>;

Input Example RTRV-LMP-TLINK:PETALUMA:TLINK-123:704;

Input Parameters	<SRC>	LMP TE link AID values
	• TLINK-ALL	Specifies all the TE links.
	• TLINK-{ 1-256 }	Specifies an individual TE link.

Output Format

```

SID DATE TIME
M CTAG COMPLD
"<SRC>::[REMOTEID=<REMOTEID>],[NCS=<NCS>],[REMOTETE=<REMOTETE>],
[MUXCAP=<MUXCAP>],[OPSTATE=<OPSTATE>]:[<PST>[,<SST>]]"
;
```

Output Example

```

TID-000 1998-06-20 14:30:0
M CTAG COMPLD
"TLINK-2::REMOTEID=15.15.15.115,NCS=Y,REMOTETE=3,MUXCAP=LAMBDA,
OPSTATE=UP:IS"
;
```

Table 23-94 Output Parameter Support

Parameter	Description
<SRC>	LMP TE link AID values
• TLINK-ALL	Specifies all the TE links.
• TLINK-{ 1-256 }	Specifies an individual TE link.
<REMOTEID>	Remote node ID associated with the LMP TE link.
<NCS>	Indicates whether or not the LMP TE link supports NCS.
• Y	The LMP TE link supports NCS.
• N	The LMP TE link does not support NCS.
<REMOTETE>	Remote ID used by the far-end LMP TE link.
<MUXCAP>	The muxponder capability of the LMP TE link.
• PKTSWITCH1	Packet Switching 1
• PKTSWITCH2	Packet Switching 2
• FIBER	Fiber switching
<OPSTATE>	Indicates the operational status of a TE link.
• DEGRADED	In this state, all LMP control channels are down, but the TE link still includes some data links that are allocated to user traffic.

Table 23-94 **Output Parameter Support**

Parameter	Description
• INIT	Data links have been allocated to the TE link, but the configuration has not yet been synchronized with the LMP neighbor. A LinkSummary message is periodically transmitted to the LMP neighbor.
• UP	The TE link is communicating with its counterpart on the remote node.
• DOWN	The TE link is not communicating with its counterpart on the remote node.
• UNKNOWN	Unknown or unexpected state
<PST>	Primary State. This parameter indicates the current overall service condition of an entity.
• IS	In service
• OOS	Out of service
<SST>	Secondary State. This parameter provides additional information pertaining to PST and PSTQ.
• AINS	Automatic In-Service
• DSBLD	Disabled
• LPBK	Loopback
• MEA	Mismatch of Equipment
• MT	Maintenance
• OOG	Out of Group
• SWDL	Software Download
• UAS	Unassigned
• UEQ	Unequipped

23.82 RTRV-LMP-DLINK

The Retrieve Link Management Protocol Data Link (RTRV-LMP-DLINK) command retrieves the attributes of an LMP data link.

Usage Guidelines This command is only applicable on a node where the LMP protocol is supported and enabled.

Category LMP

Security Provisioning

Input Format RTRVD-LMP-DLINK:[<TID>]:<SRC>:<CTAG>;

Input Example RTRV-LMP-DLINK:PETALUMA:FAC-14-1-1:704;

Input Parameters	<SRC> Access identifier from the “27.15 FACILITY” section on page 27-23.
Output Format	SID DATE TIME M CTAG COMPLD "<AID>::[LINKTYPE=<LINKTYPE>],[REMOTEID=<REMOTEID>],[TELINK=<TELINK>], [OPSTATE=<OPSTATE>]" ;
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "FAC-14-1-1::LINKTYPE=PORT,REMOTEID=45,TELINK=TLINK-4,OPSTATE=UP-ALLOC" ;

Table 23-95 Output Parameter Support

Parameter	Description
<SRC>	Access identifier from the “27.15 FACILITY” section on page 27-23.
<LINKTYPE>	The type of LMP data link
• PORT	Port data link
• COMPONENT	Component data link
<REMOTEID>	The remote LMP data link ID
<TELINK>	Used to map LMP data links to LMP TE links
<OPSTATE>	Indicates the operational status of an LMP data link.
• TESTING	The data link is being tested. An LMP test message is periodically sent through the link.
• DOWN	The data link is not communicating with its counterpart on the remote node.
• UP-ALLOC	The link is up and has been allocated for data traffic.
• UP-FREE	The link has been successfully tested and is now put in the pool of resources (in-service). The link has not yet been allocated to data traffic.

23.83 RTRV-LNK

The Retrieve Link (RTRV-LNK) command retrieves all the (optical) links created in the NE. The end information is returned along with the type of (optical) link.

Usage Guidelines	None
Category	NCS
Security	Retrieve

Input Format RTRV-LNK:[<TID>]::<CTAG>;

Input Example RTRV-LNK:PENNGROVE::114;

Input Parameters None

Output Format SID DATE TIME
M CTAG COMPLD
“<FROM>,<TO>:[<OLNKT>=<OLNKT>],[<CTYPE>=<CTYPE>],[<RDIRN>=<RDIRN>],
[<BAND>=<BAND>],[<WLEN>=<WLEN>]:<PSTPSTQ>,<SST>”
;

Output Example TID-000 1998-06-20 14:30:00
M 001 COMPLD
“BAND-6-1-TX,BAND-13-1-RX::OLNKT=HITLESS,CTYPE=PROV,
RDIRN=W_E, BAND=1530.32-1532.68,WLEN=1530.32:OOS-AU,AINS”
;

Table 23-96 Output Parameter Support

Parameter	Description
<FROM>	Access identifier from the “ 27.1 ALL ” section on page 27-1. Identifies an entity at one end of the optical link.
<TO>	Access identifier from the “ 27.1 ALL ” section on page 27-1. Identifies an entity at the other end of the optical link.
<OLNKT>	(Optional) Optical link type. The parameter type is OPTICAL_LINK_TYPE, which is the type of optical link between two optical facilities.
• ADD-DROP	Link between two points that result in an add/drop connection from a drop point to an add point
• HITLESS	Link between two OMS points that result in a hitless connection from a drop point to an add point of a consecutive band/channel filter
• MPO	MPO connector
• OTS	Link between two OTS points
• OTS-INTLEAV	Link between two OTS points interrupted by an interleaver card that the system does not monitor.
<CTYPE>	(Optional) The type of cross-connection. Indicates if the optical link is provisioned by the user or automatically created by the NE. The parameter type is CREATION_TYPE, which is the optical link creation type.
• AUTO	Automatically created by the NE
• PROV	Provisioned by the user
<RDIRN>	(Optional) Ring directionality of the optical line. The parameter type is RDIRN_MODE, which is the optical ring directionality.
• E-W	The direction of the signal is from east to west (clockwise).

Table 23-96 **Output Parameter Support**

Parameter	Description
• W-E	The direction of the signal is from west to east (counterclockwise).
<BAND>	(Optional) The optical band (group of four contiguous wavelengths) for this optical link. BAND is present only when there is a link between two OMS entities. The parameter type is OPTICAL_BAND (optical band).
• 1530.33–1532.68	Band 1
• 1534.25–1536.61	Band 2
• 1538.19–1540.56	Band 3
• 1542.14–1544.53	Band 4
• 1546.12–1548.51	Band 5
• 1550.12–1552.52	Band 6
• 1554.13–1556.55	Band 7
• 1558.17–1560.61	Band 8
• USE-DEFAULT	This band is not yet configured/retrieved from unit.
<WLEN>	(Optional) Optical wavelength for this optical link. WLEN is present only when there is a link between two OCH entities. The parameter type is OPTICAL_WLEN, which is the optical wavelength.
• 1310	Wavelength 1310
• 1470	Wavelength 1470
• 1490	Wavelength 1490
• 1510	Wavelength 1510
• 1528.77	Wavelength 1528.77
• 1529.16	Wavelength 1529.16
• 1529.55	Wavelength 1529.55
• 1529.94	Wavelength 1529.94
• 1530	Wavelength 1530
• 1530.33	Wavelength 1530.33
• 1530.72	Wavelength 1530.72
• 1531.12	Wavelength 1531.12
• 1531.51	Wavelength 1531.51
• 1531.90	Wavelength 1531.90
• 1532.29	Wavelength 1532.29
• 1532.68	Wavelength 1532.68
• 1533.07	Wavelength 1533.07
• 1533.47	Wavelength 1533.47
• 1533.86	Wavelength 1533.86
• 1534.25	Wavelength 1534.25
• 1534.64	Wavelength 1534.64

Table 23-96 **Output Parameter Support**

Parameter	Description
• 1535.04	Wavelength 1535.04
• 1535.43	Wavelength 1535.43
• 1535.82	Wavelength 1535.82
• 1536.22	Wavelength 1536.22
• 1536.61	Wavelength 1536.61
• 1537	Wavelength 1537
• 1537.40	Wavelength 1537.40
• 1537.79	Wavelength 1537.79
• 1538.19	Wavelength 1538.19
• 1538.58	Wavelength 1538.58
• 1538.98	Wavelength 1538.98
• 1539.37	Wavelength 1539.37
• 1539.77	Wavelength 1539.77
• 1540.16	Wavelength 1540.16
• 1540.56	Wavelength 1540.56
• 1540.95	Wavelength 1540.95
• 1541.35	Wavelength 1541.35
• 1541.75	Wavelength 1541.75
• 1542.14	Wavelength 1542.14
• 1542.35	Wavelength 1542.35
• 1542.54	Wavelength 1542.54
• 1542.94	Wavelength 1542.94
• 1543.33	Wavelength 1543.33
• 1543.73	Wavelength 1543.73
• 1544.13	Wavelength 1544.13
• 1544.53	Wavelength 1544.53
• 1544.92	Wavelength 1544.92
• 1545.32	Wavelength 1545.32
• 1545.72	Wavelength 1545.72
• 1546.12	Wavelength 1546.12
• 1546.52	Wavelength 1546.52
• 1546.92	Wavelength 1546.92
• 1547.32	Wavelength 1547.32
• 1547.72	Wavelength 1547.72
• 1548.11	Wavelength 1548.11
• 1548.51	Wavelength 1548.51

Table 23-96 **Output Parameter Support**

Parameter	Description
• 1548.91	Wavelength 1548.91
• 1549.32	Wavelength 1549.32
• 1549.72	Wavelength 1549.72
• 1550	Wavelength 1500
• 1550.12	Wavelength 1550.12
• 1550.52	Wavelength 1550.52
• 1550.92	Wavelength 1550.92
• 1551.32	Wavelength 1551.32
• 1551.72	Wavelength 1551.72
• 1552.12	Wavelength 1552.12
• 1552.52	Wavelength 1552.52
• 1552.93	Wavelength 1552.93
• 1553.33	Wavelength 1553.33
• 1553.73	Wavelength 1553.73
• 1554.13	Wavelength 1554.13
• 1554.13	Wavelength 1554.13
• 1554.94	Wavelength 1554.94
• 1555.34	Wavelength 1555.34
• 1555.75	Wavelength 1555.75
• 1556.15	Wavelength 1556.15
• 1556.55	Wavelength 1556.55
• 1556.96	Wavelength 1556.96
• 1557.36	Wavelength 1557.36
• 1557.77	Wavelength 1557.77
• 1558.17	Wavelength 1558.17
• 1558.58	Wavelength 1558.58
• 1558.98	Wavelength 1558.98
• 1559.39	Wavelength 1559.39
• 1559.79	Wavelength 1559.79
• 1560.20	Wavelength 1560.20
• 1560.61	Wavelength 1560.61
• 1561.01	Wavelength 1561.01
• 1561.42	Wavelength 1561.42
• 1561.83	Wavelength 1561.83
• 1562.23	Wavelength 1562.23
• 1562.64	Wavelength 1562.64

Table 23-96 **Output Parameter Support**

Parameter	Description
• 1563.05	Wavelength 1563.05
• 1563.45	Wavelength 1563.45
• 1563.86	Wavelength 1563.86
• 1564.27	Wavelength 1564.27
• 1564.68	Wavelength 1564.68
• 1565.09	Wavelength 1565.09
• 1565.50	Wavelength 1565.50
• 1565.90	Wavelength 1565.90
• 1566.31	Wavelength 1566.31
• 1566.72	Wavelength 1566.72
• 1570	Wavelength 1570
• 1570.83	Wavelength 1570.83
• 1571.24	Wavelength 1571.24
• 1571.65	Wavelength 1571.65
• 1572.06	Wavelength 1572.06
• 1572.48	Wavelength 1572.48
• 1572.89	Wavelength 1572.89
• 1573.30	Wavelength 1573.30
• 1573.71	Wavelength 1573.71
• 1574.13	Wavelength 1574.13
• 1574.54	Wavelength 1574.54
• 1574.95	Wavelength 1574.95
• 1575.37	Wavelength 1575.37
• 1575.78	Wavelength 1575.78
• 1576.20	Wavelength 1576.20
• 1576.61	Wavelength 1576.61
• 1577.03	Wavelength 1577.03
• 1577.44	Wavelength 1577.44
• 1577.86	Wavelength 1577.86
• 1578.27	Wavelength 1578.27
• 1578.69	Wavelength 1578.69
• 1579.10	Wavelength 1579.10
• 1579.52	Wavelength 1579.52
• 1579.93	Wavelength 1579.93
• 1580.35	Wavelength 1580.35
• 1580.77	Wavelength 1580.77

Table 23-96 **Output Parameter Support**

Parameter	Description
• 1581.18	Wavelength 1581.18
• 1581.60	Wavelength 1581.60
• 1582.02	Wavelength 1582.02
• 1582.44	Wavelength 1582.44
• 1582.85	Wavelength 1582.85
• 1583.27	Wavelength 1583.27
• 1583.69	Wavelength 1583.69
• 1584.11	Wavelength 1584.11
• 1584.53	Wavelength 1584.53
• 1584.95	Wavelength 1584.95
• 1585.36	Wavelength 1585.36
• 1585.78	Wavelength 1585.78
• 1586.20	Wavelength 1586.20
• 1586.62	Wavelength 1586.62
• 1587.04	Wavelength 1587.04
• 1587.46	Wavelength 1587.46
• 1587.88	Wavelength 1587.88
• 1588.30	Wavelength 1588.30
• 1588.73	Wavelength 1588.73
• 1589.15	Wavelength 1589.15
• 1589.57	Wavelength 1589.57
• 1589.99	Wavelength 1589.99
• 1590	Wavelength 1590
• 1590.41	Wavelength 1590.41
• 1590.83	Wavelength 1590.83
• 1591.26	Wavelength 1591.26
• 1591.68	Wavelength 1591.68
• 1592.10	Wavelength 1592.10
• 1592.52	Wavelength 1592.52
• 1592.95	Wavelength 1592.95
• 1593.37	Wavelength 1593.37
• 1593.79	Wavelength 1593.79
• 1594.22	Wavelength 1594.22
• 1594.64	Wavelength 1594.64
• 1595.06	Wavelength 1595.06
• 1595.49	Wavelength 1595.49

Table 23-96 **Output Parameter Support**

Parameter	Description
• 1596.34	Wavelength 1596.34
• 1596.76	Wavelength 1596.76
• 1597.19	Wavelength 1597.19
• 1597.62	Wavelength 1597.62
• 1598.04	Wavelength 1598.04
• 1598.47	Wavelength 1598.47
• 1598.89	Wavelength 1598.89
• 1599.32	Wavelength 1599.32
• 1599.75	Wavelength 1599.75
• 1600.06	Wavelength 1600.06
• 1601.03	Wavelength 1601.03
• 1601.46	Wavelength 1601.46
• 1601.88	Wavelength 1601.88
• 1602.31	Wavelength 1602.31
• 1602.74	Wavelength 1602.74
• 1603.17	Wavelength 1603.17
• 1603.60	Wavelength 1603.60
• 1604.03	Wavelength 1604.03
• 1610	Wavelength 1610
• USE-TWL1	Use Tunable Wavelength 1
<PSTPSTQ>	Service state. The parameter is PST_PSTQ, which provides the service state of the entity described by the PST and PSTQ.
• Unlocked-Enabled	In service and normal
• Unlocked-Disabled	Out of service and autonomous
• Locked-Disabled	Out of service, autonomous and management
• Locked-Enabled	Out of service and management
<SST>	(Optional) Secondary state of the entity. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AutomaticInService	Automatic in service
• Disabled	Disabled
• Loopback	Loopback
• MismatchofEquipment Alarm	Mismatch of equipment and attributes
• Maintenance	Maintenance mode
• OutOfGroup	Out of group
• SoftwareDownload	Software downloading

Table 23-96 **Output Parameter Support**

Parameter	Description
• Unassigned	Unassigned
• NotInstalled	Unequipped

23.84 RTRV-LNKTERM

The Retrieve Provisionable Patchcord Termination (RTRV-LNKTERM) command retrieves information about one or more provisionable patchcord (PP) terminations.

Usage Guidelines

- All the terminations can be retrieved using ALL or LNKTERM-ALL as the AID.
- If the PP termination does not exist, an error message will be returned.

Category

Provisionable Patchcords

Security

Retrieve

Input Format

RTRV-LNKTERM:[<TID>]:<AID>:<CTAG>;

Input Example

RTRV-LNKTERM::LNKTERM-2:CTAG;

Input Parameters

<AID> Access identifier from the [“27.20 LNKTERM”](#) section on page 27-31.

Output Format

```
SID DATE TIME
M CTAG COMPLD
  “<AID>::PORT=<PORT>,[REMOTENODE=<REMOTENODE>],
  [REMOTELNKTERMID=<REMOTELNKTERMID>]”
;
```

Output Example

```
TID-000 1998-06-20 14:30:00
M 001 COMPLD
  “LNKTERM-2::PORT=FAC-3-1,REMOTENODE=172.20.221.225,REMOTELNKTERMID=21”
;
```

Output Parameters

<AID> Access identifier from the [“27.20 LNKTERM”](#) section on page 27-31.
 <PORT> Access identifier from the [“27.2 AidUnionId”](#) section on page 27-7.

<REMOTENODE>	(Optional) Remote node. REMOTENODE is a string.
<REMOTELNKTERMID>	(Optional) Remote link term ID. REMOTELNKTERMID is an integer.

23.85 RTRV-LOG

The Retrieve Log (RTRV-LOG) command retrieves the alarm log of the NE.

Usage Guidelines The only option for LOGNM is ALARM.

Category Log

Security Superuser

Input Format RTRV-LOG:[<TID>]::<CTAG>::<LOGNM>;

Input Example RTRV-LOG:CISCO::123::ALARM;

Input Parameters <LOGNM> Log to be retrieved. The value must be ALARM. LOGNM is a string.

Output Format SID DATE TIME
M CTAG COMPLD
“<AID>,<ALMNUMBER>:CURRENT=<CURRENT>,[PREVIOUS=<PREVIOUS>],
<CONDITION>,<SRVEFF>,[TIME=<OCRTIME>],[DATE=<OCRDAT>]:<ALMDESCR>”
;

Output Example TID-000 1998-06-20 14:30:00
M 001 COMPLD
“FAC-3-1,18:CURRENT=MJ,PREVIOUS=CL,EOC,NSA,TIME=16-33-04,
DATE=1971-02-03:“RS-DCC TERMINATION FAILURE\””
;

Table 23-97 Output Parameter Support

Parameter	Description
<AID>	Access identifier from the “27.1 ALL” section on page 27-1.
<ALMNUMBER>	Alarm number of the log. ALMNUMBER is an integer.

Table 23-97 **Output Parameter Support**

Parameter	Description
<CURRENT>	Current severity. The parameter type is NOTIF_CODE, which is the two-character notification code associated with an autonomous message.
• CL	The condition causing the alarm has cleared.
• CR	A critical alarm.
• MJ	A major alarm.
• MN	A minor alarm.
• NA	The condition is not alarmed.
• NR	The alarm is not reported.
<PREVIOUS>	(Optional) Previous severity. The parameter type is COND_EFF, which is the state of the condition upon the affected unit.
• CL	Standing condition cleared
• SC	Standing condition raised
• TC	Transient condition
<CONDITION>	Condition type for an alarm or a reported event. The parameter type is CONDITION, which is any problem detected on an NCS shelf, whether or not the problem is reported (that is, whether or not it generates a trouble notification). Reported conditions include alarms, NA conditions, and NR conditions. See Table 28-1 on page 28-1 for a list of conditions.
<OVRTIME>	(Optional) Time when the specific event or violation occurred, HH-MM-SS.
<OCRDATE>	(Optional) Date when the specific event or violation occurred, MM-DD. Date when alarm was triggered.
<ALMDESCR>	Alarm description. ALMDESCR is a string.

23.86 RTRV-MA-CFM

The Retrieve Maintenance Association Connectivity Fault Management (RTRV-MA-CFM) command retrieves the maintenance association on the card.

Usage Guidelines

- This command is applicable only to GE_XP and 10GE_XP cards.
- The card should be in Layer2 over DMDM mode.

Category Equipment

Security Retrieve

Input Format RTRV-MA-CFM:[<TID>]:<AID>:<CTAG>;

Input Example RTRV-MA-CFM::SLOT-1:1;

Input Parameters	Input Parameters	Description
	<AID>	Access identifier from the “27.13 EQPT” section on page 27-21.

Output Format
SID DATE TIME
M CTAG COMPLD
“AID>:MANAME=<MANAME>, SVLANID=<SVLANID>,
CCENABLE=<CCENABLE>[:];”
;

Output Example
TID-000 1998-06-20 14:30:00
M 001 COMPLD
“SLOT-7,MANAME=CISCO,SVLANID=1,CCENABLE=Y”
;

Table 23-98 Output Parameter Support

Parameter	Description
<AID>	Access identifier from the “27.13 EQPT” section on page 27-21.
<MANAME>	Maintenance Association Name. It is a string. The MA name length should not exceed more than 43 characters.
<SVLANID>	VLAN identifier. A VLAN ID is a number between 1 and 4096. The value 0 is reserved for untagged VLANs. This identifier is used for customer VLAN IDs and service provider VLAN IDs.
<CCENABLE>	Enable or disable Continuous Check messaging
• Y	Enable
• N	Disable

23.87 RTRV-MACTABLE

The RTRV-MACTABLE command retrieves all the MAC addresses stored in the card, as well as the internal MAC addresses associated with each port of the card.

Usage Guidelines

- This command is supported on GZ 1.0 and GZ 1.5 TXP/MXP cards.
- The card should be in Layer2 over DMDM mode to retrieve the MAC address.
- VLANID is applicable to the command only during the retrieval of learnt MAC address.
- During the retrieval of the Card's MAC address, Port 5 of 10GEXP card and Port 23 of GEXP card stands for CPU Ports.

Input Format

RTRV-MACTABLE:<TID>:<AID>:<CTAG>:::ADDRTYPE=<addrtype>,[VLANIDFROM=<vlanidfrom>],[VLANIDTO=<vlanidto>];

Input Example

RTRV-MACTABLE::SLOT-12:1:::ADDRTYPE=LEARNED-MAC, VLANIDFROM=10, VLANIDTO=20;

Output Format

SID DATE TIME
M CTAG COMPLD
“<AID>,<ADDRTYPE>,<PORT>,<VLANID>,<MACADDRESS>”
;

Output Example

SID DATE TIME
M CTAG COMPLD
"SLOT-1,ADDRTYPE=LEARNED-MAC,PORT=4,VLANID=199,MACADDRESS=10:10:10:10:10:10";

Table 23-99 RTRV-MACTABLE command - Parameter Support

Parameter	Description
<AID>	"ALL" AID is NOT supported for this operation.
<ADDRTYPE>	Indicates whether the address shown is card MAC address OR dynamically learned MAC address.
• CARD-MAC	Internal MAC Address of the card.
• LEARNED-MAC	Dynamically learnt MAC Address.
<VLANIDFROM>	VLAN range. It is the start of the VLANID. Valid range is from 1 to 4096. It is an optional parameter.
<VLANIDTO>	VLAN range. It is the end of the VLANID. Valid range is from 1 to 4096. It is an optional parameter.

23.88 RTRV-MAP-NETWORK

The Retrieve Map Network (RTRV-MAP-NETWORK) command retrieves all the NE attributes that are accessible from the gateway NE (GNE). The NE attributes include the node IP address (IPADDR), the node name (TID), and the product type of the NE (PRODUCT).

Usage Guidelines

The product type field in the response will appear as “unknown” for nodes that are not running the same version of software.

Category	System
Security	Retrieve
Input Format	RTRV-MAP-NETWORK:[<TID>]::<CTAG>;
Input Example	RTRV-MAP-NETWORK:CISCO::123;
Input Parameters	None

Output Format	SID DATE TIME M CTAG COMPLD “[IPADDR],<NODENAME>,<PRODUCT>” ;
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD “[3FFE:0501:0008:0000:0260:97FF:FE40:EFAB],TID-000,NCS” ;

Table 23-100 Output Parameter Support

Parameter	Description
<IPADDR>	Node IP address. IPADDR is a string.
<NODENAME>	Node name (TID). NODENAME is a string.
<PRODUCT>	Product type of the NE. The parameter type is PRODUCT_TYPE, which is the product (NE) type.
• ONSNCS2K-M2	M2 product type for NCS 2002 package
• ONSNCS2K-M6	M6 product type for NCS 2006 packag
• UNKNOWN	Unknown product type

23.89 RTRV-MCAST

The Retrieve the Multicast attributes command retrieves the Multicast VLAN registration attributes.

Usage Guidelines	None

Category Ethernet

Security Retrieve

Input Format RTRV-MCAST:[<TID>]:<AID>:<CTAG>::[:];

Input Example RTRV-MCAST:TID:SLOT-1-5:CTAG;

Input Parameters	<AID>	Equipment aids used to access specific cards.
	• ALL	It is only used for RTRV-INV, RTRV-EQPT, RTRV-ALM/COND-EQPT commands.
	• SLOT-ALL	All the NE equipment AIDs.
	• SLOT[-{1-50}]-{1-6,12-17}	Individual equipment AID of the I/O card units or slots.

Output Format SID DATE TIME
M CTAG COMPLD
“<AID>::[<MVRSTATE>],[<MVRSVLAN>],[<MVRSTARTIP>],[<MVRIPRANGE>],[<IGMPONC VLAN>]:”;

Output Example TID-000 1998-06-20 14:30:00
M 001 COMPLD

"SLOT-1-12::MVRSTATE=Y,MVRSVLAN=132,MVRSTARTIP=230.64.38.55,MVRIPRANGE=60:";

Table 23-101 Output Parameter Support

Parameter	Description
<AID>	Equipment aids used to access specific cards.
• ALL	It is only used for RTRV-INV, RTRV-EQPT, RTRV-ALM/COND-EQPT commands.
• SLOT-ALL	All the NE equipment AIDs.
• SLOT[-{1-50}]-{1-6,12-17}	Individual equipment AID of the I/O card units or slots.
<MVRSTATE>	Multicast VLAN Registration statusValues
• Y	Enabled
• N	Disabled
<MVRSVLAN>	Define the SVLAN used to distribute the Multicast stream inside the Network. It is a value in the range 1-4096.

Table 23-101 **Output Parameter Support**

Parameter	Description
<MVRSTARTIP>	The first IP Address of the Multicast IP Group.
<MVRIPRANGE>	MVR IP Range. Indicate the number of IP address starting from mvrStartIp used to identified the multicast IP group. It is a number in the range 1..255.

23.90 RTRV-MD-CFM

The Retrieve Maintenance Domain Connectivity Fault Management (RTRV-MD-CFM) command retrieves the maintenance domain on the card.

Usage Guidelines

- This command is applicable only to GE_XP and 10GE_XP cards.
- The card should be in Layer2 over DMDM mode.

Category

Equipment

Security

Retrieve

Input Format

RTRV-MD-CFM:[<TID>]:<AID>:<CTAG>;

Input Example

RTRV-MD-CFM:454-156:SLOT-1:1;

Input Parameters

Input Parameters	Description
<AID>	Access identifier from the “27.13 EQPT” section on page 27-21.

Output Format

```
SID DATE TIME
M CTAG COMPLD
  “AID>:[MDNAME=<MDNAME>],[LEVEL=<LEVEL>]”
;
```

Output Example

```
TID-000 1998-06-20 14:30:00
M 001 COMPLD
“SLOT-7,MDNAME=MD1,LEVEL=4”
;
```

Table 23-102 *Output Parameter Support*

Parameter	Description
<AID>	Access identifier from the “27.13 EQPT” section on page 27-21.
<MDNAME>	Maintenance Domain Name. It is a string. The MD name length should not exceed more than 43 characters.
<LEVEL>	This indicates the level of the maintenance domain. The value ranges from 0 to 7.

23.91 RTRV-MDMAMAP-CFM

The Retrieve Maintenance Domain and Maintenance Association mapping Connectivity Fault Management (RTRV-MDMAMAP-CFM) command retrieves the maintenance domain and maintenance association mapping.

Usage Guidelines

- This command is applicable only to GE_XP and 10GE_XP cards.
- The card should be in Layer2 over DMDM mode.

Category

Equipment

Security

Retrieve

Input Format

RTRV-MDMAMAP-CFM:[<TID>]:<AID>:<CTAG>::MDNAME=<MDNAME>;

Input Example

RRTRV-MDMAMAP-CFM::SLOT-4:a;

Input Parameters

Input Parameters	Description
<AID>	Access identifier from the “27.13 EQPT” section on page 27-21.

Output Format

SID DATE TIME
M CTAG COMPLD
“<AID>:[MANAME=<MANAME>],[SVLANID=<SVLANID>],[CCENABLE=<CCENABLE>];”
;

Output Example

```
TID-000 1998-06-20 14:30:00
M 001 COMPLD
  "SLOT-17,MDNAME=MD1,SVLANID=7,MANAME=MA3:"
;
```

Table 23-103 *Output Parameter Support*

Parameter	Description
<AID>	Access identifier from the “27.13 EQPT” section on page 27-21.
<MANAME>	Maintenance Association Name. It is a string. The MA name length should not exceed more than 43 characters.
<SVLANID>	VLAN identifier. A VLAN ID is a number between 1 and 4096. The value 0 is reserved for untagged VLANs. This identifier is used for customer VLAN IDs and service provider VLAN IDs.
<CCENABLE>	Enable or disable Continuous Check messaging
• Y	Enable
• N	Disable

23.92 RTRV-MEP-CFM

The Retrieve Maintenance End Point Connectivity Fault Management (RTRV-MEP-CFM) command retrieves the maintenance end points on the port.

- Usage Guidelines**
- This command is applicable only to GE_XP and 10GE_XP cards.
 - The card should be in Layer2 over DMDM mode.

Category Ports

Security Retrieve

Input Format RTRV-MEP-CFM:[<TID>]:<AID>:<CTAG>;

Input Example RTRV-MEP-CFM::ETH-1-1-1:1;

Input Parameters	Input Parameters	Description
	<AID>	Access identifier from the “27.14 ETH” section on page 27-23.

Output Format

```
SID DATE TIME
M CTAG COMPLD
"<AID>:[SVLANID=<SVLANID>],[MDNAME=<MDNAME>],
[LEVEL=<LEVEL>],[MPID=<MPID>];"
;
```

Output Example

```
TID-000 1998-06-20 14:30:00
M 001 COMPLD
"ETH-3-4-1,SVLANID=200,MDNAME=D4,LEVEL=4,MPID=314"
;
```

Table 23-104 Output Parameter Support

Parameter	Description
<AID>	Access identifier from the “27.15 FACILITY” section on page 27-23.
<SVLANID>	VLAN identifier. A VLAN ID is a number between 1 and 4096. The value 0 is reserved for untagged VLANs. This identifier is used for customer VLAN IDs and service provider VLAN IDs.
<MDNAME>	Maintenance Domain Name. It is a string. The MD name length should not exceed more than 43 characters.
<LEVEL>	This indicates the level of the maintenance domain. The value ranges from 0 to 7.
<MPID>	Maintenance Point Identifier. It is an integer.

23.93 RTRV-MEPCCDB-CFM

The Retrieve Maintenance End Point Continuity Check Message Data Base Connectivity Fault Management (RTRV-MEPCCDB-CFM) command retrieves the maintenance end point continuity check message data base on a given slot.

Usage Guidelines

- This command is applicable only to GE_XP and 10GE_XP cards.
- The card should be in Layer2 over DMDM mode.

Category

Equipment

Security

Retrieve

Input Format

```
RTRV-MEPCCDB-CFM:[<TID>]:<AID>:<CTAG>:::[MDNAME=<MDNAME>],[VLANIDFROM=<VLANIDFROM>],[VLANIDTO=<VLANIDTO>];
```

Input Example

```
RTRV-MEPCCDB-CFM::SLOT-1:1:::MDNAME=D2,VLANIDFROM=99,VLANIDTO=100;
```

Input Parameters

Input Parameters	Description
<AID>	Access identifier from the “27.13 EQPT” section on page 27-21.
<MDNAME>	Maintenance Domain Name. It is a string. The MD name length should not exceed more than 43 characters.
<VLANIDFROM>	VLAN range. It is the start of the VLANID. Valid range is from 1 to 4096. It is an optional parameter.
<VLANIDTO>	VLAN range. It is the end of the VLANID. Valid range is from 1 to 4096. It is an optional parameter.

Output Format

SID DATE TIME
M CTAG COMPLD
“<AID>:[MPID=<MPID>],[MACADDR=<MACADDR>],[MDNAME=<MDNAME>],[LEVEL=<LEVEL>],[MANAME=<MANAME>],[INPORT=<INPORT>],[CCLIFETIME=<CCLIFETIME>],[AGEOFLASTCC=<AGEOFLASTCC>],[RMTPORSTATE=<RMTPORTSTATE>];”
;

Output Example

TID-000 1998-06-20 14:30:00
M 001 COMPLD
“SLOT-1,MPID=301,MACADDR=00:19:07:6C:B7:7A,MDNAME=D2,MANAME=M1,SVLANID=100,INPORT=0,CCLIFETIME=0,AGEOFLASTCC=0;”
;

Table 23-105 Output Parameter Support

Parameter	Description
<AID>	Access identifier from the “27.13 EQPT” section on page 27-21.
<MPID>	Maintenance Point Identifier. It is an integer.
<MACADDR>	(Optional) The MAC address for the 10 Gigabit Ethernet payload. MACADDR is a string.
<MDNAME>	Maintenance Domain Name. It is a string. The MD name length should not exceed more than 43 characters.
<LEVEL>	This indicates the level of the maintenance domain. The value ranges from 0 to 7.
<MANAME>	Maintenance Association Name. It is a string. The MA name length should not exceed more than 43 characters.
<INPORT>	Ingress port.
<CCLIFETIME>	Indicates the Continuity Check Message Timer Life Time on the receiving end. It indicates how long the interface has to wait for the CC message expiry. It is 3 times the CCTIMER.
<AGEOFLASTCC>	Age of the last CC timer. This indicates the time interval between the present time and the last time CC message received.
<RMTPORSTATE>	Indicates the state of the remote port.
• RMTPORT-INVALID	Invalid state.

Table 23-105 *Output Parameter Support*

Parameter	Description
• RMTPORT-UP	Up.
• RMTPORT-DOWN	Down.
• RMTPORT-TEST	Test.
• RMTPORT-UNKNOWN	Unknown port.
• RMTPORT-DORMANT	In active.
• RMTPORT-NOT-PRESENT	Port does not exist.
• LOWER-LAYER-DOWN	Lower layer is down.
• ADMIN-DOWN	Admin is down.
• REMOTE-EXCESSIVE-ERR	Excessive errors on the remote port.
• LOCAL-EXCESSIVE-ERR	Excessive errors on the local port.

23.94 RTRV-MEPSTATS-CFM

The Retrieve Maintenance End Point Statistics Connectivity Fault Management (RTRV-MEPSTATS-CFM) command retrieves the maintenance end point statistics.

Usage Guidelines

- This command is applicable only to GE_XP and 10GE_XP cards.
- The card should be in Layer2 over DMDM mode.

Category

Equipment

Security

Retrieve

Input Format

RTRV-MEPSTATS-CFM:[<TID>]:<AID>:<CTAG>:::[MDNAME=<MDNAME>],[VLANIDFROM=<VLANIDFROM>],[VLANIDTO=<VLANIDTO>];

Input Example

RTRV-MEPSTATS-CFM::SLOT-4:a;

Input Parameters

Input Parameters	Description
<AID>	Access identifier from the “27.13 EQPT” section on page 27-21.
<MDNAME>	Maintenance Domain Name. It is a string. The MD name length should not exceed more than 43 characters.
<VLANIDFROM>	VLAN range. It is the start of the VLANID. Valid range is from 1 to 4096. It is an optional parameter.
<VLANIDTO>	VLAN range. It is the end of the VLANID. Valid range is from 1 to 4096. It is an optional parameter.

Output Format

```

SID DATE TIME
M CTAG COMPLD
  “M CTAG COMPLD;
  “<AID>,<MDNAME>,<SVLANID>,<MPID>,<CCMTRANSMITTED>,<CCMRCVD>,
  <CCRCVDSEQERROR>,<LTRUNEXPTDRCVD>,<LBRTRANSMITTED>,
  <LBRRCDINORDER>,<LBRRCDSEQERROR>,<LBRRCDVDBADMSDU>”;
  ”
  ;

```

Output Example

```

TID-000 1998-06-20 14:30:00
M 001 COMPLD
“SLOT-3,MDNAME=Domain_6,SVLANID=30,MPID=600,CCMTRANSMITD=801,CCMRCVDSEQ
ERR=0,CCRCVDSEQERR=0,LTRUNEXPDRCD=0,LBRTRANSMITD=0,LBRRCDINORDER=0,
LBRRCDSEQERR=0,LBRRCDVDBADMSDU=0”
;

```

Table 23-106 Output Parameter Support

Parameter	Description
<AID>	Access identifier from the “27.13 EQPT” section on page 27-21.
<MDNAME >	Maintenance Domain Name. It is a string. The MD name length should not exceed more than 43 characters.
<SVLANID>	VLAN identifier. A VLAN ID is a number between 1 and 4096. The value 0 is reserved for untagged VLANs. This identifier is used for customer VLAN IDs and service provider VLAN IDs.
<MPID>	Maintenance Point Identifier. It is an integer.
<CCMTRANSMITD>	Indicates the transmission of continuity check messages.
<CCMRCVD>	Continuity check messages received.
<CCRCVDSEQERR>	Continuity check received with sequence errors.
<LTRUNEXPDRCDVD>	Link trace reply received unexpectedly.
<LBRTRANSMITD>	Loopback reply transmitted.

Table 23-106 Output Parameter Support

Parameter	Description
<LBRRCV DINOR DER>	Loopback reply received in order.
<LBRRCV DSEQE RR>	Loopback reply received with sequence error.
<LBRRCV DBADM SDU>	Loopback reply received with bad MSDU.

23.95 RTRV-MIP-CFM

The Retrieve Maintenance Intermediate Point Connectivity Fault Management (RTRV-MIP-CFM) command retrieves the maintenance intermediate points on the port.

Usage Guidelines

- This command is applicable only to GE_XP and 10GE_XP cards.
- The card should be in Layer2 over DMDM mode.

Category

Ports

Security

Retrieve

Input Format

RTRV-MIP-CFM:[<TID>]:<AID>:<CTAG>;

Input Example

RTRV-MIP-CFM::ETH-1-1-1:1;

Input Parameters

Input Parameters	Description
<AID>	Access identifier from the “27.14 ETH” section on page 27-23.

Output Format

SID DATE TIME
M CTAG COMPLD
“M CTAG COMPLD; “<<AID>,<VLANID>,<LEVEL>”
;

Output Example

```
TID-000 1998-06-20 14:30:00
M 001 COMPLD
  "ETH-17-1-1,VLANID=6,LEVEL=7"
;
```

Table 23-107 Output Parameter Support

Parameter	Description
<AID>	Access identifier from the “27.15 FACILITY” section on page 27-23.
<VLANID >	VLAN identifier. A VLAN ID is a number between 1 and 4096. The value 0 is reserved for untagged VLANs. This identifier is used for customer VLAN IDs and service provider VLAN IDs.
<LEVEL>	This indicates the level of the maintenance domain. The value ranges from 0 to 7.

23.96 RTRV-MIPCCDB-CFM

The Retrieve Maintenance Intermediate Point Continuity Check Message Data Base Connectivity Fault Management (RTRV-MIPCCDB-CFM) command retrieves the continuity check message database (CCDB) of the maintenance intermediate points.

Usage Guidelines

- This command is applicable only to GE_XP and 10GE_XP cards.
- The card should be in Layer2 over DMDM mode.

Category

Equipment

Security

Retrieve

Input Format

RTRV-MIPCCDB-CFM:[<TID>]:<AID>:<CTAG>:::[LEVEL=<LEVEL>],[VLANIDFROM=<VLANIDFROM>],[VLANIDTO=<VLANIDTO>];

Input Example

RTRV-MIPCCDB-CFM::SLOT-1:1:::MDNAME=D2,VLANIDFROM=10,VLANIDTO=100;

Input Parameters

Input Parameters	Description
<AID>	Access identifier from the “27.13 EQPT” section on page 27-21.
<LEVEL>	This indicates the level of the maintenance domain. The value ranges from 0 to 7.

Input Parameters	Description
<VLANIDFROM>	VLAN range. It is the start of the VLANID. Valid range is from 1 to 4096. It is an optional parameter.
<VLANIDTO>	VLAN range. It is the end of the VLANID. Valid range is from 1 to 4096. It is an optional parameter.

Output Format

```

SID DATE TIME
M CTAG COMPLD
  "M CTAG COMPLD;
  "<<AID>,<MACADDR>,<SVLANID>,<LEVEL>,<INGRESSPORT>,<MPID>,<ARCHIVETIMER"
  ;

```

Output Example

```

TID-000 1998-06-20 14:30:00
M 001 COMPLD
"SLOT-4,MACADDR=00:00:00:00:00:00,SVLANID=100,LEVEL=1,INGRESSPORT=0,MPID=300,
ARCHIVETIMER=0"
;

```

Output Parameters

Parameter	Description
<AID>	Access identifier from the “27.13 EQPT” section on page 27-21.
<MACADDR>	(Optional) The MAC address for the 10 Gigabit Ethernet payload. MACADDR is a string.
<SVLANID>	VLAN identifier. A VLAN ID is a number between 1 and 4096. The value 0 is reserved for untagged VLANs. This identifier is used for customer VLAN IDs and service provider VLAN IDs.
<LEVEL>	This indicates the level of the maintenance domain. The value ranges from 0 to 7.
<INGRESSPORT>	Identifies the ingress port.
<MPID>	Maintenance Point Identifier. It is an integer.
<ARCHIVETIME R>	Archive Timer for CCDB. The default value is 0.

23.97 RTRV-NE-APC

The Retrieve Network Amplification Power Control (RTRV-NE-APC) command retrieves the APC application ports involved in node setup regulation.

Usage Guidelines

None

Category

System

Security

Maintenance

Input Format

RTRV-NE-APC:[<TID>]:[<AID>]:<CTAG>;

Input Example

RTRV-NE-APC:PENNGROVE:CHAN-16-1-RX:114;

Input Parameters

<AID> Access identifier from the [“27.7 CHANNEL” section on page 27-12](#). A null value is equivalent to ALL.

Output Format

SID DATE TIME
 M CTAG COMPLD
 “<AID>,<MOD>:[MODIFDAT=<MODIFDAT>],[MODIFTM=<MODIFTM>],
 [CHECKDAT=<CHECKDAT>],[CHECKTM=<CHECKTM>]”
 ;

Output Example

TID-000 1998-06-20 14:30:00
 M 001 COMPLD
 “CHAN-16-1-RX,OCH::MODIFDAT=04-11-02,MODIFTM=12-35-00,
 CHECKDAT=04-11-02,CHECKTM=12-55-00”
 ;

Table 23-108 Output Parameter Support

Parameter	Description
<AID>	Access identifier from the “27.7 CHANNEL” section on page 27-12 .
<MOD>	AID type. The parameter type is MOD20, which is the facility types for MXP_2.5G_10G, TXP_MR_10G, OSCM, OSC-CSM, OPT-PRE, OPT-BST, 4MD-xx.x, 32MUX, 32DMX, AD-1C-xx.x, AD-2C-xx.x, AD-4C-xx.x, AD-1B-xx.x, and AD-4B-xx.x cards.
• 100GIGE	100 Gigabit Ethernet.
• 3GVIDEO	3G-SDI video payload.
• 4GFC	4-Gigabit Fibre Channel payload
• 4GFICON	4-Gigabit fiber connectivity payload
• 40GIGE	40-Gigabit Ethernet
• 5GIB	5Gbps InfiniBand (IB_5G) payload
• 8GFC	4-Gigabit Fibre Channel payload
• HDSDI	1.5G HD-SDI video payload.
• ISC3PEER1G	1-Gbps ISC3 peer
• ISC3PEER2G	2-Gbps ISC3 peer
• ISC3STP1G	ISC-3 STP 1G video payload.
• ISC3STP2G	ISC-3 STP 2G video payload.

Table 23-108 *Output Parameter Support*

Parameter	Description
• ODU0	Optical Data Unit Level 0
• OTU1	Optical Transport Unit Level 1
• OTU3	Optical Transport Unit Level 3
• OTU4	Optical Transport Unit Level 4
• SDSDI	270M SDI video payload.
<MODIFDAT>	(Optional) The last date when the APC application modified this port. The format of MODIFDAT is MM-DD, where MM (month of year) ranges from 1 to 12 and DD (day of month) ranges from 1 to 31.
<MODIFTM>	(Optional) The last time when the APC application modified this port. The format of MODIFTM is HH-MM, where HH (hour of day) ranges from 0 to 23 and MM (minute of hour) ranges from 0 to 59.
<CHECKDAT>	(Optional) The last date when the APC application controlled and validated this port. The format of CHECKDAT is MM-DD, where MM (month of year) ranges from 1 to 12 and DD (day of month) ranges from 1 to 31.
<CHECKTM>	(Optional) The last time when the APC application controlled and validated this port. The format of CHECKTM is HH-MM, where HH (hour of day) ranges from 0 to 23 and MM (minute of hour) ranges from 0 to 59.

23.98 RTRV-NE-GEN

The Retrieve Network Element General (RTRV-NE-GEN) command retrieves the general NE attributes.

Usage Guidelines

ETHIPADDR and ETHIPMASK are disabled in this command. ETHIPADDR and ETHIPMASK are used to show the Ethernet interface address and mask. Both default to the node IP address and masks.



Note

OSI parameters are not supported in Release 9.0 and 9.1.

Category

System

Security

Retrieve

Input Format

RTRV-NE-GEN:[<TID>]::<CTAG>;

Input Example

RTRV-NE-GEN:CISCO::123;

Input Parameters None

Output Format

```

SID DATE TIME
M CTAG COMPLD
“[<IPADDR>],[<IPMASK>],[<DEFRTR>],[<IPV6ADDR>],[<IPV6PREFLEN>],[<IPV6DEFRTR>],[
<IPV6ENABLE>],[<IIOPORT>],[<NTP>],[<NAME>],[<SWVER>],[<LOAD>],[<PROTSWVER>],
[<PROTLOAD>],[<DEFDESC>],[<PLATFORM>],[<SECUMODE>],[<SUPPRESSIP>],[<MODE>],[
<MSPUBVLANID>],[<MSINTLVLANID>],[<AUTOPM>],[<SERIALPORTECHO>],[<OSIROUTIN
GMODE>],[<OSIL1BUFSIZE>],[<OSIL2BUFSIZE>],[<NET>],[<BKUPNTP>];

```

Output Example

```

TID-000 1998-06-20 14:30:00
M 001 COMPLD
IPADDR=192.168.100.52,IPMASK=255.255.255.0,DEFRTR=192.168.100.1,
IPV6ADDR="[3ffe:0501:0008:0000:0260:97ff:fe40:efab]",IPV6PREFLEN=64,IPV6DEFRTR="[3ffe:
0501:0008:0000:0260:97ff:fe40:e000]",IPV6ENABLE=NO
IIOPORT=57970,NTP=192.168.100.52,NAME="NODENAME",SWVER=2.01.03,
LOAD=02.13-E09A-08.15,PROTSWVER=2.01.02,PROTLOAD=02.12-E09A-09.25,
DEFDESC="\NE DEFAULTS FEATURE\",PLATFORM=NCS-ANSI,SECUMODE=NORMAL,
SUPPRESSIP=YES,PROXYSRV=N,FIREWALL=N,MSPUBVLANID=1,MSINTLVLANID=2,AUTO
PM=NO,SERIALPORTECHO=Y,OSIROUTINGMODE=ES,OSIL1BUFSIZE=512,OSIL2BUFSIZE=5
12"
;

```

Table 23-109 Output Parameter Support

Parameter	Description
<IPADDR>	(Optional) Node IP address. IPADDR is a string.
<IPMASK>	(Optional) Node IP mask. IPMASK is a string.
<DEFRTR>	(Optional) Node default router. DEFRTR is a string.
<IPV6ADDR>	Specifies the IPv6 address of the NE. IPV6ADDR is a string.
	 Note IPV6ADDR parameter can be set only if IPV6ENABLE parameter is set to Y
<IPV6PREFLEN>	Specifies the prefix length for the IPv6 address of the NE. IPV6PREFLEN is an integer
<IPV6DEFRTR>	Specifies the IPv6 default router address for the NE. IPV6DEFRTR is a string
<IPV6ENABLE>	Specifies if the IPv6 enable mode for the NE is enabled or disabled.
• Y	Indicates that IPV6 mode is enabled.
• N	Indicates that IPV6 mode is disabled.
<IIOPORT>	(Optional) Node IIOP port. IIPOOPRT is an integer.
<NTP>	(Optional) Node Network Timing Protocol (NTP) timing source address. NTP is a string.
<ETHIPADDR>	Not supported in this release.
<ETHIPMASK>	Not supported in this release.
<NAME>	(Optional) Facility name. NAME is a string.
<SWVER>	(Optional) Software version. SWVER is a string.

Table 23-109 Output Parameter Support

Parameter	Description
<LOAD>	(Optional) Load. LOAD is a string.
<PROTSWVER>	(Optional) Protect software version. PROTSWVER is a string.
<PROTLOAD >	(Optional) Protect load. PROTLOAD is a string.
<DEFDESC>	(Optional) Provides a default description for the NE. DEFDESC is a string.
<PLATFORM>	(Optional) Platform. PLATFORM is a string.
<SECUMODE>	(Optional) Security mode of the NE. The parameter type is NE_SECURE_MODE, which is the security mode of the NE.
• REPEATER	The front port and backplane are sharing the same IP network.
• SECURE	The front port and backplane are independent and in different IP subnetworks.
<SUPPRESSIP>	(Optional) The parameter type is YES_NO, which is whether the user's password is about to expire, the user is logged into the NE, or the user is locked out of the NE.
• NO	No
• YES	Yes
<MODE>	(Optional) Indicates the AID mode to access shelf identifier objects. Defaults to SINGLESHELF. This field is always set to MULTISHELF in the case of NCS nodes with more than one shelf managed. Parameter type is SHELF_MODE which is the NE mode.
• SINGLESHELF	The NE contains only one shelf and the AID representation does not consider the shelf identifier for command requests/response and autonomous reports.
• MULTISHELF	The AID representation considers the shelf identifier for command requests/response and autonomous reports. This means the NE has more than one shelf configured or the user wants to use the new AID style.
• MULTISHELFETH	The AID representation considers the shelf identifier for command requests/response and autonomous reports. This means the NE has more than one shelf configured or the user wants to use the new AID style. The shelves are connected by means of an external Ethernet switch.
<PROXYSRV>	(Optional) Indicates if the proxy server is enabled or disabled.
• Y	Proxy server is enabled.
• N	Proxy server is disabled.
<FIREWALL>	(Optional) Indicates if the firewall is enabled or disabled.
• Y	Firewall is enabled.
• N	Firewall is disabled.
<MSPUBVLANID>	Public VLAN ID used by the node controller to communicate the with external network. The valid range is 1 to 4094. Note For M6 shelf, the value of MSPUBVLANID is 1.
<MSINTLVLANID>	Internal VLAN ID used by the node controller to communicate with the Subtending shelves. The valid range is 1 to 4094. Note For M6 shelf, the value of MSINTLVLANID is 2.
<AUTOPM>	(Optional) AUTOPM is a flag to indicate if autonomous PM reporting to TL1 clients is enabled or disabled.
• Y	Auto PM reporting is enabled.

Table 23-109 **Output Parameter Support**

Parameter	Description
• N	Auto PM reporting is disabled.
<SERIALPORTECHO>	(Optional) Indicates if the echo is turned on for TL1 serial port sessions.
• Y	Echo is turned on.
• N	Echo is turned off.
<OSIROUTINGMODE>	Indicates the routing mode of the node.
• ES	Provisions the node as an OSI ES. The NCS node performs all ES functions and relies upon an IS for communication with other IS nodes inside and outside the ES OSI area.
• IS1	Provisions the node as an OSI IS. The NCS node performs all IS functions including routing data between ISs and ESs, between networks, and between parts of a network.
• IS2	The NCS node performs all IS functions. It communicates with other IS and ES nodes within an OSI area. It also broadcasts ISHs to IS nodes in other areas to which it is connected.
<OSIL1BUFSIZE>	Level 1 Link State Protocol Data Unit (LSP) buffer size. The default is 512.
<OSIL2BUFSIZE>	Level 2 Link State Protocol Data Unit (LSP) buffer size. The default is 512.
<NET>	Network Entity Title of the node. The NET is used in OSI networks to identify the node to end system (ES) or intermediate system (IS) NEs. NETs are allocated from the same name space as the Network Service Address Point (NSAP) address. Whether an address is an NSAP or NET depends on the NSAP Selector value.
<BKUPNTP>	Indicates that the Secondary NTP server is used as backup for primary.

23.99 RTRV-NE-IMGSIGN

The Retrieve Network Image Signature (RTRV-NE-IMGSIGN) command retrieves the signature details of a given shelf.

Usage Guidelines

None

Category

System

Security

Maintenance

Input Format

RTRV-NE-IMGSIGN:[<TID>]:<AID>:<CTAG>[:];

Input Example

RTRV-NE-IMGSIGN:PENNGROVE:SHELF-1;

Input Parameters

<AID>	Shelf access identifier. AID can be ignored if the command is executed on a single shelf. For a multi-shelf configuration, AID can take a shelf value from 1 to 50 (SHELF-{1-50}).

Output Format

```

SID DATE TIME
M CTAG COMPLD
“[<AID>],[PKGTYPE=<PKGTYPE>],[IMGTYPE=<IMGTYPE>],
[CMNNAME=<CMNNAME>],[ORGUNIT=<ORGUNIT>],[ORGNAME=<ORGNAME>],[CERTSN=
<CERTSN>],[HASH=<HASH>],[SIGNALGO=<SIGNALALGO>],[KEYVER=<KEYVER>]”
;

```

Output Example

```

SID DATE TIME
M CTAG COMPLD
“SHELF-1,PKGTYPE=WORKING,IMGTYPE=DEVELOPMENT,CMNNAME=UTS
TNC,ORGUNIT=OTBU,ORGNAME=CISCO,CERTSN=10000,HASH=SHA-512,SIGNALGO=RSA-
2048,KEYVER=A”;

```

Output Parameters

<AID>	Shelf access identifier. AID can be ignored if the command is executed on a single shelf. For a multi-shelf configuration, AID can take a shelf value from 1 to 30 (SHELF-{1-50}).
<PKGTYPE>	Indicates the Package Type. The parameter type is PKGTYPE.
• INVALID	Indicates that the package type is invalid.
• PROTECT	Indicates that the package type is a protect package.
• WORKING	Indicates that the package type is a working package.
<IMGTYPE>	Indicates the Image Type. The parameter type is IMGTYPE.
• DEVELOPMENT	Indicates that the IMGTYPE is a DEVELOPMENT Image.
• PRODUCTION	Indicates that the IMGTYPE is a PRODUCTION Image.
• REVOCATION	Indicates that the IMGTYPE is a REVOCATION Image.
• UNKNOWN	Indicates that the IMGTYPE is an UNKNOWN Image.
<CMNNAME>	Indicates the Common Name.
<ORGUNIT>	Indicates the Organization Unit.
<ORGNAME>	Indicates the Organization Name.
<CERTSN>	Indicates the Certificate Serial Number.
<HASH>	Indicates the hashing Algorithm. The parameter type is HASH_ALGO.
• SHA-256	Hashing Algorithm is SHA-256.
• SHA-512	Hashing Algorithm is SHA-512.
• UNKNOWN	Hashing Algorithm is Unknown.
<SIGNALGO>	Indicates the signature Algorithm. The parameter type is SIGN_ALGO.
• DSA	Signature Algorithm is DSA.
• ECDSA	Signature Algorithm is ECDSA.
• RSA-2048	Signature Algorithm is RSA-2048.
• UNKNOWN	Signature Algorithm is Unknown.
<KEYVER>	Indicates the key Version.

23.100 RTRV-NE-IPMAP

The Retrieve Network Element Internet Protocol Map (RTRV-NE-IPMAP) command retrieves the IP address and node name of the NEs that have the DCC connection with this NE.

Usage Guidelines This command only reports the active DCC link. If there is no active DCC link on the port (or the node), the command will return COMPLD without IPMAP information.

Category Network

Security Retrieve

Input Format RTRV-NE-IPMAP:[<TID>]:[<AID>]:<CTAG>;

Input Example RTRV-NE-IPMAP:CISCO:FAC-12-1:123;

Input Parameters <AID> Access identifier from the “27.15 FACILITY” section on page 27-23. The port of an NE carrying the DCC connection. A null value defaults to the whole NE. A null value is equivalent to ALL.

Output Format SID DATE TIME
M CTAG COMPLD
“<AID>:<IPADDR>,<NODENAME>”
;

Output Example TID-000 1998-06-20 14:30:00
M 001 COMPLD
“FAC-12-1:“[3ffe:0501:0008:0000:0260:97ff:fe40:efab]”,NODENAME2”
;

Output Parameters	<AID>	Access identifier from the “27.15 FACILITY” section on page 27-23. Port of an NE carrying the DCC connection.
	<IPADDR>	Node IP address. IPADDR is a string.
	<NODENAME>	Network element name. NODENAME is a string.

23.101 RTRV-NE-KEYINFO

The Retrieve Network Key Information (RTRV-NE-KEYINFO) command retrieves the details of the keys that are stored in a given shelf.

Usage Guidelines None

Category System

Security Maintenance

Input Format RTRV-NE-KEYINFO:[<TID>]:<AID>:<CTAG>[:];

Input Example RTRV-NE-KEYINFO:PENNGROVE:SHELF-5:CTAG;

Input Parameters	<AID>	Shelf access identifier. AID can be ignored if the command is executed on a single shelf. For a multi-shelf configuration, AID can take a shelf value from 1 to 50 (SHELF-{1-50}).

Output Format

```

SID DATE TIME
M CTAG COMPLD
“[<AID>],[KEYTYPE=<KEYTYPE>],[ PUBKEY=<PUBKEY>,[ EXPN=<EXPN>],
[KEYVER=<KEYVER>],[ MOD=<MOD>]”
;
```

Output Example

```

SID DATE TIME
M CTAG COMPLD
“SHELF-5,KEYTYPE=DEVELOPMENT,PUBKEY=RSA-2048,EXPN=1000,KEYVER=A,MOD=\\0:
1:2:3:4:5:6:7:8:9:a:b:c:d:e:f:10:11:12:13:14:15:16:17:18:19:1a:1b:1c:1d:1e:1f:20:21:22:23:24:25:26:2
7:28:29:2a:2b:2c:2d:2e:2f:30:31:32:33:34:35:36:37:38:39:3a:3b:3c:3d:3e:3f:40:41:42:43:44:45:46:47:
48:49:4a:4b:4c:4d:4e:4f:50:51:52:53:54:55:56:57:58:59:5a:5b:5c:5d:5e:5f:60:61:62:63:64:65:66:67:68
:69:6a:6b:6c:6d:6e:6f:70:71:72:73:74:75:76:77:78:79:7a:7b:7c:7d:7e:7f:80:81:82:83:84:85:86:87:88:8
9:8a:8b:8c:8d:8e:8f:90:91:92:93:94:95:96:97:98:99:9a:9b:9c:9d:9e:9f:a0:a1:a2:a3:a4:a5:a6:a7:a8:a9:a
a:ab:ac:ad:ae:af:b0:b1:b2:b3:b4:b5:b6:b7:b8:b9:ba:bb:bc:bd:be:bf:c0:c1:c2:c3:c4:c5:c6:c7:c8:c9:ca:cb
:cc:cd:ce:cf:d0:d1:d2:d3:d4:d5:d6:d7:d8:d9:da:db:dc:dd:de:df:e0:e1:e2:e3:e4:e5:e6:e7:e8:e9:ea:eb:ec:
ed:ee:ef:f0:f1:f2:f3:f4:f5:f6:f7:f8:f9:fa:fb:fc:fd:fe:ff”;
```

Output Parameters	<AID>	Shelf access identifier. AID can be ignored if the command is executed on a single shelf. For a multi-shelf configuration, AID can take a shelf value from 1 to 30 (SHELF-{ 1-50}).
	<KEYTYPE>	Indicates the Key Type. Displays the public key available on the system for verification. The parameter type is KEYTYPE.
	• DEVELOPMENT	Indicates that the key type is DEVELOPMENT.
	• RELEASE	Indicates that the key type is RELEASE.
	• ROLLOVER	Indicates that the key type is ROLLOVER.
	• UNKNOWN	Indicates that the key type is Unknown.
	<PUBKEY>	Indicates the Public Key. Displays the name of the algorithm used for public key cryptography.
	<EXPN>	Indicates the Exponential. Displays the exponent of the public key algorithm—release or development keys.
	<KEYVER>	Indicates the Key version. Indicates the key version used to digitally sign the image. A key version is identified with an alphabetical character that ranges from A to Z.
	<MOD>	Indicates the Modulus. Displays the modulus of the public key algorithm with a size of 2048 bits.

23.102 RTRV-NE-PATH

The Retrieve Network Element Path (RTRV-NE-PATH) command retrieves the path-level attributes on an NE.

Usage Guidelines	None
Category	System
Security	Retrieve
Input Format	RTRV-NE-PATH:[<TID>]::<CTAG>[:::];
Input Example	RTRV-NE-PATH::CTAG;
Input Parameters	None

Output Format

```
SID DATE TIME
M CTAG COMPLD
"[PDIP=<PDIP>],[XCMODE=<XCMODE>]"
;
```

Output Example

```
TID-000 1998-06-20 14:30:00
M 001 COMPLD
"PDIP=Y,XCMODE=MIXED"
;
```

Table 23-110 *Output Parameter Support*

Parameter	Description
<PDIP>	Flag used to indicate whether PDI-P should be generated on the outgoing VT-structured VCs. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<XCMODE>	Cross-connect mode. The parameter type is XCMODE, which is applicable only to a node with cross-connect cards (for example, XC-VXC-10G) that support cross-connect mode change.
• MIXED	Both VC11 and VC12 cross-connects can be provisioned on the node.
• VC11	Only VC11 cross-connects can be provisioned on the node.
• VC12	Only VC12 cross-connects can be provisioned on the node.

23.103 RTRV-NE-SYNCN

The Retrieve Network Element Synchronization (RTRV-NE-SYNCN) command retrieves the synchronization attributes of the NE.

Usage Guidelines Although mixed mode timing is supported, it is not recommended.

The timing modes are:

- External mode: The node derives its timing from the BITS inputs.
- Line mode: The node derives its timing from the NCS line(s).
- Mixed mode: The node derives its timing from the BITS input or NCS lines.



Note

You cannot edit or retrieve the SSMGEN and QRES parameters on the NCS platform.

Category Synchronization

Security Retrieve

Input Format RTRV-NE-SYCN:[<TID>]:[<AID>]:<CTAG>[:];

Input Examples RTRV-NE-SYCN:CISCO:SHELF-2:123;

Input Parameters

<AID>	The node or shelf access identifier from the “27.26 SHELF” section on page 27-33. If omitted, it addresses the node or first shelf of the node.

Output Format

```

SID DATE TIME
M CTAG COMPLD
“[<AID>]:[TMMD=<TMMD>],[QRES=<QRES>],
[RVRTV=<RVRTV>],[RVTM=<RVTM>],[SYSTEMN=<SYSTEMN>]”
;

```

Output Examples

```

TID-000 1998-06-20 14:30:00
M 001 COMPLD
“SHELF-2::TMMD=LINE,QRES=ABOVE-PRS,RVRTV=Y,RVTM=8.0,
SYSTEMN=NCS”
;

```

Table 23-111 Output Parameter Support

Parameter	Description
<AID>	(Optional) The node or shelf access identifier from the “27.26 SHELF” section on page 27-33. If omitted, it addresses the node or first shelf of the node.
<TMMD>	(Optional) Timing mode. The parameter type is TIMING_MODE, which is the timing mode for the current node.
• EXTERNAL	The node derives its clock from the BITS input.
• LINE	The node derives its clock from the NCS lines.
• MIXED	The node derives its clock from the mixed timing mode.
<SSMGEN>	(Optional) Synchronization status message generator. The parameter type is SYNC_GENERATION, which is the synchronization status message set generation.
• GEN1	First generation SSM set
• GEN2	Second generation SSM set
<QRES>	(Optional) Quality of the RES. The parameter type is SYNC_QUALITY_LEVEL, which is the network synchronization quality level.
• ABOVE-PRS	Better than Primary Reference Source. Valid setting for Generation-1 and Generation-2 SSM Set.
• ABOVE-ST2	Between ST2 and STU. Valid setting for Generation-1 and Generation-2 SSM Set.
• ABOVE-ST3	For Generation-1 SSM set, between ST3 and ST2. For Generation-2 SSM set, between ST3 and ST3E.
• ABOVE-ST3E	Between ST3E and TNC. Valid setting only for Generation-2 SSM set.
• ABOVE-ST4	Between ST4 and ST3. Valid setting for Generation-1 and Generation-2 SSM Set.

Table 23-111 **Output Parameter Support**

Parameter	Description
• ABOVE-STU	Between STU and PRS. Valid setting for Generation-1 and Generation-2 SSM Set. This is Default Setting.
• ABOVE-TNC	Between TNC and ST2. Valid setting only for Generation-2 SSM set.
• BELOW-ST4	Below ST4 but still usable. Valid setting for Generation-1 and Generation-2 SSM Set.
• SAME-AS-DUS	Disable the RES message by equating it to DUS. Valid setting for Generation-1 and Generation-2 SSM Set.
<RVRTV>	(Optional) Revertive mode. The value Y indicates that protection switching system reverts service to the original line after restoration. The value N indicates that protection switching system does not revert service to the original line after restoration. RVRTV is applicable only for 1+1 protection switching. Null defaults to N. The parameter type is ON_OFF (disable or enable an attribute).
• N	Does not revert service to original line after restoration.
• Y	Reverts service to original line after restoration.
<RVTM>	(Optional) Revertive time. The parameter type is REVERTIVE_TIME (revertive time).
• 0.5 to 12.0	Revertive time is 0.5 to 12.0 minutes.
<SYSTMN>	Identifies the system timing standard used by the node.
• SONET	SONET timing standard
• NCS	NCS timing standard

23.104 RTRV-NE-WDMANS

The Retrieve Network Element Wavelength Division Multiplexing Automatic Node Setup (RTRV-NE-WDMANS) command retrieves the optical node setup (WDMANS) application ports involved in node setup regulation.

Usage Guidelines None

Category NCS

Security Retrieve

Input Format RTRV-NE-WDMANS:[<TID>]::<CTAG>;

Input Example RTRV-NE-WDMANS:PENNGROVE::114;

Input Parameters None

Output Format

SID DATE TIME
M CTAG COMPLD

“<AID>,<AIDTYPE>::[REGULATED=<REGULATED>],[PARAM=<PARAM>],[<VALUE>],[<ACT
OR>],[<DATE>],[<TIME>]:”
;

Output Example

TID-000 1998-06-20 14:30:00
M 001 COMPLD
“CHAN-16-1-RX,OCH::REGULATED=OUT-OF-RANGE,PARAM=AMPLMODE”
;

Table 23-112 Output Parameter Support

Parameter	Description
<AID>	Access identifier from the “ 27.1 ALL ” section on page 27-1. AID is port regulated.
<AIDTYPE>	Specifies the type of facility, link, or other addressable entity targeted by the message. A type of access identifier. The parameter type is MOD2, which is the line/path modifier.
• 100GIGE	100 Gigabit Ethernet.
• 10GFC	10-Gigabit Fibre Channel payload
• 10GFICON	10-Gigabit fiber connectivity payload
• 1GFC	1-Gigabit Fibre Channel payload
• 1GFICON	1-Gigabit fiber connectivity payload
• 1GISC3	1-Gigabit ISC3 compatible
• 2GFC	2-Gigabit Fibre Channel payload
• 2GFICON	2-Gigabit fiber connectivity payload
• 2GISC3	2-Gigabit ISC3 compatible
• 3GVIDEO	3G-SDI video payload.
• 4GFC	4-Gigabit Fibre Channel payload
• 4GFICON	4-Gigabit fiber connectivity payload
• 40GIGE	40-Gigabit Ethernet
• 5GIB	5Gbps InfiniBand (IB_5G) payload
• 8GFC	8-Gigabit Fibre Channel payload
• CHGRP	Channel group
• D1VIDEO	D1 video
• DS3I	DS3i-N-12 line
• DV6000	DV6000
• E1	E1
• E3	E3

Table 23-112 **Output Parameter Support**

Parameter	Description
• E4	E4 frame. Only applicable to STM1E Port 9 through 12 when it is in E4-FRAMED or E4-UNFRAMED mode.
• ESCON	ESCON
• ETRCLO	ETRCLO
• FSTE	FSTE facility
• G1000	G1000 facility
• GFPOS	GFP over POS. Virtual ports partitioned using GFP's multiplexing capability.
• GIGE	Gigabit Ethernet
• HDLC	High-level data link control (HDLC) frame mode.
• HDTV	HDTV
• HDSDI	1.5G HD-SDI video payload.
• ISC3PEER1G	1-Gbps ISC3 Peer
• ISC3PEER2G	2-Gbps ISC3 Peer
• ISC3PEER2R	1-Gbps or 2-Gbps ISC3 peer used in transparent (2R) mode
• ISC3STP1G	ISC-3 STP 1G video payload.
• ISC3STP2G	ISC-3 STP 2G video payload.
• ISCCOMPAT	1-Gbps ISC1, ISC2, and ISC3 compatibility
• MSISC	MSISC
• OCH	Optical Channel
• OCHCC	OCH client connection
• OCHNC	OCH network connection
• OCHTERM	OCH termination
• ODU0	Optical Data Unit Level 0
• OMS	Optical Multiplex Section
• OTS	Optical Transport Section
• OTU1	Optical Transport Unit Level 1
• OTU3	Optical Transport Unit Level 3
• OTU4	Optical Transport Unit Level 4
• POS	POS port
• REP	Resilient Ethernet Protocol
• SDSDI	270M SDI video payload.
• STM1	STM1 facility
• STM1E	STM1E facility. Only applicable to the STM1E facility (when it is in STM1E mode) of the NCS STM1E-12 card.
• STM4	STM4 facility
• STM16	STM16 facility
• STM64	STM64 facility

Table 23-112 **Output Parameter Support**

Parameter	Description
• VC3	VC3 path
• VC44C	VC4-4C path
• VC38C	VC3-8C path
• VC464C	VC4-64C path
• VC48C	VC4-8C path
• VC4	VC4 path
• VC416C	VC4-16C path
• VC42C	VC4-2C path
• VC43C	VC4-3C path
• VC11	VC11 path
• VC12	VC12 path
<REGULATED>	(Optional) The status of the port after a node setup regulation. The parameter type is REGULATED_PORT_TYPE, which is the optical configuration types for NEs.
• FAILED	WDM-ANS encountered a failure while regulating this port.
• MISSING-INPUT-PWR-PARAM	Missing input power parameter.
• MISSING-OUTPUT-PWR-PARAM	Missing output power parameter.
• NOT-APPLICABLE	WDM-ANS does not foresee any algorithm or does not have any value to set for the parameter.
• OUT-OF-RANGE	WDM-ANS cannot modify the setpoint because the calculated value is out of the allowed range.
• PORT-IN-SERVICE	WDM-ANS cannot modify the setpoint because the ports are in Unlocked state.
• REGULATED	WDM-ANS has successfully regulated this port.
• UNCHANGED	WDM-ANS has not changed this port.
<ACTOR>	Regulator Actor is the name of the Network Element application that regulates the WDM-ANS parameter. The parameter type is REGULATED_ACTOR.
• ANS	Parameter regulated by the ANS application.
• APC	Parameter regulated by the APC application.
• OCHNC	Parameter regulated by the OCHNC application.
• RAMAN-WIZARD	Parameter regulated by the RAMAN Wizard application.
• UNKNOWN	The parameter that has been regulated by an unknown application.
<PARAM>	(Optional) The regulated parameter inside of the specified port. The parameter type is REGULATED_PARAM_NAME, which is name of the parameter regulated by the WDMANS application.
• AMPLMODE	WDM-ANS has regulated the amplifier control mode parameter.
• CHPOWER	WDM-ANS has regulated the amplifier per the channel power parameter.
• GAIN	WDM-ANS has regulated the amplifier gain parameter.
• OPWR-LFAIL	WDM-ANS has regulated the OPWR-LFAIL threshold parameter.
• REFTILT	WDM-ANS has regulated the amplifier tilt reference parameter.

Table 23-112 Output Parameter Support

Parameter	Description
• VOAREFATTN	WDM-ANS has regulated the VOA attenuation reference parameter.
• VOAREFPWR	WDM-ANS has regulated the VOA power reference parameter.
• DARK-POWER	WDM-ANS has regulated the port P-Dark power.
• VOA-STARTUP	WDM-ANS regulated the port VOA startup.
• TOTALPWR-DBM	Node setup port attribute. Total power in dBm.
• TOTPWR-MILLIW	Node setup port attribute. Total power in mW.
• CHPWROFFSET	Optical power setting, channel power setting.
• LOWTHDBM	Optical power setting, low threshold in dBm.
• LOWTHMILLIW	Optical power setting, low threshold in mW.
• RATIO	Optical power setting ratio.
• TOTALPWRDBM	Optical power setting in dBm.
• TOTALPWRMILLIW	Optical power setting in mW.
<DATE>	Identifies the date. Date is a string. Default value is - current date.
<TIME>	Identifies the time. Time is a string. Default value is - current time.

23.105 RTRV-NETTYPE

The Retrieve Network Element Type (RTRV-NETTYPE) command retrieves the NE's equipment-related information.

Usage Guidelines None

Category System

Security Retrieve

Input Format RTRV-NETTYPE:[<TID>]::<CTAG>;

Input Example RTRV-NETTYPE:GAUR1::1;

Input Parameters None

Output Format

```

SID DATE TIME
M CTAG COMPLD
  "<VENDOR>,<MODEL>,<NETYPE>,<SW_ISSUE>"
;

```

Output Example

```

TID-000 1998-06-20 14:30:00
M 001 COMPLD
  "CISCO,NCS,ADM&MSPP&MSTP,5.00.00"
;

```

Table 23-113 *Output Parameter Support*

Parameter	Description
<VENDOR>	The NE equipment vendor name. VENDOR is a string.
<MODEL>	The NE equipment model name. The parameter type is PRODUCT_TYPE, which is the product (NE) type.
• Cisco NCS	NCS
• UNKNOWN	Unknown product type
<NETYPE>	NE equipment type. Abbreviation of NE type can be used. The grouping sign "&" can be used to indicate multifunction NE type, for example, ADM&MSPP means Add/Drop Multiplexers and Multiservice Provisioning Platform. Listable. The parameter type is NETYPE, which is the NE equipment type.
• ADM	Add/Drop Multiplexers
• DCS	Digital Cross-Connect System
• MSPP	Multiservice Provisioning Platform
• MSSP	Multiservice Switching Platform
• MSTP	Multiservice Transport Platform
<SW_ISSUE>	The software release issue of the NE. SW_ISSUE is a string.

23.106 RTRV-NNI-CHGRP

The Retrieve Network-to-Network Interface Channel Group (RTRV-NNI-CHGRP) command retrieves the NNI selective S-VLAN-ID table associated to a channel group.

Usage Guidelines This command accepts the ALL AID.

Category Channel Group

Security Retrieve

Input Format RTRV-NNI-CHGRP:[<TID>]:<AID>:<CTAG>::[<SVLANID>][::];

Input Example RTRV-NNI-CHGRP:TID:CHGRP-1-1:1::110;

Input Parameters	<AID>	Access identifier from the “27.8 CHGRP” section on page 27-14.
	<SVLANID>	VLAN identifier. A VLAN ID is a number between 1 and 4096. The value 0 is reserved for untagged VLANs. This identifier is used for customer VLAN IDs and service provider VLAN IDs.

Output Format SID DATE TIME
M CTAG COMPLD
“<AID>:<SVLANID>[::]”
;

Output Example TID-000 1998-06-20 14:30:00
M 001 COMPLD
“ETH-1-1-1:110::”
;

Output Parameters	<AID>	Ethernet AIDs are used to access L2 Ethernet ports. Access identifier from the “27.14 ETH” section on page 27-23.
	<SVLANID>	VLAN identifier. A VLAN ID is a number between 1 and 4096. The value 0 is reserved for untagged VLANs. This identifier is used for customer VLAN IDs and service provider VLAN IDs.

23.107 RTRV-NNI-ETH

The Retrieve Network-to-Network Interface Ethernet (RTRV-NNI-ETH) command retrieves the NNI selective S-VLAN-ID table associated to an L2 Ethernet port.

Usage Guidelines This command accepts the ALL AID.

Category Ethernet

Security Retrieve

Input Format RTRV-NNI-ETH:[<TID>]:<AID>:<CTAG>::[<SVLANID>][:];

Input Example RTRV-NNI-ETH:PETALUMA:ETH-1-1-1:CTAG::110;

Input Parameters	<AID>	Ethernet AIDs are used to access L2 Ethernet ports. Access identifier from the “27.14 ETH” section on page 27-23 .
	<SVLANID>	VLAN identifier. A VLAN ID is a number between 1 and 4096. The value 0 is reserved for untagged VLANs. This identifier is used for customer VLAN IDs and service provider VLAN IDs.

Output Format

```

SID DATE TIME
M CTAG COMPLD
  "<AID>:<SVLANID>[:]"
;

```

Output Example

```

TID-000 1998-06-20 14:30:00
M 001 COMPLD
  "ETH-1-1-1:110:."
;

```

Output Parameters	<AID>	Ethernet AIDs are used to access L2 Ethernet ports. Access identifier from the “27.14 ETH” section on page 27-23 .
	<SVLANID>	VLAN identifier. A VLAN ID is a number between 1 and 4096. The value 0 is reserved for untagged VLANs. This identifier is used for customer VLAN IDs and service provider VLAN IDs.

23.108 RTRV-OCM

The Retrieve Optical Channel Monitoring (RTRV-OCM) command retrieves the optical channel monitoring parameters present at OCH layer in a ROADM node.

Usage Guidelines

- Primary=Locked and secondary=AutomaticInService states do not apply to Ethernet mode.

Category NCS

Security Retrieve

Input Format RTRV-OCM:[<TID>]:<AID>:<CTAG>;

Input Example RTRV-OCM::OCM-1-16-1-RX-1530.33:12;

Input Parameters <AID> Access identifier from the [“27.7 CHANNEL” section on page 27-12.](#)

Output Format

```
SID DATE TIME
M CTAG COMPLD

" [<aid> ]::[CHPOWER=<CHPOWER>];
;
```

Output Example

```
TID-000 1998-06-20 14:30:00
M 001 COMPLD
“ TID-000 1998-06-20 14:30:00M 001 COMPLD "OCM-1-16-1-RX-1530.33::CHPOWER=9.0”;
```

Table 23-114 Output Parameter Support

Parameter	Description
<AID>	Access identifier from the “27.7 CHANNEL” section on page 27-12.
<CHPOWER>	(Optional) The per channel optical power. Applicable only to amplified OTS ports.

23.109 RTRV-OCH

The Retrieve Optical Channel (RTRV-OCH) command retrieves the attributes (service parameters) and state of an OCH facility.

Usage Guidelines

- Primary=Locked and secondary=AutomaticInService states do not apply to Ethernet mode.
- SQUELCHMODE, FREQ, LOSSB and PORTMODE are the parameters supported on RTRV-OCH command while retrieving the attributes and state of an OCH facility on 10x10G-LC, 100G-LC-C and CFP-LC Cards.

Category NCS

Security Retrieve

Input Format RTRV-OCH:[<TID>]:<AID>:<CTAG>;

Input Example RTRV-OCH:PENNGROVE:CHAN-6-2:236;

Input Parameters <AID> Access identifier from the [“27.7 CHANNEL” section on page 27-12.](#)

Output Format

```
SID DATE TIME
M CTAG COMPLD
“<AID>:.,[<ROLE>],[<STATUS>]:[<OPTICALPORTTYPE>],[<POWER>],[<EXPWLEN>],[<ACT
WLEN>],[<ILOSS>],[<VOAMODE>],[<VOAATTN>],[<VOAPWR>],[<VOAREFATTN>],[<VOARE
FPWR>],[<REFOPWR>],[<CALOPWR>],[<CHPOWER>],[<CHPOWERFLG>],[<ADDOPWR>],[<
PORTNAME>],[<GCC>],[<GCCRATE>],[<DWRAP>],[<FEC>],[<PAYLOADMAP>],[<LBCLCURR
>],[<OPTCURR>],[<OPRCURR>],[<OSFBER>],[<OSDBER>],[<SOAK>],[<SOAKLEFT>],[<LOSS
B>],[<PEERID>],[<REGENNAME>],[<PORTMODE>],[<ODUTRANSMODE>],[<ERRORDECOR
RELATOR>],[<FCS>],[<PROACTPROTECTION>],[<TRIGGERTH>],[<REVERTTH>],[<TRIGWIN
DOW>],[<RVRTWINDOW>],[<OVRCLK>],[<MDLTFMT>],[<RXWLEN>],[<OSNR>],[<PMD>],[<
CHROMDISP>],[<SYNCSMSG>],[<SENDDUS>],[<ADMSSM>],[<PROVIDESYNC>]:<SQUELCH
MODE>,[<FECALARMSUPPRESS>],[<CDLOW>],[<CDHIGH>],[<SOPMDCURR>],[<PCRCURR>]
,[<PDLCURR>]:<VOATXPOWER>,[<TXLASERSHUTDN>]:[<PST>][<SST>”
;
```

Output Example 100g 2012-05-22 12:31:55

```
M 1 COMPLD
“CHAN-3-2:.,WORK,STBY:EXPWLEN=USE-TWL1,GCC=N,DWRAP=Y,FEC=STD,OSFBER=1E-5
,OSDBER=1E-7,SOAK=32,PORTMODE=NCS-TRANS-AIS,RXWLEN=USE-TWL1,SYNCSMSG=N,
SENDDUS=N,ADMSSM=STU,SQUELCHMODE=ODU-AIS,,CDLOW=-70000.0,CDHIGH=70000.0
,VOATXPOWER=0.25,TXLASERSHUTDN=N:OOS-MA,DSBLD”
```

Table 23-115 Output Parameter Support

Parameter	Description
<AID>	Access identifier from the “27.7 CHANNEL” section on page 27-12.
<ROLE>	(Optional) Identifies an OCH port role. The parameter type is SIDE, which is the role the unit is playing in the protection group.
• PROT	The entity is a protection unit in the protection group.
• WORK	The entity is a working unit in the protection group.
<STATUS>	(Optional) The port status. The parameter type is STATUS, which is the status of the unit in the protection pair.
• ACT	The entity is the active unit in the shelf.
• NA	Status is unavailable.
• STBY	The entity is the standby unit in the shelf.
<OPTICALPORTTYPE>	The optical port type. The parameter type is OPTICAL_PORT_TYPE, which qualifies the optical port of a card.
• ADD	The signal is added to the port.
• COM	Common Port
• DROP	The signal is dropped from the port.

Table 23-115 **Output Parameter Support**

Parameter	Description
• EAD	Express/Add/Drop port
• IN-ASE	Logical port on Raman CTP card.
• IN-COM	COM channels (without OSC) that continue the signal from the previous card
• IN-DC	Input DCU port
• IN-DEG	IN-DEG optical port type
• IN-DFB	Rx managed port on Raman CTP card used for span continuity check.
• IN-EXP	The express channel that continues the signal from the previous card
• IN-LINE	All the channels that continue the signal from the previous card
• IN-OSC	OSC channel that continues the signal from the previous card
• IN-UPG	IN-UPG optical port type
• OUT-COM	COM channels (without OSC) that continue the signal to the next card
• OUT-DC	Output DCU port
• OUT-DEG	OUT-DEG optical port type
• OUT-DFB	Tx managed port on Raman CTP card used for span continuity check.
• OUT-EXP	Express channel that continues the signal to the next card
• OUT-LINE	All the channels that continue the signal to the next card
• OUT-EDRA-PUMP	OUT-EDRA-PUMP optical port type
• OUT-UPG	OUT-UPG optical port type
• PORT	PORT optical port type
<ACTWLEN>	(Optional) The manufacturing optical wavelength for this port. Applicable only to the following cards: OSCM, OSC-CSM, OPT-PRE, OPT-BST, 4MD-xx.x, 32MUX, 32DMX, AD-1C-xx.x, AD-2C-xx.x, AD-4C-xx.x, AD-1B-xx.x, and AD-4B-xx.x. The parameter type is OPTICAL_WLEN, which is the optical wavelength.
<EXPWLEN>	(Optional) Optical wavelength for this port. Applicable only to the following types of cards: optical service channel cards, optical amplifier cards, dispersion compensation units, multiplexer and demultiplexer cards, and optical add/drop multiplexing (OADM) cards. The parameter type is OPTICAL_WLEN, which is the optical wavelength.
• 1310	Wavelength 1310
• 1470	Wavelength 1470
• 1490	Wavelength 1490
• 1510	Wavelength 1510
• 1528.77	Wavelength 1528.77
• 1529.16	Wavelength 1529.16
• 1529.55	Wavelength 1529.55
• 1529.94	Wavelength 1529.94
• 1530	Wavelength 1530
• 1530.33	Wavelength 1530.33
• 1530.72	Wavelength 1530.72

Table 23-115 *Output Parameter Support*

Parameter	Description
• 1531.12	Wavelength 1531.12
• 1531.51	Wavelength 1531.51
• 1531.90	Wavelength 1531.90
• 1532.29	Wavelength 1532.29
• 1532.68	Wavelength 1532.68
• 1533.07	Wavelength 1533.07
• 1533.47	Wavelength 1533.47
• 1533.86	Wavelength 1533.86
• 1534.25	Wavelength 1534.25
• 1534.64	Wavelength 1534.64
• 1535.04	Wavelength 1535.04
• 1535.43	Wavelength 1535.43
• 1535.82	Wavelength 1535.82
• 1536.22	Wavelength 1536.22
• 1536.61	Wavelength 1536.61
• 1537	Wavelength 1537
• 1537.40	Wavelength 1537.40
• 1537.79	Wavelength 1537.79
• 1538.19	Wavelength 1538.19
• 1538.58	Wavelength 1538.58
• 1538.98	Wavelength 1538.98
• 1539.37	Wavelength 1539.37
• 1539.77	Wavelength 1539.77
• 1540.16	Wavelength 1540.16
• 1540.56	Wavelength 1540.56
• 1540.95	Wavelength 1540.95
• 1541.35	Wavelength 1541.35
• 1541.75	Wavelength 1541.75
• 1542.14	Wavelength 1542.14
• 1542.35	Wavelength 1542.35
• 1542.54	Wavelength 1542.54
• 1542.94	Wavelength 1542.94
• 1543.33	Wavelength 1543.33
• 1543.73	Wavelength 1543.73
• 1544.13	Wavelength 1544.13
• 1544.53	Wavelength 1544.53

Table 23-115 *Output Parameter Support*

Parameter	Description
• 1544.92	Wavelength 1544.92
• 1545.32	Wavelength 1545.32
• 1545.72	Wavelength 1545.72
• 1546.12	Wavelength 1546.12
• 1546.52	Wavelength 1546.52
• 1546.92	Wavelength 1546.92
• 1547.32	Wavelength 1547.32
• 1547.72	Wavelength 1547.72
• 1548.11	Wavelength 1548.11
• 1548.51	Wavelength 1548.51
• 1548.91	Wavelength 1548.91
• 1549.32	Wavelength 1549.32
• 1549.72	Wavelength 1549.72
• 1550	Wavelength 1500
• 1550.12	Wavelength 1550.12
• 1550.52	Wavelength 1550.52
• 1550.92	Wavelength 1550.92
• 1551.32	Wavelength 1551.32
• 1551.72	Wavelength 1551.72
• 1552.12	Wavelength 1552.12
• 1552.52	Wavelength 1552.52
• 1552.93	Wavelength 1552.93
• 1553.33	Wavelength 1553.33
• 1553.73	Wavelength 1553.73
• 1554.13	Wavelength 1554.13
• 1554.13	Wavelength 1554.13
• 1554.94	Wavelength 1554.94
• 1555.34	Wavelength 1555.34
• 1555.75	Wavelength 1555.75
• 1556.15	Wavelength 1556.15
• 1556.55	Wavelength 1556.55
• 1556.96	Wavelength 1556.96
• 1557.36	Wavelength 1557.36
• 1557.77	Wavelength 1557.77
• 1558.17	Wavelength 1558.17
• 1558.58	Wavelength 1558.58

Table 23-115 **Output Parameter Support**

Parameter	Description
• 1558.98	Wavelength 1558.98
• 1559.39	Wavelength 1559.39
• 1559.79	Wavelength 1559.79
• 1560.20	Wavelength 1560.20
• 1560.61	Wavelength 1560.61
• 1561.01	Wavelength 1561.01
• 1561.42	Wavelength 1561.42
• 1561.83	Wavelength 1561.83
• 1562.23	Wavelength 1562.23
• 1562.64	Wavelength 1562.64
• 1563.05	Wavelength 1563.05
• 1563.45	Wavelength 1563.45
• 1563.86	Wavelength 1563.86
• 1564.27	Wavelength 1564.27
• 1564.68	Wavelength 1564.68
• 1565.09	Wavelength 1565.09
• 1565.50	Wavelength 1565.50
• 1565.90	Wavelength 1565.90
• 1566.31	Wavelength 1566.31
• 1566.72	Wavelength 1566.72
• 1570	Wavelength 1570
• 1570.83	Wavelength 1570.83
• 1571.24	Wavelength 1571.24
• 1571.65	Wavelength 1571.65
• 1572.06	Wavelength 1572.06
• 1572.48	Wavelength 1572.48
• 1572.89	Wavelength 1572.89
• 1573.30	Wavelength 1573.30
• 1573.71	Wavelength 1573.71
• 1574.13	Wavelength 1574.13
• 1574.54	Wavelength 1574.54
• 1574.95	Wavelength 1574.95
• 1575.37	Wavelength 1575.37
• 1575.78	Wavelength 1575.78
• 1576.20	Wavelength 1576.20
• 1576.61	Wavelength 1576.61

Table 23-115 *Output Parameter Support*

Parameter	Description
• 1577.03	Wavelength 1577.03
• 1577.44	Wavelength 1577.44
• 1577.86	Wavelength 1577.86
• 1578.27	Wavelength 1578.27
• 1578.69	Wavelength 1578.69
• 1579.10	Wavelength 1579.10
• 1579.52	Wavelength 1579.52
• 1579.93	Wavelength 1579.93
• 1580.35	Wavelength 1580.35
• 1580.77	Wavelength 1580.77
• 1581.18	Wavelength 1581.18
• 1581.60	Wavelength 1581.60
• 1582.02	Wavelength 1582.02
• 1582.44	Wavelength 1582.44
• 1582.85	Wavelength 1582.85
• 1583.27	Wavelength 1583.27
• 1583.69	Wavelength 1583.69
• 1584.11	Wavelength 1584.11
• 1584.53	Wavelength 1584.53
• 1584.95	Wavelength 1584.95
• 1585.36	Wavelength 1585.36
• 1585.78	Wavelength 1585.78
• 1586.20	Wavelength 1586.20
• 1586.62	Wavelength 1586.62
• 1587.04	Wavelength 1587.04
• 1587.46	Wavelength 1587.46
• 1587.88	Wavelength 1587.88
• 1588.30	Wavelength 1588.30
• 1588.73	Wavelength 1588.73
• 1589.15	Wavelength 1589.15
• 1589.57	Wavelength 1589.57
• 1589.99	Wavelength 1589.99
• 1590	Wavelength 1590
• 1590.41	Wavelength 1590.41
• 1590.83	Wavelength 1590.83
• 1591.26	Wavelength 1591.26

Table 23-115 **Output Parameter Support**

Parameter	Description
• 1591.68	Wavelength 1591.68
• 1592.10	Wavelength 1592.10
• 1592.52	Wavelength 1592.52
• 1592.95	Wavelength 1592.95
• 1593.37	Wavelength 1593.37
• 1593.79	Wavelength 1593.79
• 1594.22	Wavelength 1594.22
• 1594.64	Wavelength 1594.64
• 1595.06	Wavelength 1595.06
• 1595.49	Wavelength 1595.49
• 1596.34	Wavelength 1596.34
• 1596.76	Wavelength 1596.76
• 1597.19	Wavelength 1597.19
• 1597.62	Wavelength 1597.62
• 1598.04	Wavelength 1598.04
• 1598.47	Wavelength 1598.47
• 1598.89	Wavelength 1598.89
• 1599.32	Wavelength 1599.32
• 1599.75	Wavelength 1599.75
• 1600.06	Wavelength 1600.06
• 1601.03	Wavelength 1601.03
• 1601.46	Wavelength 1601.46
• 1601.88	Wavelength 1601.88
• 1602.31	Wavelength 1602.31
• 1602.74	Wavelength 1602.74
• 1603.17	Wavelength 1603.17
• 1603.60	Wavelength 1603.60
• 1604.03	Wavelength 1604.03
• 1610	Wavelength 1610
• USE-TWL1	Use Tunable Wavelength 1
<LOSSB>	The parameter type is REACH, which indicates the reach values.
• 100GBASE-LR4	100GBASE-LR4
• 100GBASE-SR10	100GBASE-SR10
• 40GBASE-FR	40GBASE-FR
• 40GBASE-LR4	40GBASE-LR4
• 40GBASE-SR4	Reach supported on 40GIGE payload on CFP-LC card.

Table 23-115 **Output Parameter Support**

Parameter	Description
• 4I1-9D1F	4I1-9D1F
• C4S1-2D1	C4S1-2D1
• FE-BX	FE-BX
• FX	FX
• GE-BX	GE-BX
• GE-EX	GE-EX
• LX-10	LX-10
• TEN-GE-LRM	TEN-GE-LRM
• TEN-GE-ZR	TEN-GE-ZR
• VSR2000-3R2	VSR2000-3R2
• AUTOPROV	Autoprovisioning
• CWDM-40KM	CWDM 40 km
• CX	Reach CX
• CX1	Reach CX1
• DX	Reach DX
• HX	Reach HX
• I1	Reach I1
• IR-1	Reach IR-1
• IR-2	Reach IR-2
• L1	Reach L1
• L2	Reach L2
• L3	Reach L3
• LR-1	Reach LR-1
• LR-2	Reach LR-2
• LR-3	Reach LR-3
• LX	Reach LX
• S1	Reach S1
• S2	Reach S2
• SR	Reach SR
• SR-1	Reach SR-1
• SX	Reach SX
• T	Reach T
• TEN-GE-ER	10 GE extended range
• TEN-GE-LR	10 GE long range
• TEN-GE-SR	10 GE short range
• ULH	Reach ULH

Table 23-115 Output Parameter Support

Parameter	Description
• VSR	Reach VSR
• VX	Reach VX
• ZX	Reach ZX
<ILOSS>	(Optional) Insertion loss expressed in dBm. ILOSS applies to output ports only on the following cards: OSCM, OSC-CSM, OPT-PRE, OPT-BST, 4MD-xx.x, 32MUX, 32DMX, AD-1C-xx.x, AD-2C-xx.x, AD-4C-xx.x, AD-1B-xx.x, and AD-4B-xx.x. ILOSS is a string.
<VOAATTN>	(Optional) The transit power attenuation for the VOA expressed in dBm. The range is -24.0 to +2.0 dBm for the MXP_2.5G_10G and TXP_MR_10G cards. VOAATTN is a string.
<VOAPWR>	(Optional) The value of calibrated output power that the VOA is going to set as a result of its attenuation. Applicable only to the following cards: OSCM, OSC-CSM, OPT-PRE, OPT-BST, 4MD-xx.x, 32MUX, 32DMX, AD-1C-xx.x, AD-2C-xx.x, AD-4C-xx.x, AD-1B-xx.x, and AD-4B-xx.x. VOAPWR is a float and a string.
<VOAREFATTN>	(Optional) The value of reference attenuation for the VOA. Applicable only to the following cards: OSCM, OSC-CSM, OPT-PRE, OPT-BST, 4MD-xx.x, 32MUX, 32DMX, AD-1C-xx.x, AD-2C-xx.x, AD-4C-xx.x, AD-1B-xx.x, and AD-4B-xx.x. VOAREFATTN is a float and a string.
<VOAREFPWR>	(Optional) The value of reference output power that the VOA is going to set as a result of its attenuation. Applicable only to the following cards: OSCM, OSC-CSM, OPT-PRE, OPT-BST, 4MD-xx.x, 32MUX, 32DMX, AD-1C-xx.x, AD-2C-xx.x, AD-4C-xx.x, AD-1B-xx.x, and AD-4B-xx.x. VOAREFPWR is a float and a string.
<REFOPWR>	(Optional) The value of the calculated optical power expected for the output line added to the calibration value which equals the total expected output power. Applicable only to the following cards: OSCM, OSC-CSM, OPT-PRE, OPT-BST, 4MD-xx.x, 32MUX, 32DMX, AD-1C-xx.x, AD-2C-xx.x, AD-4C-xx.x, AD-1B-xx.x, and AD-4B-xx.x. REFOPWR is a float and a string.
<PORTNAME>	(Optional) Port name. PORTNAME is a string.
<FCS>	(Optional) First Circuit Startup. An automatic channel startup that operates the VOA when the light is detected on the ingress port.
• Y	Automatic Channel startup enabled.
• N	Automatic Channel startup disabled.
<PROACTPROTECTION>	To enable or disable the protective protection on the card.
<CALOPWR>	(Optional) The value of the calibrated optical power expected for the line added to the calculated value, which equals the total expected output power. Expressed in dBm. Defaults to 0 dBm. CALOPWR is a float.
<CHPOWERFLG>	(Optional) Parameter status flag indicating the state of the channel power.
<ADDOPWR>	(Optional) The value of the ADD optical power to an ADD port of the WSS card. The ADDOPWR is a float.
<GCC>	Identifies the generic communication channel (GCC) connection of the port.
• Y	GCC can be utilized.
• N	GCC cannot be utilized.

Table 23-115 **Output Parameter Support**

Parameter	Description
<GCCRATE>	(Optional) The data rate of the GCC traffic. The default is 192 Kbps. For MXP_2.5G_10G and TXP_MR_10G cards, this applies only to the NCS port. The parameter type is GCCRATE, which is the data rate of the GCC traffic.
• 192K	192 Kbps
• 400K	400 Kbps
• 576K	576 Kbps
<DWRAP>	(Optional) The ITU-T G.709 monitoring digital wrapper. It is either on or off. The system default is ON. For MXP_2.5G_10G and TXP_MR_10G cards, this applies only to the NCS port. The parameter type is ON_OFF (disable or enable an attribute). To enable ITU-T G.709 monitoring, there should be no GCC on the NCS port and the payload (in which the card is configured) should not be UNFRAMED. To disable ITU-T G.709 monitoring, there should be no GCC on the NCS port, the FEC should be turned off, there should be no overhead circuit created on the NCS port, and none of the client ports on the card should be part of a Y-cable protection group (muxponder only).
• N	Disable an attribute.
• Y	Enable an attribute.
<PAYLOADMAP>	(Optional) The type of payload mapping. It can be enabled only if ITU-T G.709 monitoring is turned ON and FEC is enabled. The parameter type is PAYLOAD_MAPPING, which is the payload mapping mode.
• ASYNCH	Asynchronous mapping mode
• ODU	ODU multiplex structure mode
• SYNCH	Synchronous mapping mode
• NOOPU2FIXEDSTUFF	Mapping with no FIXEDSTUFF
<FEC>	(Optional) Forward error correction. It can be enabled only if ITU-T G.709 monitoring is turned ON. It is either off or enabled in standard or enhanced mode. The system default is standard FEC enabled. The FEC level PM and thresholds apply if the FEC is turned ON. The parameter type is FEC_MODE, which specifies the type of forward error correction.
• ENH	Enhanced FEC is enabled.
• ENH-I4	Enhanced FEC 1.4 is enabled.
• ENH-I7	Enhanced FEC 1.7 is enabled.
• ENH-20	20 % Enhanced FEC supported on fixed trunk port of 100G-LC-C card.
• HG-7	High Gain 7% FEC.
• OFF	FEC is disabled.
• STD	Standard FEC is enabled.
<PRE-FEC-PSM>	The parameter type is PROACTIVE_PROT.
• N	Proactive protection is disabled.
• Y	Proactive protection is enabled.
<PEERID>	Indicates the peer trunk facility of the regeneration group on the OTU2-XP card. Accessed using the CHAN AID.

Table 23-115 **Output Parameter Support**

Parameter	Description
<REGENNAME>	Indicates the name of a regeneration group. Applicable only to NCS flavored cards, which support regeneration group. Regenname is a string. The default value is "NULL".
<PORTMODE>	Describes the termination mode of each interface on the OTU2-XP card.
• NCS-LINE	Line terminating mode.
• NCS-SECTION	Section terminating mode.
• NCS-TRANS-AIS	Transparent mode AIS.
• NCS-TRANS-SQUELCH	Transparent mode squelch.
• 10GLANWAN-SQUELCH	10G LAN to WAN Squelch.
<ODUTRANSMODE>	To configure the "ODUk OH" transparency on the OTU2-XP card.
• CISCO-EXT	Cisco Extended. When the Cisco Extended configuration is selected, two bytes of the ODU layer is terminated to guarantee the interoperability with the older Transponder/Muxponder cards.
• TRANS-STD	Transparent Standard Use. The transponder, behaving as a regenerator, terminates the OUT layer and is transparent to the ODU layer. Also in this case the FEC-MISM (FEC Mismatch) alarm is not generated.
<ERRORDECORRELATOR>	Indicates the presence of the MLSE modules on the card. This applies only to TXP_MR_10EX_C, MXP_2.5G_10EX_C, and MXP_MR_10DMEX_C cards
• Y	Indicates that the MLSE module is enabled on the card.
• N	Indicates that the MLSE module is disabled on the card.
<TRIGGERTH>	Specifies the trigger threshold value for Proactive Protection Regen. The parameter type is TRIGGER_THRESHOLD.
• 1E-2	Trigger threshold is 1E-2.
• 1E-3	Trigger threshold is 1E-3.
• 1E-4	Trigger threshold is 1E-4.
• 1E-5	Trigger threshold is 1E-5.
• 1E-6	Trigger threshold is 1E-6.
• 1E-7	Trigger threshold is 1E-7.
• 2E-2	Trigger threshold is 2E-2.
• 2E-3	Trigger threshold is 2E-3.
• 2E-4	Trigger threshold is 2E-4.
• 2E-5	Trigger threshold is 2E-5.
• 2E-6	Trigger threshold is 2E-6.
• 2E-7	Trigger threshold is 2E-7.
• 3E-2	Trigger threshold is 3E-2.
• 3E-3	Trigger threshold is 3E-3.
• 3E-4	Trigger threshold is 3E-4.
• 3E-5	Trigger threshold is 3E-5.
• 3E-6	Trigger threshold is 3E-6.

Table 23-115 **Output Parameter Support**

Parameter	Description
• 3E-7	Trigger threshold is 4E-7.
• 4E-2	Trigger threshold is 4E-2.
• 4E-3	Trigger threshold is 4E-3.
• 4E-4	Trigger threshold is 4E-4.
• 4E-5	Trigger threshold is 4E-5.
• 4E-6	Trigger threshold is 4E-6.
• 4E-7	Trigger threshold is 4E-7.
• 5E-2	Trigger threshold is 5E-2.
• 5E-3	Trigger threshold is 5E-3.
• 5E-4	Trigger threshold is 5E-4.
• 5E-5	Trigger threshold is 5E-5.
• 5E-6	Trigger threshold is 5E-6.
• 5E-7	Trigger threshold is 5E-7.
• 6E-2	Trigger threshold is 6E-2.
• 6E-3	Trigger threshold is 6E-3.
• 6E-4	Trigger threshold is 6E-4.
• 6E-5	Trigger threshold is 6E-5.
• 6E-6	Trigger threshold is 6E-6.
• 6E-7	Trigger threshold is 6E-7.
• 7E-2	Trigger threshold is 7E-2.
• 7E-3	Trigger threshold is 7E-3.
• 7E-4	Trigger threshold is 7E-4.
• 7E-5	Trigger threshold is 7E-5.
• 7E-6	Trigger threshold is 7E-6.
• 7E-7	Trigger threshold is 7E-7.
• 8E-2	Trigger threshold is 8E-2.
• 8E-3	Trigger threshold is 8E-3.
• 8E-4	Trigger threshold is 8E-4.
• 8E-5	Trigger threshold is 8E-5.
• 8E-6	Trigger threshold is 8E-6.
• 8E-7	Trigger threshold is 8E-7.
• 9E-2	Trigger threshold is 9E-2.
• 9E-3	Trigger threshold is 9E-3.
• 9E-4	Trigger threshold is 9E-4.
• 9E-5	Trigger threshold is 9E-5.
• 9E-6	Trigger threshold is 9E-6.

Table 23-115 **Output Parameter Support**

Parameter	Description
• 9E-7	Trigger threshold is 9E-7.
<REVERTTH>	Specifies the revert threshold for Proactive Protection Regen. The parameter type is RVRTTH.
• 1E-3	Revert threshold is 1E-3.
• 1E-4	Revert threshold is 1E-4.
• 1E-5	Revert threshold is 1E-5.
• 1E-6	Revert threshold is 1E-6.
• 1E-7	Revert threshold is 1E-7.
• 2E-3	Revert threshold is 2E-3.
• 2E-4	Revert threshold is 2E-4.
• 2E-5	Revert threshold is 2E-5.
• 2E-6	Revert threshold is 2E-6.
• 2E-7	Revert threshold is 2E-7.
• 3E-3	Revert threshold is 3E-3.
• 3E-4	Revert threshold is 3E-4.
• 3E-6	Revert threshold is 3E-6.
• 4E-3	Revert threshold is 4E-4.
• 4E-4	Revert threshold is 4E-4.
• 4E-5	Revert threshold is 4E-5.
• 4E-6	Revert threshold is 4E-6.
• 4E-7	Revert threshold is 4E-7.
• 5E-3	Revert threshold is 5E-3.
• 5E-4	Revert threshold is 5E-4.
• 5E-5	Revert threshold is 5E-5.
• 5E-6	Revert threshold is 5E-6.
• 5E-7	Revert threshold is 5E-7.
• 5E-8	Revert threshold is 5E-8.
• 6E-3	Revert threshold is 6E-3.
• 6E-4	Revert threshold is 6E-4.
• 6E-5	Revert threshold is 6E-5.
• 6E-6	Revert threshold is 6E-6.
• 6E-7	Revert threshold is 6E-7.
• 6E-8	Revert threshold is 6E-8.
• 7E-3	Revert threshold is 7E-3.
• 7E-4	Revert threshold is 7E-4.
• 7E-5	Revert threshold is 7E-5.

Table 23-115 **Output Parameter Support**

Parameter	Description
• 7E-6	Revert threshold is 7E-6.
• 7E-7	Revert threshold is 7E-7.
• 7E-8	Revert threshold is 7E-8.
• 8E-3	Revert threshold is 8E-3.
• 8E-4	Revert threshold is 8E-4.
• 8E-5	Revert threshold is 8E-5.
• 8E-6	Revert threshold is 8E-6.
• 8E-7	Revert threshold is 8E-7.
• 8E-8	Revert threshold is 8E-8.
• 9E-3	Revert threshold is 9E-3.
• 9E-4	Revert threshold is 9E-4.
• 9E-5	Revert threshold is 9E-5.
• 9E-6	Revert threshold is 9E-6.
• 9E-7	Revert threshold is 9E-7.
• 9E-8	Revert threshold is 9E-8.
<OVRCLK>	Indicates whether the optical trunk is over-clocked or not. It can be Y or N. The default is N.
• DQPSK	Indicates the D-QPSK modulation format.
• QPSK	Indicates the QPSK modulation format.
<SQUELCHMODE>	Shuts down the far-end laser in response to certain defects.
• DISABLE	Squelch is disabled.
• AIS	AIS
• SQUELCH	Squelch is enabled.
• NONE	No Squelch.
• ODU-AIS	ODU AIS.
• G-AIS	G-AIS
• NOS	NOS
<RXWLEN>	The RX wavelength. It is applicable in unidirectional regeneration mode of a muxponder card. In this case the RX wavelength can be different from the nominal TX wavelength (EXPWLEN). It can be any valid NCS wavelength value. The default value is USE-TWL1.
<OSNR>	Measure of the optical signal to noise ration
<PMD>	Measure of the polarization mode value, an average of the 2 polarization modes.
<CHROMDISP>	Alarm raised when receiver fails in compensating the excessive PMD.
<FECALARMSUPPRESS>	FECALARMSUPPRESS
<CDLOW>	(Optional) Lower limit of CD working range.
<CDHIGH>	(Optional) Upper limit of CD working range.

Table 23-115 **Output Parameter Support**

Parameter	Description
<SOPMDCURR>	(Optional) Indicates the current value of second order polarization dispersion mode on the fixed trunk of 10x10G-LC card.
<PCRCURR>	(Optional) Indicates the current value of polarization change rate on fixed trunk of 10x10G-LC card.
<PDLCURR>	(Optional) Indicates the current value of polarization dependent loss on the fixed trunk of 10x10G-LC card.
<VOATXPOWER>	(Optional) VOA Transmit Power. The parameter type is VOATXPOWER, indicates the VOA transmit power on the fixed trunk.
<TXLASERSHUTDN>	(Optional) Transmit Laser Shut down. The parameter type is TXLASERSHUTDN indicates the transmit laser shut down status as Y or N.
<PST_PSTQ>	Primary state of the entity. The parameter type is PST_PSTQ, which is the service state of the entity described by the PST and PSTQ.
• IS_NR	In Service and Normal
• OOS-AU	Out of Service and Autonomous
• OOS-AUMA	Out of Service and Autonomous Management
• OOS-MA	Out of Service and Management
<SSTQ>	(Optional) Secondary state of the entity. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AINS	Automatic In-Service
• DSBLD	Disabled
• LPBK	Loopback
• MEA	Mismatch of Equipment
• MT	Maintenance
• OOG	Out of Group
• SWDL	Software Download
• UAS	Unassigned
• UEQ	Unequipped

23.110 RTRV-OCHCC

The Retrieve Optical Channel Client Connection (RTRV-OCHCC) command retrieves the OCH client connection provisioning information.

Usage Guidelines None

Category NCS

Security	Retrieve
Input Format	RTRV-CHCC:[<TID>]:<AID>:<CTAG>[:::];
Input Example	RTRV-CHCC:VA454-22:FAC-2-1-1:116;
Input Parameters	<AID> Access identifier from the “27.15 FACILITY” section on page 27-23.
Output Format	SID DATE TIME M CTAG COMPLD “<AID>:[<PAYLOAD>],[<CKTID>],[<ODU1START>],[<ODU1END>],[<TSSTART>],[<TSEND>], [<ODU0START>],[<ODU0END>]:<PST>,<SST>” ;
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD “VFAC-3-1-1::PAYLOAD=GIGE,ODU1START=1,ODU1END=1,ODU0START=1,ODU0END=1:IS- NR,” ;

Table 23-116 Output Parameter Support

Parameter	Description
<AID>	Access identifier from the “27.7 CHANNEL” section on page 27-12.
<PAYLOAD>	(Optional) Indicates the payload of the connection which is equivalent to the type of the payload configured on the facility port where the connection is originated or terminated. The parameter type is MOD1PAYLOAD.
• 100GIGE	100 Gigabit Ethernet.
• 10GFC	10-Gigabit Fibre Channel payload
• 10GFICON	10-Gigabit fiber connectivity payload
• 1GFC	1-Gigabit Fibre Channel payload
• 1GFICON	1-Gigabit fiber connectivity payload
• 1GISC3	1-Gigabit ISC3 compatible
• 2GFC	2-Gigabit Fibre Channel payload
• 2GFICON	2-Gigabit fiber connectivity payload
• 2GISC3	2-Gigabit ISC3 compatible
• 3GVIDEO	3G-SDI video payload.
• 4GFC	4-Gigabit Fibre Channel payload
• 4GFICON	4-Gigabit fiber connectivity payload
• 40GIGE	40-Gigabit Ethernet

Table 23-116 Output Parameter Support

Parameter	Description
• 5GIB	5Gbps InfiniBand (IB_5G) payload
• 8GFC	8-Gigabit Fibre Channel payload
• D1VIDEO	D1Video payload
• DV6000	DV6000 payload
• DVBASI	Digital Video Broadband Asynchronous Serial Interface (DVBASI) payload
• EC1	EC1 payload
• ESCON	ESCON payload
• ETRCLO	ETRCLO payload
• GIGE	1-Gigabit Ethernet payload
• HDSDI	1.5G HD-SDI video payload.
• HDTV	HDTV payload
• ISC1	ISC1 payload
• ISC3PEER1G	1-Gbps ISC3 Peer
• ISC3PEER2G	2-Gbps ISC3 Peer
• ISC3PEER2R	1-Gbps or 2-Gbps ISC3 peer used in transparent (2R) mode
• ISC3STP1G	ISC-3 STP 1G video payload.
• ISC3STP2G	ISC-3 STP 2G video payload.
• ISCCOMPAT	1-Gbps ISC1, ISC2, and ISC3 compatibility
• ODU0	Optical Data Unit Level 0
• OTU1	Optical Transport Unit Level 1
• OTU2	Optical Transport Unit Level 2
• OTU3	Optical Transport Unit Level 3
• OTU4	Optical Transport Unit Level 4
• SDSDI	270M SDI video payload.
• STM4	STM4 payload
• STM64	STM64 payload
• STM1	STM1 payload
• STM16	STM16 payload
• STM256	STM256 payload
• T3	DS3 payload
<CKTID>	(Optional) Cross-connect ID. The default is Blank or None. String of ASCII characters. Maximum length is 48. If CKTID is empty or null the CKTID field will not be displayed.
<ODU1START>	ODU1 Start
<ODU1END>	ODU1 End
<TSSTART>	Time Slot Start
<TSEND>	Time Slot End

Table 23-116 Output Parameter Support

Parameter	Description
<ODU0START>	(Optional) ODU0 Start.
<ODU0END>	(Optional) ODU0 End
<PSTPSTQ>	Service state. The parameter is PST_PSTQ, which provides the service state of the entity described by the PST and PSTQ.
• Unlocked-Enabled	In service and normal
• Unlocked-Disabled	Out of service and autonomous
• Locked-Disabled	Out of service, autonomous and management
• Locked-Enabled	Out of service and management

23.111 RTRV-OCHNC

The Retrieve Optical Channel Network Connection (RTRV-OCHNC) command retrieves the OCH wavelength connection provisioning information.

Usage Guidelines None

Category NCS

Security Retrieve

Input Format RTRV-OCHNC:[<TID>]:<AID>:<CTAG>;

Input Example RTRV-OCHNC:VA454-22:CHANWL-1-3-TX-1530.33:116;

Input Parameters <AID> Access identifier from the [“27.7 CHANNEL”](#) section on page 27-12.

Output Format (For legacy package)

```

SID DATE TIME
M CTAG COMPLD
“<SRC>,<DST>:<WCT>:[CKTID=<CKTID>]:<PSTPSTQ>”
;

(For flex package)
```

```

SID DATE TIME
M CTAG COMPLD
"<SRC>,<DST>:<WCT>:[CKTID=<CKTID>],[WLOPWR],[OPWR],[VOAATTN],[FREQ],[WIDTH]
,[DSPWROFS],[USPWROFS]::<PSTPSTQ>"
;

```

Output Example

```

TID-000 1998-06-20 14:30:00
M 001 COMPLD
"CHANWL-1-3-TX-1530.33,
LINEWL-4-1-RX-1530.33:1WAY:CKTID=\"OCHNC-1\":UNLOCKED-ENABLED"
;

```

Table 23-117 Output Parameter Support

Parameter	Description
<SRC>	Source access identifier from the “27.7 CHANNEL” section on page 27-12 . In two-way wavelength connection sources, both directions need to be indicated.
<DST>	Destination access identifier from the “27.19 LINEWL” section on page 27-29 . In two-way wavelength connection sources, both directions need to be indicated.
<WCT>	Wavelength connection type. The parameter type is WCT. The default is 1WAY.
• 1WAY	A unidirectional wavelength connection for one specified ring direction.
• 2WAY	A bidirectional wavelength connection for both the ring directions.
<CKTID>	(Optional) Cross-connect ID. The default is Blank or None. String of ASCII characters. Maximum length is 48. If CKTID is empty or null the CKTID field will not be displayed.
<WLOPWR>	The value of calibrated output power that the VOA is going to set as a result of its attenuation. WLOPWR is a float.
<OPWR>	Optical power.
<VOAATTN>	The value of calibrated attenuation for the VOA expressed in dBm. The range is 0.0 to +30.0. VOAATTN is a float.
<FREQ>	Optical wavelength
<WIDTH>	Width
<DSPWROFS>	Down stream power offset.
<USPWROFS>	Up stream power offset.
<PSTPSTQ>	Service state. The parameter is PST_PSTQ, which provides the service state of the entity described by the PST and PSTQ.
• Unlocked-Enabled	In service and normal
• Unlocked-Disabled	Out of service and autonomous
• Locked-Disabled	Out of service, autonomous and management
• Locked-Enabled	Out of service and management

23.112 RTRV-ODU0

The Retrieve Optical Data Unit Level 0 (RTRV-ODU0) command retrieves the list of ODU0 entities on the AR-XPE card.

Usage Guidelines

- This command is applicable only for AR-XPE card.
- When a static operational mode is created on the AR-XPE card, and if the port is provisioned with GIGE or 1GFC facility, ODU0's will be retrieved by RTRV-ODU0 command even when the OCHCC circuit is not created.
- When a dynamic operational mode is created on the AR-XPE card, the ODU0's are retrieved only when the OCHCC circuits are created on GIGE or 1GFC facility.

Category

NCS

Security

Retrieve

Input Format

RTRV-ODU0:[<TID>]:<AID>:<CTAG>[:::];

Input Example

RTRV-ODU0::ODU0-2-2-1-1-1;1;

Input Parameters

<AID> ODU0 from the [“27.1 ALL” section on page 27-1](#).

Output Format

```
SID DATE TIME
M CTAG COMPLD
"<AID>"
;
```

Output Example

```
TID-000 1998-06-20 14:30:00
M 001 COMPLD
"ODU0-2-2-1-1-1"
;
```

Table 23-118 *Output Parameter Support*

Parameter	Description
<AID>	ODU0 from the “27.1 ALL” section on page 27-1 .

23.113 RTRV-OMS

The Retrieve Optical Multiplex Section (RTRV-OMS) command retrieves the attributes (service parameters) and state of an OMS facility.

Usage Guidelines	None		
Category	NCS		
Security	Retrieve		
Input Format	RTRV-OMS:[<TID>]:<AID>:<CTAG>;		
Input Example	RTRV-OMS:PENNGROVE:BAND-6-1-RX:236;		
Input Parameters	<table> <tr> <td><AID></td><td>Access identifier from the “27.4 BAND” section on page 27-10.</td></tr> </table>	<AID>	Access identifier from the “27.4 BAND” section on page 27-10.
<AID>	Access identifier from the “27.4 BAND” section on page 27-10.		
Output Format	<pre> SID DATE TIME M CTAG COMPLD “<AID>::RDIRN=<RDIRN>,OPTYPE=<OPTICALPORTTYPE>,[OPWR=<POWER>], EXPBAND=<EXPBAND>,[ACTBAND=<ACTBAND>],[ILOSS=<ILOSS>], [VOAMODE=<VOAMODE>],[VOAATTN=<VOAATTN>],[VOAPWR=<VOAPWR>], [VOAREFATTN=<VOAREFATTN>],[VOAREFPWR=<VOAREFPWR>], [REFOPWR=<REFOPWR>],[CALOPWR=<CALOPWR>],[CHPOWER=<CHPOWER>], [NAME=<NAME>]:<PSTPSTQ>,<SSTQ>” ; </pre>		
Output Example	<pre> TID-000 1998-06-20 14:30:00 M 001 COMPLD “BAND-6-1-RX::RDIRN=W-E,OPTYPE=ADD,OPWR=10.0,EXPBAND=1530.33–1532.68, ACTBAND=1530.33–1532.68,ILOSS=1.0,VOAMODE=ATTN,VOAATTN=0.5, VOAPWR=0.0,VOAREFATTN=3.5,VOAREFPWR=5.0,REFOPWR=10.5,CALOPWR=0.5, CHPOWER=2.0,NAME=“OMS PORT”:UNLOCKED-DISABLED,AUTOMATICINSERVICE” ; </pre>		

Table 23-119 **Output Parameter Support**

Parameter	Description
<AID>	Access identifier from the “ 27.7 CHANNEL ” section on page 27-12.
<RDIRN>	Ring directionality of the optical line. The parameter type is RDIRN_MODE, which is the optical ring directionality.
• E-W	The direction of the signal is from east to west (clockwise).
• W-E	The direction of the signal is from west to east (counterclockwise).
<OPTICALPORTTYPE>	The optical port type. The parameter type is OPTICAL_PORT_TYPE, which qualifies the optical port of a card.
• ADD	The signal is added to the port.
• COM	Common Port
• DROP	The signal is dropped from the port.
• EAD	Express/Add/Drop port
• IN-ASE	Logical port on Raman CTP card.
• IN-COM	COM channels (without OSC) that continue the signal from the previous card
• IN-DC	Input DCU port
• IN-DEG	IN-DEG optical port type
• IN-DFB	Rx managed port on Raman CTP card used for span continuity check.
• IN-UPG	IN-UPG optical port type
• IN-EXP	The express channel that continues the signal from the previous card
• IN-LINE	All the channels that continue the signal from the previous card
• IN-OSC	OSC channel that continues the signal from the previous card
• OUT-COM	COM channels (without OSC) that continue the signal to the next card
• OUT-DC	Output DCU port
• OUT-DEG	OUT-DEG optical port type
• OUT-DFB	Tx managed port on Raman CTP card used for span continuity check.
• OUT-EDRA-PUMP	OUT-EDRA-PUMP optical port type
• OUT-EXP	Express channel that continues the signal to the next card
• OUT-LINE	All the channels that continue the signal to the next card
• OUT-OSC	OSC channel that continue the signal to the next card
• OUT-UPG	OUT-UPG optical port type
• PORT	PORT optical port type
<POWER>	(Optional) The optical power measured at this port. It can be the input or output power according to port type. POWER is a string.
<EXPBAND>	The expected value of band for this port. The parameter type is OPTICAL_BAND (optical band).
• 1530.33–1532.68	Band 1
• 1534.25–1536.61	Band 2
• 1538.19–1540.56	Band 3

Table 23-119 Output Parameter Support

Parameter	Description
• 1542.14–1544.53	Band 4
• 1546.12–1548.51	Band 5
• 1550.12–1552.52	Band 6
• 1554.13–1556.55	Band 7
• 1558.17–1560.61	Band 8
• USE-DEFAULT	This band is not yet configured/retrieved from unit.
<ACTBAND>	(Optional) Identifies the manufacturing optical band (group of four contiguous wavelengths) for this port. The parameter type is OPTICAL_BAND (optical band).
• 1530.33–1532.68	Band 1
• 1534.25–1536.61	Band 2
• 1538.19–1540.56	Band 3
• 1542.14–1544.53	Band 4
• 1546.12–1548.51	Band 5
• 1550.12–1552.52	Band 6
• 1554.13–1556.55	Band 7
• 1558.17–1560.61	Band 8
• USE-DEFAULT	This band is not yet configured/retrieved from unit.
<ILOSS>	(Optional) Insertion loss expressed in dBm. ILOSS applies to output ports only.
<VOAMODE>	(Optional) The working control mode of the VOA. The parameter type is VOA_CNTR_MODE, which defines the VOA control mode.
• ATTN	VOA has a fixed attenuation.
• POWER	VOA controls the attenuation to obtain a fixed output power.
<VOAATTN>	(Optional) The value of calibrated attenuation for the VOA. VOAATTN is a float and a string.
<VOAPWR>	(Optional) The value of calibrated output power that the VOA is going to set as a result of its attenuation. VOAPWR is a float and a string.
<VOAREFATTN>	(Optional) The value of reference attenuation for the VOA. VOAREFATTN is a float and a string.
<VOAREFPWR>	(Optional) The value of reference output power that the VOA is going to set as a result of its attenuation. VOAREFPWR is a float and a string.
<REFOPWR>	(Optional) The value of the calculated optical power expected for the output line added to the calibration value which equals the total expected output power. REFOPWR is a float and a string.
<CALOPWR>	(Optional) The value of the calibrated optical power expected for the output added to the calculated value which equals the total expected output power. Expressed in dBm. Defaults to 0 dBm. CALOPWR is a float and a string.
<CHPOWER>	(Optional) The per channel optical power. The parameter type is REVERTIVE_TIME (revertive time).
• 0.5 to 12.0	Revertive time is 0.5 to 12.0 minutes.

Table 23-119 **Output Parameter Support**

Parameter	Description
<NAME>	(Optional) Facility name. NAME is a string.
<PSTPSTQ>	Primary state of the entity. The parameter type is PST_PSTQ, which is the service state of the entity described by the PST and PSTQ.
• Unlocked-Enabled	In service and normal
• Unlocked-Disabled	Out of service and autonomous
• Locked-Disabled	Out of service, autonomous and management
• Locked-Enabled	Out of service and management
<SSTQ>	(Optional) Secondary state of the entity. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AutomaticInService	Automatic in service
• Disabled	Disabled
• Loopback	Loopback
• MismatchofEquipmentAlarm	Mismatch of equipment and attributes
• Maintenance	Maintenance mode
• OutOfGroup	Out of group
• SoftwareDownload	Software downloading
• Unassigned	Unassigned
• NotInstalled	Unequipped

23.114 RTRV-OPM

The Retrieve Optical Monitoring Parameter (RTRV-OPM) command retrieves the optical power monitoring parameters present at the OCH layer in a reconfigurable OADM (ROADM) node.

Usage Guidelines None

Category NCS

Security Retrieve

Input Format RTRV-OPM:[<TID>]:<AID>:<CTAG>;

Input Example RTRV-OPM:VA454-22:OPM-5-1530.33:116;

Input Parameters	<AID> Access identifier from the “27.22 OPM” section on page 27-32.
Output Format	<pre> SID DATE TIME M CTAG COMPLD “<AID>::[POWEROUT=<POWEROUT>],[POWERADD=<POWERADD>], [POWERPT=<POWERPT>]” ; </pre>
Output Example	<pre> TID-000 1998-06-20 14:30:00 M 001 COMPLD “OPM-5-1530.33::POWEROUT=9.0,POWERADD=10.0,POWERPT=11.0:” ; </pre>

Table 23-120 Output Parameter Support

Parameter	Description
<AID>	Access identifier from the “27.22 OPM” section on page 27-32.
<POWEROUT>	(Optional) The value of the output power associated to the add or pass-through channel port of the 32WSS card. POWEROUT is a float.
<POWERADD>	(Optional) The value of the input power associated to the add channel port of 32WSS card. POWERADD is mutually exclusive with the POWERPT parameter. POWERADD is a float.
<POWERRPT>	(Optional) The value of the input power associated to the pass-through channel port of 32WSS card. POWERPT is mutually exclusive with the POWERADD parameter. POWERRPT is a float.

23.115 RTRV-OPMODE

The Retrieve Operation Mode (RTRV-OPMODE) command retrieves the operation modes created on that node. In Trunkport list, the first port number indicates the working port and second port number indicates the protect port number.

Usage Guidelines

- The PEERSLOTS indicates the SLOT NUMBER of the peer card, which is part of the dual card operational mode on the 100G-LC-C, 10x10G-LC, and CFP-LC cards.
- In Low-latency and RGN-10G modes, one of the port is represented as Client and the other as Trunk while both are represented as trunks on CTC.
- OPMODE parameter will be retrieved in the command response for all the opmodes on AR-MXP, AR-XP, AR-XPE, 10x10G-LC, 100G-LC-C and CFP-LC Cards.
- PEERSLOTS parameter will be retrieved in the command response for dual card operating modes on only 10x10G-LC, 100G-LC-C, and CFP-LC cards. PEERSLOTS parameter is of syntax SLOT-<SLOTNO>.
- Following are the mandatory parameters for the operating modes on the 10x10G-LC, 100G-LC-C and CFP-LC cards:
 - OPMODE and TRUNKPORT parameters for TXP-10G, RGN-10G, and LOW-LATENCY operating modes on the 10x10G-LC card.

- OPMODE parameter for TXP-100G and RGN-100G operating modes on the 100G-LC-C card; CFP-MXP and CFP-TXP operating modes on the CFP-LC; MXP-10X10G card mode on the 10x10G-LC card.

Category	NCS																		
Security	Provisioning																		
Input Format	RTRV-OPMODE:[<TID>]:<aid>:<CTAG>;																		
Input Example	RTRV-OPMODE::SLOT-2:1;																		
Input Parameters	<table> <tr> <td><AID></td><td>Access identifier from the “27.13 EQPT” section on page 27-21.</td></tr> </table>	<AID>	Access identifier from the “27.13 EQPT” section on page 27-21 .																
<AID>	Access identifier from the “27.13 EQPT” section on page 27-21 .																		
Output Format	SID DATE TIME M CTAG COMPLD <AID>,[<OPMODE>],[<PEERSLOTS>],[<TRUNKPORTS>],[<CLIENTPORTS>],[<RATE>],[<CTMAP>] ;																		
Output Example	100g 2012-05-22 12:39:49 M 1 COMPLD "SLOT-2,OPMODE=CFP-TXP,PEERSLOTS=SLOT-3," "SLOT-3,OPMODE=CFP-TXP,PEERSLOTS=SLOT-5&SLOT-2,CLIENTPORTS=1&2," "SLOT-5,OPMODE=CFP-TXP,PEERSLOTS=SLOT-3,"																		
Output Parameters	<table> <tr> <th>Parameter</th><th>Description</th></tr> <tr> <td><AID></td><td>SLOT Access Identifier</td></tr> <tr> <td><OPMODE></td><td>Specifies the operating mode that exists on CLIENTPORTS and TRUNKPORTS on that RATE and CTMAP</td></tr> <tr> <td>• MXP-10x10G</td><td>Muxponder mode between 10X10G-LC and 100G-LC-C card.</td></tr> <tr> <td>• RGN-100G</td><td>Regenerator mode between two 100G-LC-C cards.</td></tr> <tr> <td>• RGN-10G</td><td>Ginsu regenerator mode among SFP+ ports on 10X10G-LC card.</td></tr> <tr> <td>• CFP-MXP</td><td>Muxponder mode between one CFP-LC and one 100G-LC-C cards.</td></tr> <tr> <td>• CFP-TXP</td><td>Transponder mode among SFP+ ports on 10X10G-LC card.</td></tr> <tr> <td>• TXP-10G</td><td>Transponder mode among SFP+ ports on 10X10G-LC card.</td></tr> </table>	Parameter	Description	<AID>	SLOT Access Identifier	<OPMODE>	Specifies the operating mode that exists on CLIENTPORTS and TRUNKPORTS on that RATE and CTMAP	• MXP-10x10G	Muxponder mode between 10X10G-LC and 100G-LC-C card.	• RGN-100G	Regenerator mode between two 100G-LC-C cards.	• RGN-10G	Ginsu regenerator mode among SFP+ ports on 10X10G-LC card.	• CFP-MXP	Muxponder mode between one CFP-LC and one 100G-LC-C cards.	• CFP-TXP	Transponder mode among SFP+ ports on 10X10G-LC card.	• TXP-10G	Transponder mode among SFP+ ports on 10X10G-LC card.
Parameter	Description																		
<AID>	SLOT Access Identifier																		
<OPMODE>	Specifies the operating mode that exists on CLIENTPORTS and TRUNKPORTS on that RATE and CTMAP																		
• MXP-10x10G	Muxponder mode between 10X10G-LC and 100G-LC-C card.																		
• RGN-100G	Regenerator mode between two 100G-LC-C cards.																		
• RGN-10G	Ginsu regenerator mode among SFP+ ports on 10X10G-LC card.																		
• CFP-MXP	Muxponder mode between one CFP-LC and one 100G-LC-C cards.																		
• CFP-TXP	Transponder mode among SFP+ ports on 10X10G-LC card.																		
• TXP-10G	Transponder mode among SFP+ ports on 10X10G-LC card.																		

Parameter	Description
• TXP-MR	Unprotected Multi-rate transponder
• TXPP-MR	Protected Muti-rate Transponder
• MXP-DME	Unprotected Data Muxponder
• MXPP-DME	Protected Data Muxponder
• MXP-MR-2.5G	Unprotected Multi-Rate Muxponder
• MXPP-MR-2.5G	Protected Multi-Rate Muxponder
• MXP-4x2.5-10G	OC48/OTU1 Unprotected Muxponder
• MXPP-4x2.5-10G	OC48/OTU1 Protected Muxponder
• MXP-VDC-10G	Video Muxponder (without Drop & Continue)
• LOW-LATENCY	Low latency opmode is supported only on 10x10G-LC card.
• MXPP-MR-S	Operating mode on AR-MXP, AR-XP, or AR-XPE card.
• MXP-MR-S	Operating mode on AR-MXP, AR-XP, or AR-XPE card.
• MXP-2x40G	Operating mode on AR-MXP, AR-XP, or AR-XPE card.
<PEERSLOTS>	The slot number of the peer card (100G-LC-C) of the CFP-LC card, which is part of the CFP-TXP and CFP-MXP modes, specified by the SLOT<SLOTNO>.
<TRUNKPORTS>	Specifies the trunk port(s) which are part of that operating mode
<CLIENTPORTS>	Specifies the client port(s) which are part of that operating mode
<CTMAP>	The client to trunk mapping that exists on the ports in that operating mode.
<RATE>	The rate on which the operating mode is created
• HIGH	High rate (>5G)
• LOW	Low rate (<5G)

23.116 RTRV-OPMOD-PTSYS

The Retrieve Operation Mode Packet Transport System (RTRV-OPMOD-PTSYS) command retrieves the operation mode of the CPT 50 panel.

Usage Guidelines

This command is valid for PTSYS. Retrieves the operation mode of the PTSYS.

Category

Equipment

Security

Retrieve

Input Format

RTRV-OPMOD-PTSYS:[<TID>]:<AID>:<CTAG>;

Input Example

RTRV-OPMOD-PTSYS::ALL:1;

Input Parameters	<AID> PTSYS AID. Access identifier from the “27.13 EQPT” section on page 27-21.
Output Format	SID DATE TIME M CTAG COMPLD “<PTSYS AID>:<MODE>”;
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD “PTSYS-1:NMS”;

Table 23-121 Output Parameter Support

Parameter	Description
<AID>	AID of the CPT 50 panel for which the operation mode is to be retrieved.
<OPMODE>	Operation mode of the PTSYSTEM.
• NMS	TCP IPC mode.
• IOS	IPC mode.

23.117 RTRV-OTS

The Retrieve Optical Transport System (RTRV-OTS) command retrieves the attributes (service parameters) and state of an OTS facility.

Usage Guidelines	None
Category	NCS
Security	Retrieve
Input Format	RTRV-OTS:[<TID>]:<AID>:<CTAG>;
Input Example	RTRV-OTS:PENNGROVE:LINE-6-1-RX:236;
Input Parameters	<AID> Access identifier from the “27.18 LINE” section on page 27-26.

Output Format

SID DATE TIME
M CTAG COMPLD

```
“<AID>:.,[<ROLE>],[<STATUS>]:<OPTICALPORTTYPE>,[<POWER>],[<OSCPWR>],[<ILOSS>],
[<VOAMODE>],[<VOAATTN>],[<VOAPWR>],[<VOAREFATTN>],[<VOAREFPWR>],[<OSRI>],[
<AMPLMODE>],[<AMPLMODEFLG>],[<CHPOWER>],[<CHPOWERFLG>],[<GAIN>],[<EXPGA
IN>],[<EXPGAINFLG>],[<REFOPWR>],[<OFFSET>],[<REFTILT>],[<REFTILTFLG>],[<CALTILT
>],[<ASEOPWR>],[<DCULOSS>],[<AWGST>],[<HEATST>],[<NAME>],[<SOAK>],[<SOAKLEFT
>],[<WRKCHANNELS>],[<RATIO>],[<RAMAN_STATUS>],[<RAMAN_QUALITY>],[<TIME>],[
<DATE>],[<RAMAN_RESTORE_FC>],[<TIME_FC>],[<DATE_FC>],[<FG>],[<CG>],[<SWSTATE
>]:<PST>,<SST>”
;
```

Output Example

```
TID-000 1998-06-20 14:30:00
M 001 COMPLD
“LINE-6-1-RX:RDIRN=W-E,OPTYPE=ADD,OPWR=10.0,ILOSS=1.0,VOAMODE=ATTN,
VOAATTN=0.5,VOAPWR=0.0,VOAREFATTN=3.5,VOAREFPWR=5.0,OSRI=Y,
AMPLMODE=GAIN,CHPOWER=-10.0,GAIN=3.0,EXPGAIN=3.0,REFOPWR=10.0,
OFFSET=0.0,REFTILT=3.0,CALTILT=0.0,ASEOPWR=5.0,DCULOSS=1.2,
AWGST=WARM-UP,HEATST=ON,
NAME=\“OTS PORT\”:UNLOCKED-DISABLED,AUTOMATICINSERVICE”
;
```

Table 23-122 Output Parameter Support

Parameter	Description
<AID>	Access identifier from the “27.18 LINE” section on page 27-26 .
<RDIRN>	Ring direction of the optical line. The parameter type is RDIRN_MODE, which is the optical ring direction.
• E-W	The direction of the signal is from east to west (clockwise).
• W-E	The direction of the signal is from west to east (counterclockwise).
<ROLE>	The role the unit is playing in the protection group.
• PROT	The entity is the protection unit in the protection group.
• WORK	The entity is the working unit in the protection group.
<STATUS>	The status of the unit in the protection pair.
• ACT	The entity is the active unit on the shelf
• STBY	The entity is the standby unit on the shelf
<OPTICALPORTTYPE>	The optical port type. The parameter type is OPTICAL_PORT_TYPE, which qualifies the optical port of a card.
• ADD	The signal is added to the port.
• COM	Common port
• DROP	The signal is dropped from the port.
• EAD	Express/Add/Drop port
• IN-ASE	Logical port on Raman CTP card.
• IN-COM	COM channels (without OSC) that continue the signal from the previous card

Table 23-122 Output Parameter Support

Parameter	Description
• IN-DC	Input DCU port
• IN-DEG	IN-DEG optical port type
• IN-DFB	Rx managed port on Raman CTP card used for span continuity check.
• IN-EXP	The express channel that continues the signal from the previous card
• IN-LINE	All the channels that continue the signal from the previous card
• IN-OSC	OSC channel that continues the signal from the previous card
• IN-RAMAN	Input RAMAN line facility
• IN-UPG	IN-UPG optical port type
• OUT-COM	COM channels (without OSC) that continue the signal to the next card
• OUT-DC	Output DCU port.
• OUT-DEG	OUT-DEG optical port type
• OUT-DFB	Tx managed port on Raman CTP card used for span continuity check.
• OUT-EDRA-PUMP	OUT-EDRA-PUMP optical port type
• OUT-EXP	Express channel that continues the signal to the next card
• OUT-LINE	All the channels that continue the signal to the next card
• OUT-OSC	OSC channel that continue the signal to the next card
• OUT-RAMAN	Output RAMAN line facility
• OUT-UPG	OUT-UPG optical port type
• PORT	PORT optical port type
<POWER>	(Optional) The optical power measured at this port. It can be the input or output power according to port type. POWER is a float.
<OSCPWR>	(Optional) The optical power of the OSC channel inside the OTS port.
<ILOSS>	(Optional) Insertion loss.
<VOAMODE>	(Optional) The working control mode of the VOA. The parameter type is VOA_CNTR_MODE, which defines the VOA control mode.
• ATTN	VOA has a fixed attenuation.
• POWER	VOA controls the attenuation to obtain a fixed output power.
<VOAATTN>	(Optional) The value of calibrated attenuation for the VOA. VOAATTN is a float.
<VOAPWR>	(Optional) The value of calibrated output power that the VOA is going to set as a result of its attenuation. VOAPWR is a float.
<VOAREFATTN>	(Optional) The value of reference attenuation for the VOA. VOAREFATTN is a float.
<VOAREFPWR>	(Optional) The value of reference output power that the VOA is going to set as a result of its attenuation. VOAREFPWR is a float.
<OSRI>	(Optional) OSRI enabled or disabled. Present only on a port where the safety is supported. Defaults to off. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.

Table 23-122 Output Parameter Support

Parameter	Description
<AMPLMODE>	(Optional) The optical amplification control mode. The parameter type is AMPL_MODE, which defines amplifier control mode.
• GAIN	The amplifier always maintains a fixed gain.
• POWER	The amplifier maintains the output power to a fixed value.
<AMPLMODEFLG>	(Optional) Parameter status flag indicating the state of the amplifier control mode.
<CHPOWER>	(Optional) The per channel optical power. Applicable only to amplified OTS ports.
<CHPOWERFLG>	(Optional) Parameter status flag indicating the state of the channel power.
<GAIN>	(Optional) The value of the gain of the amplifier. Defaults to 21 dB for a preamplifier and 20 dB for a booster amplifier.
<EXPGAIN>	(Optional) The expected gain value to be reached from an amplifier when the node is in a NCS access network. EXPGAIN is a float.
<EXPGAINFLG>	Parameter status flag indicating the state of the expected gain.
<REFOPWR>	(Optional) The value of the calculated optical power expected for the output line added to the calibration value, which equals the total expected output power. REFOPWR is a float.
<OFFSET>	(Optional) The value of the calibrated optical power expected for the output line, which is added to the calculated value to have the total expected output power. OFFSET is a float.
<REFTILT>	(Optional) The calculated tilt value to be added to the user provided calibration value. REFTILT is a float.
<REFTILTFLG>	Parameter status flag indicating the state of the calculated tilt.
<CALTILT>	(Optional) The amplifier calibration tilt offset to be added to the calculated reference value. CALTILT is a float.
<ASEOPWR>	(Optional) The value of the calibrated optical power expected for the output line which is provided by the user, added to the calculated value to have the total expected output power. ASEOPWR is a float.
<DCULOSS>	(Optional) The value of insertion loss associated to DCU in between the two stages of a preamplifier unit. DCULOSS is a float.
<AWGST>	(Optional) The status assumed by arrayed waveguide grating (AWG). The parameter value is AWG_STATUS, which is the AWG status list.
• ON	The AWG is on.
• WARM-UP	The AWG is warming up.
<HEATST>	(Optional) The status assumed by the heater. The parameter type is HEATER_STATUS, which is the heater status list.
• OFF	The heater is off.
• ON	The heater is on.
<NAME>	(Optional) Port name. NAME is a string.
<SOAK>	(Optional) Locked-Automatic In Service to Unlocked transition soak time as measured in 15-minute intervals. SOAK is an integer.

Table 23-122 Output Parameter Support

Parameter	Description
<SOAKLEFT>	(Optional) Time remaining for the transition from Locked-AutomaticInService to Unlocked measured in 1 minute intervals. The format is HH-MM where HH ranges from 00 to 48 and MM ranges from 00 to 59. Rules for SOAKLEFT are as follows: - When the port is in Locked;Locked,Maintenance; or Unlocked state, the parameter is not displayed. - When the port is in Locked,AutomaticInService state but the countdown has not started due to a fault signal, the value will be SOAKLEFT=NOT-STARTED. - When the port is in Locked,AutomaticInService state and the countdown has started, the value will be shown in HH-MM format.
<WRKCHANNELS>	Number of working OCHNC channels carried by the facility.
<RATIO>	Indicates the Raman Pump Power ratio.
<RAMAN_STATUS>	Indicates the Raman setup state.
• NOT-TUNED	Raman is not tuned. Default values are set.
• TUNING	Raman is tuning.
• TUNED	Raman is tuned but not verified.
• FORCE-TUNED	Raman is tuned with values not measured but calculated.
• ACCEPTED-TUNED	Raman setup has been accepted by the user.
• TUNED-VERIFIED	Raman is tuned and verified.
<RAMAN_QUALITY>	Indicates the Raman quality setup results.
• SETUP-GOOD	Setup good
• SETUP-NEED-ACCEPT	Setup needs acceptance
• SETUP-UNACCEPT	Setup unaccepted
• SETUP-FORCED	Setup forced
<TIME>	Identifies the time. Time is a string. Default value is - current time.
<DATE>	Identifies the date. Date is a string. Default value is - current date.
<RAMAN_RESTORE_FC>	Restores Raman after fiber cut.
• FAILED	Restores Raman after fiber cut fails.
• NOTEXEC	Restores Raman after fiber cut is not executed.
• OK	Restores Raman after fiber cut is OK.
• PENDING	Restores Raman after fiber cut is PENDING.
<CG>	TDCU coarse grain value
• 0	TDCU coarse grain value

Table 23-122 **Output Parameter Support**

Parameter	Description
• 110	TDCU coarse grain value
• -1100	TDCU coarse grain value
• -1210	TDCU coarse grain value
• -1320	TDCU coarse grain value
• -1430	TDCU coarse grain value
• -1540	TDCU coarse grain value
• -1650	TDCU coarse grain value
• -220	TDCU coarse grain value
• -330	TDCU coarse grain value
• -440	TDCU coarse grain value
• -550	TDCU coarse grain value
• -660	TDCU coarse grain value
• -770	TDCU coarse grain value
• -880	TDCU coarse grain value
• -990	TDCU coarse grain value
<FG>	TDCU fine grain value
• 0	TDCU fine grain value
• -45	TDCU fine grain value
• -450	TDCU fine grain value
• -495	TDCU fine grain value
• -540	TDCU fine grain value
• -585	TDCU fine grain value
• -630	TDCU fine grain value
• -675	TDCU fine grain value
• -90	TDCU fine grain value
• -135	TDCU fine grain value
• -180	TDCU fine grain value
• -225	TDCU fine grain value
• -270	TDCU fine grain value
• -315	TDCU fine grain value
• -360	TDCU fine grain value
• -405	TDCU fine grain value
<SWITCH_STATE >	The parameter type is SWITCH_STATE , indicates the switch state.
• AUTO	Switch state is auto.
• OPEN	Switch state is open.

Table 23-122 Output Parameter Support

Parameter	Description
<SWSTATE>	Software switch state.
• AUTO	Auto
• LOGO	Logo
<PST>	(Optional) Primary state of the entity. The parameter type is PST, which indicates the current overall service condition of an entity.
• Unlocked-Enabled	In service and normal
• Unlocked-Disabled	Out of service and autonomous
• Locked-Disabled	Out of service, autonomous and management
• Locked-Enabled	Out of service and management
<SST>	(Optional) Secondary state of the entity. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AutomaticInService	Automatic in service
• Disabled	Disabled
• Loopback	Loopback
• MismatchofEquipmentAlarm	Mismatch of equipment and attributes
• Maintenance	Maintenance mode
• OutOfGroup	Out of group
• SoftwareDownload	Software downloading
• Unassigned	Unassigned
• NotInstalled	Unequipped

23.118 RTRV-OTU

The Retrieve Optical Transport Unit Level (RTRV-OTU) command retrieves the attributes (service parameters) and state of an OTU facility.

Usage Guidelines

The OVRCLK is the new parameter added and applicable for RTRV-OTU command on 10x10G-LC SFP+ ports only.

The RTRV-OTU4 is modified by adding a new parameter NUMOFLANES, which describes the number of sublanes provisioned on Aggregate ports of CFP-LC cards.

Category

NCS

Security	Retrieve
Input Format	RTRV-<OTU>[:<TID>]:<AID>:<CTAG>[:::];
Input Example	RTRV-OTU2:PENNGROVE:FAN-6-1-1:236;
Input Parameters	<AID> Access identifier from the “27.18 LINE” section on page 27-26 and “27.15 FACILITY” section on page 27-23.
Output Format	SID DATE TIME M CTAG COMPLD “<AID>:.,[<ROLE>],[<STATUS>]:[NAME=<PORTNAME>],GCC=<GCC>],[DWRAP=<DWRAP>], [FEC=<FEC>],[PAYLOADMAP=<PAYLOADMAP>],[OSDBER=<OSDBER>],[PMMODE=<PMMODE>],[NUMOFLANES=<NUMOFLANES>]:<PST_PSTQ>,[<SSTQ>]”;
Output Example	100g 2012-05-22 13:52:07 M 1 COMPLD “VFAC-3-1-1:.,WORK,STBY:GCC=N,FREQ=USE-TWL1,LOSSB=AUTOPROV,SOAK=32,,SQUEL CHMODE=ODU-AIS,ADMSSM=STU,NUMOFLANES=10:OOS-MA,DSBLD

Table 23-123 Output Parameter Support

Parameter	Description
<AID>	Access identifier from the “ 27.18 LINE ” section on page 27-26.
<ROLE>	The role the unit is playing in the protection group.
• PROT	The entity is the protection unit in the protection group.
• WORK	The entity is the working unit in the protection group.
<STATUS>	The status of the unit in the protection pair.
• ACT	The entity is the active unit on the shelf.
• STBY	The entity is the standby unit on the shelf.
<OSDBER>	OTN SDBER. Can only be provisioned on the working port. Defaults to 1E-7. Parameter type is SD_BER—the threshold for declaring signal degrade on a facility or path.
• 1E-5	SDBER is 1E-5
• 1E-6	SDBER is 1E-6
• 1E-7	SDBER is 1E-7
• 1E-8	SDBER is 1E-8
• 1E-9	SDBER is 1E-9

Table 23-123 Output Parameter Support

<GCC>	Identifies the generic communication channel (GCC) connection of the port.
• Y	GCC can be utilized.
• N	GCC cannot be utilized.
<DWRAP>	(Optional) The ITU-T G.709 monitoring digital wrapper. It is either on or off. The system default is ON. For MXP_2.5G_10G and TXP_MR_10G cards, this applies only to the NCS port. The parameter type is ON_OFF (disable or enable an attribute). To enable ITU-T G.709 monitoring, there should be no GCC on the NCS port and the payload (in which the card is configured) should not be UNFRAMED. To disable ITU-T G.709 monitoring, there should be no GCC on the NCS port, the FEC should be turned off, there should be no overhead circuit created on the NCS port, and none of the client ports on the card should be part of a Y-cable protection group (muxponder only).
• N	Disable an attribute.
• Y	Enable an attribute.
<FEC>	(Optional) Forward error correction. It can be enabled only if ITU-T G.709 monitoring is turned ON. It is either off or enabled in standard or enhanced mode. The system default is standard FEC enabled. The FEC level PM and thresholds apply if the FEC is turned ON. The parameter type is FEC_MODE, which specifies the type of forward error correction.
• ENH	Enhanced FEC is enabled.
• ENH-I4	Enhanced FEC 1.4 is enabled.
• ENH-I7	Enhanced FEC 1.7 is enabled.
• ENH-20	20 % Enhanced FEC supported on fixed trunk port of 100G-LC-C card.
• HG-7	High Gain 7% FEC.
• OFF	FEC is disabled.
• STD	Standard FEC is enabled.
<PRE-FEC-PSM>	The parameter type is PROACTIVE_PROT.
• N	Proactive protection is disabled.
• Y	Proactive protection is enabled.
<PAYLOADMAP>	(Optional) The type of payload mapping. It can be enabled only if ITU-T G.709 monitoring is turned ON and FEC is enabled. The parameter type is PAYLOAD_MAPPING, which is the payload mapping mode.
• ASYNCH	Asynchronous mapping mode
• ODU	ODU multiplex structure mode
• SYNCH	Synchronous mapping mode
• NOOPU2FIXEDSTUFF	Mapping with no FIXEDSTUFF
<FREQ>	(Optional) The parameter type is OPTICAL_WLEN, which indicates the optical wavelength.
• 1310	Wavelength 1310
• 1470	Wavelength 1470
• 1490	Wavelength 1490
• 1510	Wavelength 1510

Table 23-123 **Output Parameter Support**

• 1528.77	Wavelength 1528.77
• 1529.16	Wavelength 1529.16
• 1529.55	Wavelength 1529.55
• 1529.94	Wavelength 1529.94
• 1530	Wavelength 1530
• 1530.33	Wavelength 1530.33
• 1530.73	Wavelength 1530.73
• 1531.12	Wavelength 1531.12
• 1531.51	Wavelength 1531.51
• 1531.90	Wavelength 1531.90
• 1532.29	Wavelength 1532.29
• 1532.68	Wavelength 1532.68
• 1533.07	Wavelength 1533.07
• 1533.47	Wavelength 1533.47
• 1533.86	Wavelength 1533.86
• 1534.25	Wavelength 1534.25
• 1534.64	Wavelength 1534.64
• 1535.04	Wavelength 1535.04
• 1535.43	Wavelength 1535.43
• 1535.82	Wavelength 1535.82
• 1536.22	Wavelength 1536.22
• 1536.61	Wavelength 1536.61
• 1537	Wavelength 1537
• 1537.40	Wavelength 1537.40
• 1537.79	Wavelength 1537.79
• 1538.19	Wavelength 1538.19
• 1538.58	Wavelength 1538.58
• 1538.98	Wavelength 1538.98
• 1539.37	Wavelength 1539.37
• 1539.77	Wavelength 1539.77
• 1540.16	Wavelength 1540.16
• 1540.56	Wavelength 1540.56
• 1540.95	Wavelength 1540.95
• 1541.35	Wavelength 1541.35
• 1541.75	Wavelength 1541.75
• 1542.14	Wavelength 1542.14
• 1542.35	Wavelength 1542.35

Table 23-123 *Output Parameter Support*

• 1542.54	Wavelength 1542.54
• 1542.94	Wavelength 1542.94
• 1543.33	Wavelength 1543.33
• 1543.73	Wavelength 1543.73
• 1544.13	Wavelength 1544.13
• 1544.53	Wavelength 1544.53
• 1544.92	Wavelength 1544.92
• 1545.32	Wavelength 1545.32
• 1545.72	Wavelength 1545.72
• 1546.12	Wavelength 1546.12
• 1546.52	Wavelength 1546.52
• 1546.92	Wavelength 1546.92
• 1547.32	Wavelength 1547.32
• 1547.72	Wavelength 1547.72
• 1548.12	Wavelength 1548.12
• 1548.51	Wavelength 1548.51
• 1548.92	Wavelength 1548.92
• 1549.32	Wavelength 1549.32
• 1549.71	Wavelength 1549.71
• 1550	Wavelength 1500
• 1550.12	Wavelength 1550.12
• 1550.52	Wavelength 1550.52
• 1550.92	Wavelength 1550.92
• 1551.32	Wavelength 1551.32
• 1551.72	Wavelength 1551.72
• 1552.12	Wavelength 1552.12
• 1552.52	Wavelength 1552.52
• 1552.93	Wavelength 1552.93
• 1553.33	Wavelength 1553.33
• 1553.73	Wavelength 1553.73
• 1554.13	Wavelength 1554.13
• 1554.13	Wavelength 1554.13
• 1554.94	Wavelength 1554.94
• 1555.34	Wavelength 1555.34
• 1555.75	Wavelength 1555.75
• 1556.15	Wavelength 1556.15
• 1556.55	Wavelength 1556.55

Table 23-123 **Output Parameter Support**

• 1556.96	Wavelength 1556.96
• 1557.36	Wavelength 1557.36
• 1557.77	Wavelength 1557.77
• 1558.17	Wavelength 1558.17
• 1558.58	Wavelength 1558.58
• 1558.98	Wavelength 1558.98
• 1559.39	Wavelength 1559.39
• 1559.79	Wavelength 1559.79
• 1560.20	Wavelength 1560.20
• 1560.61	Wavelength 1560.61
• 1561.01	Wavelength 1561.01
• 1561.42	Wavelength 1561.42
• 1561.83	Wavelength 1561.83
• 1570	Wavelength 1570
• 1570.83	Wavelength 1570.83
• 1571.24	Wavelength 1571.24
• 1571.65	Wavelength 1571.65
• 1572.06	Wavelength 1572.06
• 1572.48	Wavelength 1572.48
• 1572.89	Wavelength 1572.89
• 1573.30	Wavelength 1573.30
• 1573.71	Wavelength 1573.71
• 1574.13	Wavelength 1574.13
• 1574.54	Wavelength 1574.54
• 1574.95	Wavelength 1574.95
• 1575.37	Wavelength 1575.37
• 1575.78	Wavelength 1575.78
• 1576.20	Wavelength 1576.20
• 1576.61	Wavelength 1576.61
• 1577.03	Wavelength 1577.03
• 1577.44	Wavelength 1577.44
• 1577.86	Wavelength 1577.86
• 1578.27	Wavelength 1578.27
• 1578.69	Wavelength 1578.69
• 1579.10	Wavelength 1579.10
• 1579.52	Wavelength 1579.52
• 1579.93	Wavelength 1579.93

Table 23-123 *Output Parameter Support*

• 1580.35	Wavelength 1580.35
• 1580.77	Wavelength 1580.77
• 1581.18	Wavelength 1581.18
• 1581.60	Wavelength 1581.60
• 1582.02	Wavelength 1582.02
• 1582.44	Wavelength 1582.44
• 1582.85	Wavelength 1582.85
• 1583.27	Wavelength 1583.27
• 1583.69	Wavelength 1583.69
• 1584.11	Wavelength 1584.11
• 1584.53	Wavelength 1584.53
• 1584.95	Wavelength 1584.95
• 1585.36	Wavelength 1585.36
• 1585.78	Wavelength 1585.78
• 1586.20	Wavelength 1586.20
• 1586.62	Wavelength 1586.62
• 1587.04	Wavelength 1587.04
• 1587.46	Wavelength 1587.46
• 1587.88	Wavelength 1587.88
• 1588.30	Wavelength 1588.30
• 1588.73	Wavelength 1588.73
• 1589.15	Wavelength 1589.15
• 1589.57	Wavelength 1589.57
• 1589.99	Wavelength 1589.99
• 1590	Wavelength 1590
• 1590.41	Wavelength 1590.41
• 1590.83	Wavelength 1590.83
• 1591.26	Wavelength 1591.26
• 1591.68	Wavelength 1591.68
• 1592.10	Wavelength 1592.10
• 1592.52	Wavelength 1592.52
• 1592.95	Wavelength 1592.95
• 1593.37	Wavelength 1593.37
• 1593.79	Wavelength 1593.79
• 1594.22	Wavelength 1594.22
• 1594.64	Wavelength 1594.64
• 1595.06	Wavelength 1595.06

Table 23-123 **Output Parameter Support**

• 1595.49	Wavelength 1595.49
• 1596.34	Wavelength 1596.34
• 1596.76	Wavelength 1596.76
• 1597.19	Wavelength 1597.19
• 1597.62	Wavelength 1597.62
• 1598.04	Wavelength 1598.04
• 1598.47	Wavelength 1598.47
• 1598.89	Wavelength 1598.89
• 1599.32	Wavelength 1599.32
• 1599.75	Wavelength 1599.75
• 1600.06	Wavelength 1600.06
• 1601.03	Wavelength 1601.03
• 1601.46	Wavelength 1601.46
• 1601.88	Wavelength 1601.88
• 1602.31	Wavelength 1602.31
• 1602.74	Wavelength 1602.74
• 1603.17	Wavelength 1603.17
• 1603.60	Wavelength 1603.60
• 1604.03	Wavelength 1604.03
• 1610	Wavelength 1610
• USE-TWL1	Use Tunable Wavelength 1
<LOSSB>	(Optional) The parameter type is REACH, which indicates the reach values.
• 100GBASE-LR4	100GBASE-LR4
• 100GBASE-SR10	100GBASE-SR10
• 40GBASE-FR	40GBASE-FR
• 40GBASE-LR4	40GBASE-LR4
• 40GBASE-SR4	Reach supported on 40GIGE payload on CFP-LC card.
• 4I1-9D1F	4I1-9D1F
• C4S1-2D1	C4S1-2D1
• FE-BX	FE-BX
• FX	FX
• GE-BX	GE-BX
• GE-EX	GE-EX
• LX-10	LX-10
• TEN-GE-LRM	TEN-GE-LRM
• TEN-GE-ZR	TEN-GE-ZR
• VSR2000-3R2	VSR2000-3R2

Table 23-123 **Output Parameter Support**

• AUTOPROV	Autoprovisioning
• CX	Reach CX
• CX1	Reach CX1
• DX	Reach DX
• HX	Reach HX
• I1	Reach I1
• IR-1	Reach IR-1
• IR-2	Reach IR-2
• L1	Reach L1
• L2	Reach L2
• L3	Reach L3
• LR-1	Reach LR-1
• LR-2	Reach LR-2
• LR-3	Reach LR-3
• LX	Reach LX
• P1I1-2D1	Long haul 10G Ethernet with 1310 nm wavelength
• P1L1-1D2	Longhaul 2.5G Ethernet with 1550 nm wavelength
• P1L1-2D2	Long haul 10G Ethernet with 1550 nm wavelength
• P1S1-1D1	Shorthaul 2.5G Ethernet with 1310 nm wavelength
• P1S1-2D1	Short haul 10G Ethernet in 1310 nm wavelength
• SC	Reach SC
• S1	Reach S1
• S2	Reach S2
• SR	Reach SR
• SR-1	Reach SR-1
• SX	Reach SX
• T	Reach T
• TEN-GE-ER	10 GE extended range
• TEN-GE-LR	10 GE long range
• TEN-GE-SR	10 GE short range
• VX	Reach VX
• ZX	Reach ZX
<OVRCLK>	Indicates whether the optical trunk is over-clocked or not. It can be Y or N. The default is N.
<SQUELCHMODE>	Shuts down the far-end laser in response to certain defects.
• SQUELCH	Squelch is enabled
• NONE	No Squelch

Table 23-123 Output Parameter Support

• NOS	Squelch is disabled
<ADMSSM>	(Optional) SSM selectable. Only applicable to BITS-IN when SSM is disabled. The parameter type is SYNC_CLOCK_REF_QUALITY_LEVEL, which is the clock source quality level for SONET.
• DUS	Do Not Use For Synchronization
• PRS	Primary Reference Source, Stratum 1 Traceable
• RES	Reserved For Network Synchronization Use
• SMC	SONET Minimum Clock Traceable
• ST2	Stratum 2 Traceable
• ST3	Stratum 3 Traceable
• ST3E	Stratum 3E Traceable
• ST4	Stratum 4 Traceable
• STU	Synchronized, Traceability Unknown
• TNC	Transit Node Clock (2nd Generation Only)
<PORTNAME>	(Optional) Port name. PORTNAME is a string.
<CMDMDE>	(Optional) Command mode. Normal (NORM) mode is the default behavior for all commands but you can specify forced (FRCD) mode to force the system to override a state where the command would normally be denied. The FRCD mode of operation is applicable to delete a virtual concatenated (VCAT) member cross-connect in Unlocked-Enabled or Locked-Disabled, AutomaticInService service states.
<NUMOFLANES>	Identifies the number of sublanes on the aggregate port with values 1 or 4.
<PST_PSTQ>	Primary state. The parameter type is PST_PSTQ, which is the service state of the entity described by the PST and PSTQ.
• Unlocked-Enabled	In service and normal
• Unlocked-Disabled	Out of service and autonomous
• Locked-Disabled	Out of service, autonomous and management
• Locked-Enabled	Out of service and management
<SSTQ>	(Optional) Secondary state. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AutomaticInService	Automatic in service
• Disabled	Disabled
• Loopback	Loopback
• MismatchofEquipmentAlarm	Mismatch of equipment and attributes
• Maintenance	Maintenance mode
• OutOfGroup	Out of group
• SoftwareDownload	Software downloading
• Unassigned	Unassigned
• NotInstalled	Unequipped

23.119 RTRV-PATH-OCH

The Retrieve Path Optical Channel (RTRV-PATH-OCH) command retrieves the OCH path inside a node. An OCH path is a list of AIDs that addresses all the possible facility and internal OCHs that are associated to the same wavelength.

Usage Guidelines None

Category NCS

Security Retrieve

Input Format RTRV-PATH-OCH:[<TID>]:<AID>:<CTAG>[:];

Input Example RTRV-PATH-OCH:PENNGROVE:CHAN-6-2:236;

Input Parameters

<AID>	Access identifier from the “27.10 CrossConnectId” section on page 27-15, “27.19 LINEWL” section on page 27-29, and “27.5 BANDWL” section on page 27-10.

Output Format

```

SID DATE TIME
M CTAG COMPLD
"<AID>::[WLEN],[PATH>]:"
;
```

Output Example

```

TID-000 1998-06-20 14:30:00
M 001 COMPLD
"CHAN-6-2::WLEN=1530.33,PATH=LINEWL-1-3-RX-1530.33&
LINEWL-1-1-TX-1530.33&LINEWL-3-1-RX-1530.33&CHAN-3-1-TX&CHAN-6-2:"
;
```

Table 23-124 Output Parameter Support

Parameter	Description
<AID>	Access identifier from the “27.7 CHANNEL” section on page 27-12, “27.19 LINEWL” section on page 27-29, and “27.5 BANDWL” section on page 27-10.
<WLEN>	(Optional) Defines the optical wavelength value.
• 1529.16	Wavelength 1529.16
• 1530.33	Wavelength 1530.33

Table 23-124 **Output Parameter Support**

Parameter	Description
• 1530.72	Wavelength 1530.72
• 1531.12	Wavelength 1531.12
• 1531.90	Wavelength 1531.90
• 1532.68	Wavelength 1532.68
• 1534.25	Wavelength 1534.25
• 1535.04	Wavelength 1535.04
• 1535.82	Wavelength 1535.82
• 1536.61	Wavelength 1536.61
• 1538.19	Wavelength 1538.19
• 1538.98	Wavelength 1538.98
• 1548.91	Wavelength 1548.91
• 1549.72	Wavelength 1549.72
• 1550.12	Wavelength 1550.12
• 1550.92	Wavelength 1550.92
• 1551.72	Wavelength 1551.72
• 1552.52	Wavelength 1552.52
• 1554.13	Wavelength 1554.13
• 1554.94	Wavelength 1554.94
• 1555.75	Wavelength 1555.75
• 1556.55	Wavelength 1556.55
• 1558.17	Wavelength 1558.17
• 1558.98	Wavelength 1558.98
• 1559.79	Wavelength 1559.79
• 1560.61	Wavelength 1560.61
• 1562.23	Wavelength 1562.23
• 1562.64	Wavelength 1562.64
• 1563.05	Wavelength 1563.05
• 1563.45	Wavelength 1563.45
• 1563.86	Wavelength 1563.86
• 1564.27	Wavelength 1564.27
• 1564.68	Wavelength 1564.68
• 1565.09	Wavelength 1565.09
• 1565.50	Wavelength 1565.50
• 1565.90	Wavelength 1565.90
• 1566.31	Wavelength 1566.31
• 1566.72	Wavelength 1566.72

Table 23-124 *Output Parameter Support*

Parameter	Description
• 1577.44	Wavelength 1577.44
• 1577.86	Wavelength 1577.86
• 1578.27	Wavelength 1578.27
• 1578.69	Wavelength 1578.69
• 1579.10	Wavelength 1579.10
• 1579.52	Wavelength 1579.52
• 1579.93	Wavelength 1579.93
• 1580.35	Wavelength 1580.35
• 1580.77	Wavelength 1580.77
• 1581.18	Wavelength 1581.18
• 1581.60	Wavelength 1581.60
• 1582.02	Wavelength 1582.02
• 1582.44	Wavelength 1582.44
• 1582.85	Wavelength 1582.85
• 1583.27	Wavelength 1583.27
• 1583.69	Wavelength 1583.69
• 1584.11	Wavelength 1584.11
• 1584.53	Wavelength 1584.53
• 1584.95	Wavelength 1584.95
• 1585.36	Wavelength 1585.36
• 1585.78	Wavelength 1585.78
• 1586.20	Wavelength 1586.20
• 1586.62	Wavelength 1586.62
• 1587.04	Wavelength 1587.04
• 1587.46	Wavelength 1587.46
• 1587.88	Wavelength 1587.88
• 1588.30	Wavelength 1588.30
• 1588.73	Wavelength 1588.73
• 1589.15	Wavelength 1589.15
• 1589.57	Wavelength 1589.57
• 1589.99	Wavelength 1589.99
• 1590.41	Wavelength 1590.41
• 1590.83	Wavelength 1590.83
• 1591.26	Wavelength 1591.26
• 1591.68	Wavelength 1591.68
• 1592.10	Wavelength 1592.10

Table 23-124 Output Parameter Support

Parameter	Description
• 1592.52	Wavelength 1592.52
• 1592.95	Wavelength 1592.95
• 1593.37	Wavelength 1593.37
• 1593.79	Wavelength 1593.79
<PATH>	(Optional) Access OCH layer of optical network/client cards from the “27.7 CHANNEL” section on page 27-12.

23.120 RTRV-PM-<MOD2>

The Retrieve Performance Monitoring for 10GFC, 10GIGE, 40GIGE, 100GIGE, 1GFC, 1GFICON, 2GFC, 2GFICON, 5GIB, 8GFC, CHGRP, CLNT, AUTO, 3GVIDEO, D1VIDEO, DS3I, DV6000, DVBASI, E1, E3, E4, T3, ESCON, ETRCLO, ETH, FSTE, G1000, GFPOS, GIGE, HDLC, HDSOI, HDTV, ISC1, ILK, ISCCOMPAT, ISC3PEER2R, ISC3PEER1G, ISC3STP1G, ISC3PEER2G, ISC3STP2G, STM4, STM64, STM1, STM16, OCH, OMS, OTS, OTL, OTU1, OTU2, OTU3, OTU4, POS, SDSOI, STM1E, VC3, VC44C, VC38C, VC464C, VC48C, VC4, VC416C, VC42C, VC43C, VC11, or VC12 (RTRV-PM-<MOD2>) command retrieves the PM parameter values for a specified card type. See [Table 29-1 on page 29-1](#) for supported modifiers by platform.


Note

The RTRV-PM-<MOD2> command does not retrieve SEFS/RS-OFS PM counter for OC192/STM64 payloads on ADM-10G, 40G/40E (TXP/MXP), and OTU2-XP cards.

Usage Guidelines

- MONLEV is in the format of LEV-DIRN.
- After an MS-SPRing switch, the working path is switched out, the traffic goes through the protection path, and the intermediate path performance monitoring (IPPM) can be retrieved from the protection VC path.
- If there is a VC PCA on the protection path, the PCA path is preemptive during an MS-SPRing switch. If you send this command on the protection path after an MS-SPRing switch, the command returns the PMs from the protection path rather than the PCA path.
- Some MOD2 entities, for example, OCH, CLNT, and Optical (STM), support negative MONTYPE values. By default, this command defaults to 0–UP (that is, MONTYPES are returned when the MONVAL is 0 or higher). To retrieve the negative values, you must issue 0–DN in the MONLEV field.
- For client ports, laser and NCS PMs are applicable and will appear. If the card payload is in NCS mode, then NCS PMs will appear (as long as the MONLEV criteria is met).
- Trunk port laser PMs are always available. Laser PMs are only for near-end. If ITU-T G.709 is enabled, then the OTN PMs will appear. If ITU-T G.709 is enabled and FEC is enabled, then the FEC PMs will appear. If the card payload is in NCS mode, then NCS PMs will appear. All PM MONVALUES should pass the MONLEV filter criteria.
- For NCS cards, the MONLEV filter criteria will not support a floating point. It will be returned and interpreted as an integer.
- RTRV-PM-<MOD2> can also be used to retrieve the RMON-managed PM data.

- RTRV-PM-OTL retrieves Optical Thresholds only. This command is denied on sublanes of CFP-LC as optical thresholds are retrieved on CFP-LC's aggregate port.
- This command retrieves only OTN/FEC stats on Virtual ports of 100G-LC-C. This command does not retrieve any Optical statistics as they are retrieved on Aggregate ports on CFP-LC.
- This command retrieves optical stats on sublanes on 100G-LC-C only. The command is denied for Aggregate port on CFP-LC.
- RTRV-PM-OCH on Fixed Trunk on 100G-LC-C also retrieves OSNR and PM stats.
- With TMPER=1-MIN and TMPER=1-HR, the command is denied when DATE and TIME are not specified.
- With TMPER=1-MIN and TMPER=1-HR, RMON PMs are retrieved when DATE and TIME are specified.
- With TMPER=15-MIN and TMPER=1-DAY, All PMs except RMON PMs are retrieved without DATE and TIME specified.
- With TMPER=15-MIN and TMPER=1-DAY, All PMs are retrieved with DATE and TIME specified.

Category Performance

Security Retrieve

Input Format RTRV-PM-<MOD2>:[<TID>]:<AID>:<CTAG>::[<MONTYPE>],[<MONLEV>],[<LOCN>],[<DIRECTION>],[<TMPER>],[<DATE>],[<TIME>];

Input Example RTRV-PM-E1:TID:FAC-2-1:123::CVL,10-UP,NEND,RCV,15-MIN,04-11,12-45;

Table 23-125 Input Parameter Support

Parameter	Description
<AID>	Access identifier from the “ 27.1 ALL ” section on page 27-1. All of the VC, and VT1, Facility AIDs are supported.
<MONTYPE>	(Optional) Monitored type. A null value defaults to all MONTYPES applicable to the modifier. The parameter type is ALL_MONTYPE, which is the monitored type list.
• AISSP	Alarm Indication Signal Seconds—Path
• ALL	All possible values
• BBEP	NCS Background Block Errors Path
• BBE-PM	OTN—Background Block Errors—Path Monitor Point
• BBER	NCS Background Block Error Ratio
• BBER-PM	OTN—Background Block Error Ratio—Path Monitor Point expressed in tenths of a percentage
• BBER-SM	OTN—Background Block Error Ratio—Section Monitor Point expressed in tenths of a percentage
• BBE-SM	OTN—Background Block Errors—Section Monitor Point
• BIEC	FEC—Bit Errors Corrected

Table 23-125 Input Parameter Support

Parameter	Description
• BIT-EC	The number of bit errors corrected by the FEC algorithm
• CGV	8B10B—Code Group Violations
• CVCPP	Coding Violations—CP-Bit Path
• CVL	Coding Violations—Line
• CVP	Coding Violations—Path
• CVS	Coding Violations—Section
• CVV	Coding Violations—Section
• DCG	8B10B—Data Code Groups
• ESCPP	Errored Seconds—CP—Bit Path
• ESL	Errored Seconds—Line
• ESP	Errored Seconds—Path
• ES-PM	OTN—Errored Seconds—Path Monitor Point
• ESR	Errored Second—Ratio
• ESR-PM	Errored Seconds Ratio—Path monitor Point expressed in tenths of a percentage
• ESR-SM	Errored Seconds Ratio—Section monitor Point expressed in tenths of a percentage
• ESS	Errored Seconds—Section
• ES-SM	OTN—Errored Seconds—Section Monitor Point
• ESV	Errored Seconds—VC Path
• dot3StatsFCSErrors	A count of frames received on a particular interface that are an integral number of octets in length but do not pass the FCS check.
• dot3StatsFrameTooLong	A count of frames received on a particular interface that exceed the maximum permitted frame size.
• etherStatsBroadcastPkts	The total number of good packets received that were directed to a multicast address
• etherStatsCollisions	Number of transmit packets that are collisions
• etherStatsCRCAlignmentErrors	The total number of packets received that have a length (excluding framing bits, but including FCS octets) of between 64 and 1518 octets
• etherStatsDropEvents	Number of received frames dropped at the port level
• etherStatsFragments	The total number of packets received that were less than 64 octets
• etherStatsJabbers	The total number of packets received that are longer than 1518 octets
• etherStatsOctets	The total number of octets of data
• etherStatsOversizePkts	The total number of packets received that are longer than 1518 octets
• etherStatsPkts	The total number of packets (including bad packets, broadcast packets, and multicast packets) received

Table 23-125 Input Parameter Support

Parameter	Description
• etherStatsUnderSizePkts	The total number of packets received that are less than 64 octets
• FCP	Failure Count—Line
• FC-PM	OTN—Failure Count—Path Monitor Point
• FC-SM	OTN—Failure Count—Section Monitor Point
• HP-AR	Availability Ratio
• HP-BBE	High-Order Path Background Block Error
• HP-BBER	High-Order Path Background Block Error Ratio
• HP-EB	High-Order Path Errored Block
• HP-ES	High-Order Path Errored Second
• HP-ESA	High-Order Path Errored Seconds—A
• HP-ESB	High-Order Path Errored Seconds—B
• HP-ESR	High-Order Path Errored Second Ratio
• HP-FC	High-Order Path Failure Count
• HP-NPJC-PDET	High-Order Path Negative Pointer Justification Count-Path Detected
• HP-NPJC-PGEN	High-Order Path Negative Pointer Justification Count-Path Generated
• HP-OI	Outage Intensity
• HP-PJCDIFF	High-Order Path Pointer Justification Count Difference
• HP-PJCS-PDET	High-Order Path Pointer Justification Count Seconds-Path Detected
• HP-PPJC-PDET	High-Order Path Positive Pointer Justification Count-Path Detected
• HP-PPJC-PGEN	High-Order Path Positive Pointer Justification Count-Path Generated
• HP-SEPI	The number of SEP events in available time
• HP-SES	High-Order Path Severely Errored Seconds
• HP-SESR	High-Order Path Severely Errored Second Ratio
• HP-UAS	High-Order Path Unavailable Seconds
• ifInBroadcastPkts	Number of broadcast packets received since the last counter reset
• ifInDiscards	The number of inbound packets
• ifInErrorBytePkts	Receive Error Byte
• ifInErrors	The number of inbound packets (or transmission units) that contained errors
• ifInFramingErrorPkts	Receive Framing Error
• ifInJunkInterPkts	Receive Interpacket Junk
• ifInMulticastPkts	Number of multicast packets received since the last counter reset
• ifInOctets	Number of bytes transmitted since the last counter reset
• ifInUcastPkts	Number of unicast packets received since the last counter reset

Table 23-125 Input Parameter Support

Parameter	Description
• ifOutBroadcastPkts	Number of broadcast packets transmitted
• ifOutDiscards	The number of outbound packets
• ifOutErrors	The number of outbound packets (or transmission units) that could not be transmitted because of errors
• ifOutMulticastPkts	Number of multicast packets transmitted
• ifOutPayloadCrcErrors	Received payload CRC errors
• ifOutUcastPkts	Number of unicast packets transmitted
• IOS	8B10B—Idle Ordered Sets
• IPC	Invalid Packet Count
• LBCL-AVG	Average Laser Bias Current in microA
• LBCL-MAX	Maximum Laser Bias Current in microA
• LBCL-MIN	Minimum Laser Bias Current in microA
• LBCN	Normalized Laser Bias Current for STM1-8
• LBCN-HWT	Normalized Laser Bias Current—Higher Threshold
• LBCN-LWT	Normalized Laser Bias Current—Lower Threshold
• LOSSL	Loss of Signal Seconds—Line
• LP-BBE	Low-Order Path Background Block Error
• LP-BBER	Low-Order Path Background Block Error Ratio
• LP-EB	Low-Order Path Errored Block
• LP-ES	Low-Order Path Errored Second
• LP-ESA	Low-Order Path Errored Seconds—A
• LP-ESB	Low-Order Path Errored Seconds—B
• LP-ESR	Low-Order Path Errored Second Ratio
• LP-FC	Low-Order Path Failure Count
• LP-NPJC-DET	Low-Order Negative Pointer Justification Count-Detected
• LP-NPJC-GEN	Low-Order Negative Pointer Justification Count-Generated
• LP-PPJC-DET	Low-Order Positive Pointer Justification Count-Detected
• LP-PPJC-GEN	Low-Order Positive Pointer Justification Count-Generated
• LP-SEP	A sequence of between 3 to 9 consecutive SES
• LP-SEPI	Low-Order Path Severely Errored Period Intensity
• LP-SES	Low-Order Path Severely Errored Seconds
• LP-UAS	Low-Order Path Unavailable Seconds
• MS-PSC	Protection switch count
• MS-PSD	Protection switch duration

Table 23-125 *Input Parameter Support*

Parameter	Description
• NIOS	8B10B—Non Idle Ordered Sets
• NPJC-PDET	Negative Pointer Justification Count-Path Detected
• NPJC-PGEN	Negative Pointer Justification Count-Path Generated
• OPR-AVG	Average Receive Power in one tenth of a microwatt
• OPR-MAX	Maximum Receive Power in one tenth of a microwatt
• OPR-MIN	Minimum Receive Power in one tenth of a microwatt
• OPRN	Normalized Optical Receive Power for STM1-8
• OPRN-MAX	Maximum value for OPRN
• OPRN-MIN	Minimum value for OPRN
• OPT-AVG	Average Transmit Power in tenths of a microW
• OPT-MAX	Maximum Transmit Power in tenths of a microW
• OPT-MIN	Minimum Transmit Power in tenths of a microW
• OPTN	Normalized value for Optical Power Transmitted for STM1-8 card
• OPTN-MAX	Maximum value for OPTN
• OPTN-MIN	Minimum value for OPTN
• OPWR-AVG	Optical Power—Average Interval Value in tenths of a dBm
• OPWR-MAX	Optical Power—Maximum Interval Value in tenths of a dBm
• OPWR-MIN	Optical Power—Minimum Interval Value in tenths of a dBm
• PPJC-PDET	Positive Pointer Justification Count-Path Detected
• PPJC-PGEN	Positive Pointer Justification Count-Path Generated
• PRE-FECBER	Enum to hold PRE-FECBER value
• PSC	Protection Switching Count
• PSC-R	Protection Switching Count—Ring
• PSC-S	Protection Switching Count—Span
• PSC-W	Protection Switching Count—Working
• PSD	Protection Switching Duration
• PSD-R	Protection Switching Duration—Ring
• PSD-S	Protection Switching Duration—Span
• PSD-W	Protection Switching Duration—Working
• SASCPP	Severely Errored Framing/AIS Second—CP-Bit Path
• SASP	Severely Errored Framing/AIS Seconds Path
• SEFS	Severely Errored Framing Seconds
• SESCPP	Severely Errored Second—CP-Bit Path
• SESL	Severely Errored Second—Line
• SESP	Severely Errored Second—Path
• SES-PM	OTN—Severely Errored Second—Path

Table 23-125 Input Parameter Support

Parameter	Description
• SESR	Severely Errored Second—Ratio
• SESR-PM	OTN—Severely Errored Second Ratio—Path Monitor Point expressed in tenths of a percentage
• SESR-SM	OTN—Severely Errored Second Ratio—Section Monitor Point expressed in tenths of a percentage
• SESS	Severely Errored Second—Section
• SES-SM	OTN—Severely Errored Second—Section Monitor Point
• SESV	Severely Errored Second—VC Path
• UASCPP	Unavailable Second—CP-Bit Path
• UASL	Unavailable Second—Line
• UASP	Unavailable Second—Path
• UAS-PM	OTN—Unavailable Second—Path Monitor Point
• UAS-SM	OTN—Unavailable Second—Section Monitor Point
• UASV	Unavailable Second—VC Path
• UNC-WORDS	FEC—Uncorrectable Words
• VPC	Valid Packet Count
• OSNR-MIN	Minimum Optical Signal To Noise Ratio.
• OSNR-MAX	Maximum Optical Signal To Noise Ratio.
• OSNR-AVG	Average Optical Signal To Noise Ratio.
• PMD-MIN	Minimum Polarization Mode Dispersion.
• PMD-MAX	Maximum Polarization Mode Dispersion.
• PMD-AVG	Average Polarization Mode Dispersion.
<MONLEV>	(Optional) The discriminating level of the requested monitored parameter in the format of LEVEL-DIRN, where LEVEL is the measured value of the monitored parameter (MONVAL) and DIRN is the type of direction. A null value defaults to 1-UP. MONLEV is a string.
<LOCN>	(Optional) Location associated with a particular command in reference to the entity identified by the AID. A null value defaults to NEND. The parameter type is LOCATION, which is the location where the action is to take place.
• FEND	Action occurs on the far end of the facility
• NEND	Action occurs on the near end of the facility
<DIRECTION>	(Optional) Type of direction. The parameter type is DIRECTION, which is the transmit and receive directions.
• RCV	Receive direction only
• TRMT	Transmit direction only
<TMPER>	(Optional) Accumulation time period for performance counters. If TMPER is 1-DAY, MONTM is not applicable (null), and is treated as null. The parameter type is TMPER, which is the accumulation time period for the performance management center.
• 1-DAY	Performance parameter accumulation interval length is every 24 hours. For NCS PM data, only one day of history data is available. For RMON managed PM data, seven days of history data are available.

Table 23-125 Input Parameter Support

Parameter	Description
• 1-HR	Performance parameter accumulation interval length is every 1 hour. This is only applicable to RMON managed PM data. There are 24 hours of history data available.
• 1-MIN	Performance parameter accumulation interval length is every 1 minute. This is only applicable to RMON managed PM data. There are 60 minutes of history data available.
• 15-MIN	Performance parameter accumulation interval length is every 15 minutes. There are 32 15-MIN buckets of history data available for this accumulation interval length.
• RAW-DATA	Performance parameter accumulation starts from the last time the counters were cleared. This is only applicable to RMON managed PMs.
<DATE>	(Optional) The beginning date of the PM or storage register period specified in TMPER. The format of DATE is MM-DD, where MM (month of year) ranges from 1 to 12 and DD (day of month) ranges from 1 to 31. A null value defaults to current date.
<TIME>	(Optional) The beginning time of day of the PM or storage register period specified in TMPER. The format of TIME is HH-MM, where HH (hour of day) ranges from 0 to 23 and MM (minute of hour) ranges from 0 to 59. A null value defaults to current time.

Output Format

```

SID DATE TIME
M CTAG COMPLD
  "<AID>,[<AIDTYPE>]:<MONTYPE>,<MONVAL>,[<VLDTY>],[<LOCN>],
  [<DIRECTION>],[<TMPER>],[<MONDAT>],[<MONTM>]"
;

```

Output Example

```

TID-000 1998-06-20 14:30:00
M 001 COMPLD
  "FAC-2-1,E1:CVL,21,COMPL,NEND,RCV,15-MIN,04-11,12-45"
;
ABC 2012-05-15 02:59:20
M 1 RTRV
  "CHAN-1-7-2,OCH:,93899775.1,COMPL,NEND,RCV,15-MIN,05-15,02-45"

```

Table 23-126 Output Parameter Support

Parameter	Description
<AID>	Access identifier from the “27.1 ALL” section on page 27-1 . All of the VC, and VT1, Facility AIDs are supported.
<AIDTYPE>	(Optional) Type of facility, link or other addressable entity targeted by the message. The parameter type is MOD2B, which is the alarm type.
• 100GIGE	100 Gigabit Ethernet.
• 10GIGE	10 Gigabit Ethernet.
• 1GFC	1-Gigabit Fibre Channel payload
• 1GFICON	1-Gigabit fiber connectivity payload
• 2GFC	2-Gigabit Fibre Channel payload

Table 23-126 Output Parameter Support

Parameter	Description
• 10GFC	10-Gigabit Fibre Channel payload
• 2GFICON	2-Gigabit fiber connectivity payload
• 3GVIDEO	3G-SDI video payload.
• Auto	Auto
• 4GFC	4-Gigabit Fibre Channel payload
• 4GFICON	4-Gigabit fiber connectivity payload
• 5GIB	5Gbps InfiniBand (IB_5G) payload
• 8GFC	8-Gigabit Fibre Channel payload
• 40GIGE	40-Gigabit Ethernet
• CHGRP	Channel group
• CLNT	Client facility for MXP/TXP cards
• DS3I	DS3i-N-12 facility
• DVBASI	Digital Video Broadband Asynchronous Serial Interface (DVBASI) payload
• E1	E1 facility
• E3	E3 facility
• E100	E100 alarm
• E1000	E1000 alarm
• E4	E4 alarm
• ENV	ENV alarm
• ETH	ETH facility
• EQPT	EQPT facility
• FSTE	Fast Ethernet port facility
• G1000	G1000 facility
• GIGE	Gigabit Ethernet port facility
• HDLC	High-level data link control (HDLC) frame mode.
• HDSDI	1.5G HD-SDI video payload.
• ISC1	InterSystem Channel, a protocol defined by IBM (ISC1) payload
• ISC3PEER1G	1-Gbps ISC3 peer
• ISC3PEER2G	2-Gbps ISC3 peer
• ISC3PEER2R	1-Gbps or 2-Gbps ISC3 peer used in transparent (2R) mode
• ISC3STP1G	ISC-3 STP 1G video payload.
• ISC3STP2G	ISC-3 STP 12G video payload.
• ISCCOMPAT	1-Gbps ISC1, ISC2, and ISC3 compatibility
• MSISC	MSISC
• OCH	Optical channel
• ODU0	Optical Data Unit Level 0

Table 23-126 Output Parameter Support

Parameter	Description
• OMS	Optical Multiplex Section
• OTS	Optical Transport Section
• OTL	Optical Channel Transport Lane.
• OTU1	Optical Transport Unit Level 1
• OTU2	Optical Transport Unit Level 2
• OTU3	Optical Transport Unit Level 3
• OTU4	Optical Transport Unit Level 4
• POS	POS port facility
• REP	Resilient Ethernet Protocol
• SDSDI	270M SDI video payload
• STM1	STM1 facility
• STM1E	STM1E facility
• STM4	STM4 facility
• STM16	STM16 facility
• STM64	STM64 facility
• TCC	TCC facility
• VC11	VC11 path
• VC12	VC12 path
• VC3	VC3 path
• VC44C	VC44C path
• VC38C	VC38C path
• VC464C	VC464C path
• VC48C	VC48C path
• VC4	VC4 path
• VC416C	VC416C path
• VC42C	VC42C path
• VC43C	VC43C path
<MONTYPE>	Monitored type. The parameter type is ALL_MONTYPE, which is the monitored type list.
• AISSP	Alarm Indication Signal Seconds—Path
• ALL	All possible values
• BBEP	NCS Background Block Errors Path
• BBE-PM	OTN—Background Block Errors—Path Monitor Point
• BBER	NCS Background Block Error Ratio
• BBER-PM	OTN—Background Block Error Ratio—Path Monitor Point expressed in tenths of a percentage.
• BBER-SM	OTN—Background Block Error Ratio—Section Monitor Point expressed in tenths of a percentage.

Table 23-126 **Output Parameter Support**

Parameter	Description
• BBE-SM	OTN—Background Block Errors—Section Monitor Point
• BIEC	FEC—Bit Errors Corrected
• BIT-EC	The number of bit errors corrected by the FEC algorithm
• CGV	8B10B—Code Group Violations
• CVCPP	Coding Violations—CP-Bit Path
• CVL	Coding Violations—Line
• CVP	Coding Violations—Path
• CVS	Coding Violations—Section
• CVV	Coding Violations—Section
• DCG	8B10B—Data Code Groups
• ESCPP	Errored Seconds—CP—Bit Path
• ESL	Errored Seconds—Line
• ESP	Errored Seconds—Path
• ES-PM	OTN—Errored Seconds—Path Monitor Point
• ESR	Errored Second—Ratio
• ESR-PM	Errored Seconds Ratio—Path monitor Point expressed in tenths of a percentage
• ESR-SM	Errored Seconds Ratio—Section monitor Point expressed in tenths of a percentage
• ESS	Errored Seconds—Section
• ES-SM	OTN—Errored Seconds—Section Monitor Point
• ESV	Errored Seconds—VC Path
• dot3StatsFCSErrors	A count of frames received on a particular interface that are an integral number of octets in length but do not pass the FCS check.
• dot3StatsFrameTooLong	A count of frames received on a particular interface that exceed the maximum permitted frame size.
• etherStatsBroadcastPkts	The total number of good packets received that were directed to a multicast address
• etherStatsCollisions	Number of transmit packets that are collisions
• etherStatsCRCAlignErrors	The total number of packets received that have a length (excluding framing bits, but including FCS octets) of between 64 and 1518 octets
• etherStatsDropEvents	Number of received frames dropped at the port level
• etherStatsFragments	The total number of packets received that were less than 64 octets
• etherStatsJabbers	The total number of packets received that are longer than 1518 octets
• etherStatsOctets	The total number of octets of data
• etherStatsOversizePkts	The total number of packets received that are longer than 1518 octets
• etherStatsPkts	The total number of packets (including bad packets, broadcast packets, and multicast packets) received

Table 23-126 Output Parameter Support

Parameter	Description
• etherStatsUndersizePkts	The total number of packets received that are less than 64 octets
• FCP	Failure Count—Line
• FC-PM	OTN—Failure Count—Path Monitor Point
• FC-SM	OTN—Failure Count—Section Monitor Point
• HP-AR	Availability Ratio
• HP-BBE	High-Order Path Background Block Error
• HP-BBER	High-Order Path Background Block Error Ratio
• HP-EB	High-Order Path Errored Block
• HP-ES	High-Order Path Errored Second
• HP-ESA	High-Order Path Errored Seconds—A
• HP-ESB	High-Order Path Errored Seconds—B
• HP-ESR	High-Order Path Errored Second Ratio
• HP-FC	High-Order Path Failure Count
• HP-NPJC-PDET	High-Order Path Negative Pointer Justification Count - Path Detected
• HP-NPJC-PGEN	High-Order Path Pointer Justification Count Seconds - Path Generated
• HP-OI	Outage Intensity
• HP-PJCDIFF	High-Order Path Pointer Justification Count Difference
• HP-PJCS-PDET	High-Order Path Pointer Justification Count Seconds-Path Detected
• HP-PPJC-PDET	High-Order Path Positive Pointer Justification Count-Path Detected
• HP-PPJC-PGEN	High-Order Path Positive Pointer Justification Count-Path Generated
• HP-SEPI	The number of SEP events in available time
• HP-SES	High-Order Path Severely Errored Seconds
• HP-SESR	High-Order Path Severely Errored Second Ratio
• HP-UAS	High-Order Path Unavailable Seconds
• ifInBroadcastPkts	Number of broadcast packets received since the last counter reset
• ifInDiscards	The number of inbound packets
• ifInErrorBytePkts	Receive Error Byte
• ifInErrors	The number of inbound packets (or transmission units) that contained errors
• ifInFramingErrorPkts	Receive Framing Error
• ifInJunkInterPkts	Receive Interpacket Junk
• ifInMulticastPkts	Number of multicast packets received since the last counter reset
• ifInOctets	Number of bytes transmitted since the last counter reset
• ifInUcastPkts	Number of unicast packets received since the last counter reset
• ifOutBroadcastPkts	Number of broadcast packets transmitted
• ifOutDiscards	The number of outbound packets

Table 23-126 Output Parameter Support

Parameter	Description
• ifOutErrors	The number of outbound packets (or transmission units) that could not be transmitted because of errors
• ifOutMulticastPkts	Number of multicast packets transmitted
• ifOutPayloadCrcErrors	Received payload CRC errors
• ifOutUcastPkts	Number of unicast packets transmitted
• IOS	8B10B—Idle Ordered Sets
• IPC	Invalid Packet Count
• LBCL-AVG	Average Laser Bias Current in microA
• LBCL-MAX	Maximum Laser Bias Current in microA
• LBCL-MIN	Minimum Laser Bias Current in microA
• LBCN	Normalized Laser Bias Current for STM1-8
• LBCN-HWT	Normalized Laser Bias Current—Higher Threshold
• LBCN-LWT	Normalized Laser Bias Current—Lower Threshold
• LOSSL	Loss of Signal Seconds—Line
• LP-BBE	Low-Order Path Background Block Error
• LP-BBER	Low-Order Path Background Block Error Ratio
• LP-EB	Low-Order Path Errored Block
• LP-ES	Low-Order Path Errored Second
• LP-ESA	Low-Order Path Errored Seconds—A
• LP-ESB	Low-Order Path Errored Seconds—B
• LP-ESR	Low-Order Path Errored Second Ratio
• LP-FC	Low-Order Path Failure Count
• LP-NPJC-DET	Low-Order Negative Pointer Justification Count-Detected
• LP-NPJC-GEN	Low-Order Negative Pointer Justification Count-Generated
• LP-PPJC-DET	Low-Order Positive Pointer Justification Count-Detected
• LP-PPJC-GEN	Low-Order Positive Pointer Justification Count-Generated
• LP-SEP	A sequence of between 3 to 9 consecutive SES
• LP-SEPI	Low-Order Path Severely Errored Period Intensity
• LP-SES	Low-Order Path Severely Errored Seconds
• LP-UAS	Low-Order Path Unavailable Seconds
• MS-PSC	Protection switch count
• MS-PSD	Protection switch duration
• NIOS	8B10B—Non Idle Ordered Sets
• NPJC-PDET	Negative Pointer Justification - Path Detected
• NPJC-PGEN	Negative Pointer Justification - Path Generated
• OPR-AVG	Average Receive Power in tenths of a microW

Table 23-126 Output Parameter Support

Parameter	Description
• OPR-MAX	Maximum Receive Power in tenths of a microW
• OPR-MIN	Minimum Receive Power in tenths of a microW
• OPRN	Normalized Optical Receive Power for STM1-8
• OPRN-MAX	Maximum value for OPRN
• OPRN-MIN	Minimum value for OPRN
• OPT-AVG	Average Transmit Power in tenths of a microW
• OPT-MAX	Maximum Transmit Power in tenths of a microW
• OPT-MIN	Minimum Transmit Power in tenths of a microW
• OPTN	Normalized value for Optical Power Transmitted for STM1-8 card
• OPTN-MAX	Maximum value for OPTN
• OPTN-MIN	Minimum value for OPTN
• OPWR-AVG	Optical Power—Average Interval Value in tenths of a dBm
• OPWR-MAX	Optical Power—Maximum Interval Value in tenths of a dBm
• OPWR-MIN	Optical Power—Minimum Interval Value in tenths of a dBm
• PPJC-PDET	Positive Pointer Justification Count-Path Detected
• PPJC-PGEN	Positive Pointer Justification Count-Path Generated
• PRE-FECBER	Enum to hold PRE-FECBER value
• PSC	Protection Switching Count
• PSC-R	Protection Switching Count—Ring
• PSC-S	Protection Switching Count—Span
• PSC-W	Protection Switching Count—Working
• PSD	Protection Switching Duration
• PSD-R	Protection Switching Duration—Ring
• PSD-S	Protection Switching Duration—Span
• PSD-W	Protection Switching Duration—Working
• SASCPP	Severely Errored Framing/AIS Second—CP-Bit Path
• SASP	Severely Errored Framing/AIS Seconds Path
• SEFS	Severely Errored Framing Seconds
• SESCPP	Severely Errored Second—CP-Bit Path
• SESL	Severely Errored Second—Line
• SESP	Severely Errored Second—Path
• SES-PM	OTN—Severely Errored Second—Path
• SESR	Severely Errored Second—Ratio
• SESR-PM	OTN—Severely Errored Second Ratio—Path Monitor Point expressed in tenths of a percentage
• SESR-SM	OTN—Severely Errored Second Ratio—Section Monitor Point expressed in tenths of a percentage
• SESS	Severely Errored Second—Section

Table 23-126 Output Parameter Support

Parameter	Description
• SES-SM	OTN—Severely Errored Second—Section Monitor Point
• SESV	Severely Errored Second—VC Path
• UASCPP	Unavailable Second—CP-Bit Path
• UASL	Unavailable Second—Line
• UASP	Unavailable Second—Path
• UAS-PM	OTN—Unavailable Second—Path Monitor Point
• UAS-SM	OTN—Unavailable Second—Section Monitor Point
• UASV	Unavailable Second—VC Path
• UNC-WORDS	FEC—Uncorrectable Words
• VPC	Valid Packet Count
• OSNR-MIN	Minimum Optical Signal To Noise Ratio.
• OSNR-MAX	Maximum Optical Signal To Noise Ratio.
• OSNR-AVG	Average Optical Signal To Noise Ratio.
• PMD-MIN	Minimum Polarization Mode Dispersion.
• PMD-MAX	Maximum Polarization Mode Dispersion.
• PMD-AVG	Average Polarization Mode Dispersion.
<MONVAL>	The value to which the register identified by MONTYPE is to be initialized to or the measured value of a monitored parameter. The value is in the form of numeric counts or rates. MONVAL is a string.
<VLDTY>	(Optional) Indicates whether the information for the specified time period was accumulated over the entire time period or some portion thereof. Validity indicator for the reported PM data. The parameter type is VALIDITY, which is the response validity.
• COMPL	Complete response
• PRTL	Partial response
<LOCN>	(Optional) Location associated with a particular command. The parameter type is LOCATION, which is the location where the action is to take place.
• FEND	Action occurs on the far end of the facility.
• NEND	Action occurs on the near end of the facility.
<DIRECTION>	The PM count retrieval direction. The parameter type is DIRECTION, which is the transmit and receive directions.
• BTH	Both transmit and receive directions
• RCV	Receive direction only
• TRMT	Transmit direction only
<TMPER>	(Optional) Accumulation time period for performance counters. The parameter type is TMPER, which is the accumulation time period for the performance management center.
• 1-DAY	Performance parameter accumulation interval length is every 24 hours. For NCS PM data only, one day of history data is available. For RMON managed PM data, seven days of history data are available.

Table 23-126 Output Parameter Support

Parameter	Description
• 1-HR	Performance parameter accumulation interval length is every 1 hour. This is only applicable to RMON managed PM data. There are 24 hours of history data available.
• 1-MIN	Performance parameter accumulation interval length is every 1 minute. This is only applicable to RMON managed PM data. There are 60 minutes of history available.
• 15-MIN	Performance parameter accumulation interval length is every 15 minutes. There are 32 15-MIN buckets of history data available for this accumulation interval length.
• RAW-DATA	Performance parameter accumulation interval starts from the last time the counters were cleared. This is only applicable to RMON managed PMs.
<MONDAT>	(Optional) The beginning date of the PM or storage register period specified in TMPER. The format of MONDAT is MM-DD, where MM (month of year) ranges from 1 to 12 and DD (day of month) ranges from 1 to 31. MONDAT is a string.
<MONTM>	(Optional) The beginning time of day of the PM or storage register period specified in TMPER. The format of MONTM is HH-MM, where HH (hour of day) ranges from 0 to 23 and MM (minute of hour) ranges from 0 to 59. MONTM is a string.

23.121 RTRV-PM-ALL

The Retrieve Performance Monitoring All (RTRV-PM-ALL) command retrieves the values of all the performance monitoring parameters for the specified AID. When the ALL AID is used, the response will include the PM parameters for all cards and ports in the chassis.

Usage Guidelines

- The format of MONLEV is LEV-DIRN.
- The format of MONDAT is MM-DD, where MM (month of the year) ranges from 1 to 12 and DD (day of the month) ranges from 1 to 31.
- The format for MONTM is HH-MM, where HH (hour of the day) ranges from 0 to 23 and MM (minute of the hour) ranges from 0 to 59.
- If the TMPER is 1-DAY, MONTM is not applicable (null), and is treated as null if MONTM is not null.
- A null value for MONLEV defaults to 1-UP.
- A null value for MONDAT defaults to the current date (MM-DD).
- A null value for MONTM defaults to the current time (HH-MM).
- Unless otherwise stated, DS-1 cards are the only cards that support both the RCV and TRMT directions. All other cards only support the RCV direction.
- After MS-SPRing switching, the working path is switched out, the traffic goes through the protection path, and the IPPM can be retrieved from the protection VC path.
- If there is a VC PCA on the protection path, during the MS-SPRing switching, the PCA path is preemptive; sending this command on the protection path after a MS-SPRing switch, the command returns the PMs from the protection path, not from the PCA path.

- Some MOD2 entities; for example, OCH, CLNT, and Optical (OCn), support negative MONTYPE values. By default, this command defaults to 0–UP (return MONTYPES where the MONVAL is 0 or higher). To retrieve the negative values, you must issue 0–DN in the MONLEV field. The rules are as follows:
 - Client port only—Laser and NCS PMs are applicable and will appear. If the card payload is in NCS mode, then NCS PMs will appear, provided the MONLEV criteria is met.
 - Trunk port Laser PMs are always available. Laser PMs are only for near end. If ITU-T G.709 is enabled, then the OTN PMs will appear. If ITU-T G.709 and FEC are enabled, then the FEC PMs will appear. If the card payload is in NCS mode, then NCS PMs will appear. All PM MONVALUES should pass the MONLEV filter criteria.
- For NCS cards, the MONLEV filter criteria will not support a floating point. It will be returned and interpreted as an integer.
- BTH is not supported for the direction. A null value for direction should take care of TRMT and RCV.
- RTRV-PM-ALL command can also be used to retrieve the RMON managed PM data.
- With TMPER=1-MIN and TMPER=1-HR, RMON PMs are retrieved when DATE and TIME are specified.
- With TMPER=15-MIN and TMPER=1-DAY, All PMs except RMON PMs are retrieved without DATE and TIME specified.
- With TMPER=15-MIN and TMPER=1-DAY, All PMs are retrieved with DATE and TIME specified

Category

Performance

Security

Retrieve

Input Format

RTRV-PM-ALL:[<TID>]:<AID>:<CTAG>::[<MONTYPE>],[<MONLEV>],[<LOCN>],[<DIRECTION>],[<TMPER>],[<DATE>],[<TIME>];

Input Example

RTRV-PM-ALL:TID:FAC-2-1:123::CVL,10-UP,NEND,RCV,15-MIN,04-11,12-45;

Table 23-127 Input Parameter Support

Parameter	Description
<AID>	Access identifier from the “ 27.1 ALL ” section on page 27-1. All of the VC, and VT1, Facility AIDs are supported.
<MONTYPE>	Monitoring type. A null value defaults to all montypes applicable to the modifier. The parameter type is ALL_MONTYPE, which is the monitoring type list.
• AISSP	Alarm Indication Signal Seconds—Path
• ALL	All possible values
• BBE-PM	OTN—Background Block Errors—Path Monitor Point
• BBE-SM	OTN—Background Block Errors—Section Monitor Point

Table 23-127 *Input Parameter Support*

Parameter	Description
• BBER-PM	OTN—Background Block Error Ratio—Path Monitor Point expressed as one tenth of a percentage
• BBER-SM	OTN—Background Block Error Ratio—Section Monitor Point expressed as one tenth of a percentage
• BIEC	FEC—Bit Errors Corrected
• BIT-EC	The number of bit errors corrected by the FEC algorithm
• CGV	8B10B—Code Group Violations
• CSSP	Controlled Slip Seconds—Path (DS3XM-12 FDL/T1.403 PM count)
• CVCPP	Coding Violations—CP-Bit Path
• CVL	Coding Violations—Line
• CVP	Coding Violations—Path
• CVS	Coding Violations—Section
• CVV	Coding Violations—Section
• DCG	8B10B—Data Code Groups
• ESAP	Errored Second Type A-Path (DS3XM-12 DS1 PM count)
• ESBP	Errored Second Type B-Path (DS3XM-12 DS1 PM count)
• ESCPP	Errored Seconds—CP—Bit Path
• ESL	Errored Seconds—Line
• ESNPFE	Errored Second—Network Path (DS3XM-12 DS1 PM count)
• ESP	Errored Seconds—Path
• ES-PM	OTN—Errored Seconds—Path Monitor Point
• ES-SM	OTN—Errored Seconds—Section Monitor Point
• ESR	Errored Second—Ratio
• ESR-PM	Errored Seconds Ratio—Path monitor Point expressed as one tenth of a percentage
• ESR-SM	Errored Seconds Ratio—Section monitor Point expressed as one tenth of a percentage
• ESS	Errored Seconds—Section
• ESV	Errored Seconds—VC Path
• etherStatsBroadcastPkts	The total number of good packets received that were directed to a multicast address
• etherStatsCollisions	Number of transmit packets that are collisions
• etherStatsCRCAlignErrors	The total number of packets received that have a length (excluding framing bits, but including FCS octets) of between 64 and 1518 octets
• etherStatsDropEvents	Number of received frames dropped at the port level
• etherStatsFragments	The total number of packets received that were less than 64 octets
• etherStatsJabbers	The total number of packets received that are longer than 1518 octets
• etherStatsOctets	The total number of octets of data
• etherStatsOversizePkts	The total number of packets received that are longer than 1518 octets

Table 23-127 Input Parameter Support

Parameter	Description
• etherStatsPkts	The total number of packets (including bad packets, broadcast packets, and multicast packets) received
• etherStatsUndersizePkts	The total number of packets received that are less than 64 octets
• FCP	Failure Count—Line
• FC-PM	OTN—Failure Count—Path Monitor Point
• FC-SM	OTN—Failure Count—Section Monitor Point
• HP-AR	Availability Ratio
• HP-BBE	High-Order Path Background Block Error
• HP-BBER	High-Order Path Background Block Error Ratio
• HP-EB	High-Order Path Errored Block
• HP-ES	High-Order Path Errored Second
• HP-ESA	High-Order Path Errored Seconds—A
• HP-ESB	High-Order Path Errored Seconds—B
• HP-ESR	High-Order Path Errored Second Ratio
• HP-FC	High-Order Path Failure Count
• HP-NPJC-PDET	High-Order Path Negative Pointer Justification Count, Path Detected
• HP-NPJC-PGEN	High-Order Path Negative Pointer Justification Count, Path Generated
• HP-OI	High-Order Path, Outage Intensity
• HP-PJCDIFF	High-Order Path Pointer Justification Count Difference
• HP-PJCS-PDET	High-Order Path Pointer Justification Count Seconds, Path Detected
• HP-PJCS-PGEN	High-Order Path Pointer Justification Count Seconds, Path Generated
• HP-PPJC-PDET	High-Order Path Positive Pointer Justification Count, Path Detected
• HP-PPJC-PGEN	High-Order Path, Positive Pointer Justification Count, Path Generated
• HP-SEPI	The number of SEP events in available time
• HP-SES	High-Order Path Severely Errored Seconds
• HP-SESR	High-Order Path Severely Errored Second Ratio
• HP-UAS	High-Order Path Unavailable Seconds
• ifInBroadcastPkts	Number of broadcast packets received since the last counter reset
• ifInDiscards	The number of inbound packets
• ifInErrorBytePktss	Receive Error Byte
• ifInErrors	The number of inbound packets (or transmission units) that contained errors
• ifInFramingErrorPkts	Receive Framing Error
• ifInJunkInterPkts	Receive Interpacket Junk
• ifInMulticastPkts	Number of multicast packets received since the last counter reset
• ifInOctets	Number of bytes transmitted since the last counter reset
• ifInUcastPkts	Number of unicast packets received since the last counter reset

Table 23-127 Input Parameter Support

Parameter	Description
• ifOutBroadcastPkts	Number of broadcast packets transmitted
• ifOutDiscards	The number of outbound packets
• ifOutErrors	The number of outbound packets (or transmission units) that could not be transmitted because of errors
• ifOutMulticastPkts	Number of multicast packets transmitted
• ifOutPayloadCrcErrors	Received payload CRC errors
• ifOutUcastPkts	Number of unicast packets transmitted
• IOS	8B10B—Idle Ordered Sets
• IPC	Invalid Packet Count
• LBCL-AVG	Average Laser Bias Current in microA
• LBCL-MAX	Maximum Laser Bias Current in microA
• LBCL-MIN	Minimum Laser Bias Current in microA
• LBCN	Normalized Laser Bias Current for OC3-8
• LBCN-HWT	Normalized Laser Bias Current—Higher Threshold
• LBCN-LWT	Normalized Laser Bias Current—Lower Threshold
• LOSSL	Loss of Signal Seconds—Line
• LP-BBE	Low-Order Path Background Block Error
• LP-BBER	Low-Order Path Background Block Error Ratio
• LP-EB	Low-Order Path Errored Block
• LP-ES	Low-Order Path Errored Second
• LP-ESA	Low-Order Path Errored Seconds-A
• LP-ESB	Low-Order Path Errored Seconds-B
• LP-ESR	Low-Order Path Errored Second Ratio
• LP-FC	Low-Order Path Failure Count
• LP-NPJC-DET	Low-Order Negative Pointer Justification Count, Detected
• LP-NPJC-GEN	Low Order Negative Pointer Justification Count, Generated
• LP-PPJC-DET	Low-Order Positive Pointer Justification Count, Detected
• LP-PPJC-GEN	Low-Order Positive Pointer Justification Count, Generated
• LP-SEP	Low-Order Path Severely Errored Period
• LP-SEPI	Low-Order Path Severely Errored Period Intensity
• LP-SES	Low-Order Path Severely Errored
• LP-UAS	Low-Order Path Unavailable Seconds
• MS-PSC	Protection switch count
• MS-PSD	Protection switch duration
• NIOS	8B10B—Non Idle Ordered Sets
• NPJC-PDET	Negative Pointer Justification Count, Path Detected

Table 23-127 Input Parameter Support

Parameter	Description
• NPJC-PGEN	Negative Pointer Justification Count, Path Generated
• OPR-AVG	Average Receive Power in one tenth of a microwatt
• OPR-MAX	Maximum Receive Power in one tenth of a microwatt
• OPR-MIN	Minimum Receive Power in one tenth of a microwatt
• OPRN	Normalized Optical Receive Power for OC3-8
• OPRN-MAX	Maximum value for OPRN
• OPRN-MIN	Minimum value for OPRN
• OPT-AVG	Average Transmit Power in one tenth of a microwatt
• OPT-MAX	Maximum Transmit Power in one tenth of a microwatt
• OPT-MIN	Minimum Transmit Power in one tenth of a microwatt
• OPTN	Normalized value for Optical Power Transmitted for the OC3-8 card
• OPTN-MAX	Maximum value for OPTN
• OPTN-MIN	Minimum value for OPTN
• OPWR-AVG	Optical Power—Average Interval Value in one tenth of a dBm
• OPWR-MAX	Optical Power—Maximum Interval Value in one tenth of a dBm
• OPWR-MIN	Optical Power—Minimum Interval Value in one tenth of a dBm
• PPJC-PDET	Positive Pointer Justification Count, Path Detected
• PPJC-PGEN	Positive Pointer Justification Count, Path Generated
• PRE-FECBER	Enum to hold PRE-FECBER value
• PSC	Protection Switching Count
• PSC-R	Protection Switching Count—Ring
• PSC-S	Protection Switching Count—Span
• PSC-W	Protection Switching Count—Working
• PSD	Protection Switching Duration
• PSD-R	Protection Switching Duration—Ring
• PSD-S	Protection Switching Duration—Span
• PSD-W	Protection Switching Duration—Working
• SASCPP	Severely Errored Framing/AIS Second—CP-Bit Path
• SASP	Severely Errored Framing/AIS Seconds Path
• SEFS	Severely Errored Framing Seconds
• SEFSP	Severely Errored Framing Seconds—Path (DS3XM-12 DS1 PM count)
• SESCOPP	Severely Errored Second—CP-Bit Path
• SESL	Severely Errored Second—Line
• SESNPFE	Severely Errored Second—Network Path (DS3XM-12 DS1 PM count)
• SESP	Severely Errored Second—Path
• SES-PM	OTN—Severely Errored Second—Path

Table 23-127 Input Parameter Support

Parameter	Description
• SESR-PM	OTN—Severely Errored Second Ratio—Path Monitor Point expressed as one tenth of a percentage
• SESR-SM	OTN—Severely Errored Second Ratio—Section Monitor Point expressed as one tenth of a percentage
• SESS	Severely Errored Second—Section
• SES-SM	OTN—Severely Errored Second—Section Monitor Point
• SESV	Severely Errored Second—VC Path
• UASCPP	Unavailable Second—CP-Bit Path
• UASL	Unavailable Second—Line
• UASNPFE	Unavailable Second—Network Path (DS3XM-12 DS1 PM count)
• UASP	Unavailable Second—Path
• UAS-PM	OTN—Unavailable Second—Path Monitor Point
• UAS-SM	OTN—Unavailable Second—Section Monitor Point
• UASV	Unavailable Second—VC Path
• UNC-WORDS	FEC—Uncorrectable Words
• VPC	Valid Packet Count
• OSNR-MIN	Minimum Optical Signal To Noise Ratio.
• OSNR-MAX	Maximum Optical Signal To Noise Ratio.
• OSNR-AVG	Average Optical Signal To Noise Ratio.
• PMD-MIN	Minimum Polarization Mode Dispersion.
• PMD-MAX	Maximum Polarization Mode Dispersion.
• PMD-AVG	Average Polarization Mode Dispersion.
<MONLEV>	The discriminating level of the requested monitored parameter in the format of LEVEL-DIRN, where LEVEL is the measured value of the monitored parameter (MONVAL) and DIRN is the type of direction. A null value defaults to 1-UP. MONLEV is a string.
<LOCN>	Location associated with a particular command in reference to the entity identified by the AID. A null value defaults to NEND. The parameter type is LOCATION, which is the location where the action is to take place.
• FEND	Action occurs on the far end of the facility
• NEND	Action occurs on the near end of the facility
<DIRECTION>	Type of direction. Must not be null. The parameter type is DIRECTION (transmit and receive directions).
• BTH	Both transmit and receive directions.
• RCV	Receive direction only.
• TRMT	Transmit direction only.
<TMPER>	Accumulation time period for performance counters. If TMPER is 1-DAY, MONTM is not applicable (null), and is treated as null. A null value defaults to 15-MIN. The parameter type is TMPER, which is the accumulation time period for the performance management center.

Table 23-127 Input Parameter Support

Parameter	Description
• 1-DAY	Performance parameter accumulation interval length; every 24-hours. For NCS PM data, only one day of history data is available. For RMON managed PM data, seven days of history data are available.
• 1-HR	Performance parameter accumulation interval length; every 1 hour. This is only applicable to RMON managed PM data. There are 24 hours of history data available.
• 1-MIN	Performance parameter accumulation interval length; every 1 minute. This is only applicable to RMON managed PM data. There are 60 minutes of history available.
• 15-MIN	Performance parameter accumulation interval length; every 15 minutes. There are 32 15-MIN buckets of history data available for this accumulation interval length.
• RAW-DATA	Performance parameter accumulation interval length; starting from the last time the counters were cleared. This is only applicable to RMON managed PMs.
<DATE>	The beginning date of the PM or storage register period specified in TPER. The format of DATE is MM-DD, where MM (month of year) ranges from 1 to 12 and DD (day of month) ranges from 1 to 31. A null value defaults to current date.
<TIME>	The beginning time of day of the PM or storage register period specified in TPER. The format of TIME is HH-MM, where HH (hour of day) ranges from 0 to 23 and MM (minute of hour) ranges from 0 to 59. A null value defaults to current time.

Output Format

```

SID DATE TIME
M CTAG COMPLD
  "<AID>,<AIDTYPE>:<MONTYPE>,<MONVAL>,<VLDTY>,<LOCN>,<DIRECTION>,<TPER>,<MONDAT>,<MONTM>]"
;

```

Output Example

```

TID-000 1998-06-20 14:30:00
M 001 COMPLD
  "FAC-2-1,E1:CVL,21,COMPL,NEND,RCV,15-MIN,04-11,12-45";

```

Table 23-128 Output Parameter Support

Parameter	Description
<AID>	Access identifier from the “27.1 ALL” section on page 27-1 . All of the VC, and VT1, Facility AIDs are supported.
<AIDTYPE>	(Optional) Type of facility, link, or other addressable entity targeted by the message. The parameter type is MOD2B, which is the alarm type.
• 100GIGE	100 Gigabit Ethernet
• 10GIGE	10 Gigabit Ethernet
• 40GIGE	40 Gigabit Ethernet
• 1GFC	1-Gigabit Fibre Channel payload
• 1GFICON	1-Gigabit fiber connectivity payload
• 2GFC	2-Gigabit Fibre Channel payload
• 10GFC	10-Gigabit Fibre Channel payload

Table 23-128 **Output Parameter Support**

Parameter	Description
• 2GFICON	2-Gigabit fiber connectivity payload
• 3GVIDEO	3G-SDI video payload.
• 4GFC	4-Gigabit Fibre Channel payload
• 4GFICON	4-Gigabit fiber connectivity payload
• 8GFC	8-Gigabit Fibre Channel payload
• CLNT	Client facility for MXP/TXP cards
• DS3I	DS3I facility
• E3	E3 facility
• E100	E100 facility
• E1000	E1000 facility
• ETH	ETH facility
• EQPT	EQPT facility
• FSTE	Fast Ethernet Port facility
• G1000	G1000 facility
• GIGE	Gigabit Ethernet port facility
• HDSDI	1.5G HD-SDI video payload
• ISC3PEER1G	1-Gbps ISC3 Peer
• ISC3PEER2G	2 Gbps ISC3 Peer
• ISC3PEER2R	1 Gbps or 2 Gbps ISC3 peer used in transparent (2R) mode
• ISC3STP1G	ISC-3 STP 1G video payload.
• ISC3STP2G	ISC-3 STP 2G video payload.
• ISCCOMPAT	1 Gbps ISC1, ISC2, and ISC3 compatibility
• SDSDI	270M SDI video payload.
• STM1	STM1 facility
• STM4	STM4 facility
• STM16	STM16 facility
• STM64	STM64 facility
• OCH	Optical channel
• OMS	Optical Multiplex Section
• OTS	Optical Transport Section
• OTL	Optical Channel Transport Lane.
• OTU1	Optical Transports Unit Level 1
• OTU2	Optical Transports Unit Level 2
• OTU3	Optical Transports Unit Level 3
• OTU4	Optical Transports Unit Level 4
• POS	POS port facility

Table 23-128 Output Parameter Support

Parameter	Description
• VC3	VC3 path
• VC4	VC4 path
• VC4-2C	VC4-2C path
• VC4-3C	VC4-3C path
• VC4-6C	VC4-6C path
• VC4-4C	VC4-4C path
• VC4-8C	VC4-8C path
• VC4-12C	VC4-12C path
• VC4-16C	VC4-16C path
• VC4-64C	VC4-64C path
• T3	T3 facility
• TCC	TCC
• VC11	VC11 path
• VC12	VC12 path
<MONTYPE>	Monitored type. The parameter type is ALL_MONTYPE, which is the monitoring type list.
• AISSP	Alarm Indication Signal Seconds—Path
• ALL	All possible values
• BBE-PM	OTN—Background Block Errors—Path Monitor Point
• BBE-SM	OTN—Background Block Errors—Section Monitor Point
• BBER-PM	OTN—Background Block Error Ratio—Path Monitor Point expressed as one tenth of a percentage
• BBER-SM	OTN—Background Block Error Ratio—Section Monitor Point expressed as one tenth of a percentage
• BIEC	FEC—Bit Errors Corrected
• BIT-EC	The number of bit errors corrected by the FEC algorithm
• CGV	8B10B—Code Group Violations
• CSSP	Controlled Slip Seconds—Path (DS3XM-12 FDL/T1.403 PM count)
• CVCPP	Coding Violations—CP-Bit Path
• CVL	Coding Violations—Line
• CVP	Coding Violations—Path
• CVS	Coding Violations—Section
• CVV	Coding Violations—Section
• DCG	8B10B—Data Code Groups
• ESAP	Errored Second Type A-Path (DS3XM-12 DS1 PM count)
• ESBP	Errored Second Type B-Path (DS3XM-12 DS1 PM count)
• ESCPP	Errored Seconds—CP—Bit Path

Table 23-128 **Output Parameter Support**

Parameter	Description
• ESL	Errored Seconds—Line
• ESNPFE	Errored Second—Network Path (DS3XM-12 DS1 PM count)
• ESP	Errored Seconds—Path
• ES-PM	OTN—Errored Seconds—Path Monitor Point
• ES-SM	OTN—Errored Seconds—Section Monitor Point
• ESR	Errored Second—Ratio
• ESR-PM	Errored Seconds Ratio—Path monitor point expressed as one tenth of a percentage
• ESR-SM	Errored Seconds Ratio—Section monitor point expressed as one tenth of a percentage
• ESS	Errored Seconds—Section
• ESV	Errored Seconds—VC Path
• etherStatsBroadcastPkts	The total number of good packets received that were directed to a multicast address
• etherStatsCollisions	Number of transmit packets that are collisions
• etherStatsCRCAlignErrors	The total number of packets received that have a length (excluding framing bits, but including FCS octets) of between 64 and 1518 octets
• etherStatsDropEvents	Number of received frames dropped at the port level
• etherStatsFragments	The total number of packets received that were less than 64 octets
• etherStatsJabbers	The total number of packets received that are longer than 1518 octets
• etherStatsOctets	The total number of octets of data
• etherStatsOversizePkts	The total number of packets received that are longer than 1518 octets
• etherStatsPkts	The total number of packets (including bad packets, broadcast packets, and multicast packets) received
• etherStatsUndersizePkts	The total number of packets received that are less than 64 octets
• FCP	Failure Count—Line
• FC-PM	OTN—Failure Count—Path Monitor Point
• FC-SM	OTN—Failure Count—Section Monitor Point
• HP-AR	Availability Ratio
• HP-BBE	High-Order Path Background Block Error
• HP-BBER	High-Order Path Background Block Error Ratio
• HP-EB	High-Order Path Errored Block
• HP-ES	High-Order Path Errored Second
• HP-ESA	High-Order Path Errored Seconds—A
• HP-ESB	High-Order Path Errored Seconds—B
• HP-ESR	High-Order Path Errored Second Ratio
• HP-FC	High-Order Path Failure Count
• HP-NPJC-PDET	High-Order Path Negative Pointer Justification Count, Path Detected
• HP-NPJC-PGEN	High-Order Path, Negative Pointer Justification Count, Path Generated
• HP-OI	Outage Intensity

Table 23-128 **Output Parameter Support**

Parameter	Description
• HP-PJCDIFF	High-Order Path Pointer Justification Count Difference
• HP-PJCS-PDET	High-Order Path Pointer Justification Count Seconds, Path Detected
• HP-PJCS-PGEN	High-Order Path Pointer Justification Count Seconds, Path Generated
• HP-PPJC-PDET	High-Order Path Positive Pointer Justification Count, Path Detected
• HP-PPJC-PGEN	High-Order Path, Positive Pointer Justification Count, Path Generated
• HP-SEPI	The number of SEP events in available time
• HP-SES	High-Order Path Severely Errored Seconds
• HP-SESR	High-Order Path Severely Errored Second Ratio
• HP-UAS	High-Order Path Unavailable Seconds
• ifInBroadcastPkts	Number of broadcast packets received since the last counter reset
• ifInDiscards	The number of inbound packets
• ifInErrorBytePktss	Receive Error Byte
• ifInErrors	The number of inbound packets (or transmission units) that contained errors
• ifInFramingErrorPkts	Receive Framing Error
• ifInJunkInterPkts	Receive Interpacket Junk
• ifInMulticastPkts	Number of multicast packets received since the last counter reset
• ifInOctets	Number of bytes transmitted since the last counter reset
• ifInUcastPkts	Number of unicast packets received since the last counter reset
• ifOutBroadcastPkts	Number of broadcast packets transmitted
• ifOutDiscards	The number of outbound packets
• ifOutErrors	The number of outbound packets (or transmission units) that could not be transmitted because of errors
• ifOutMulticastPkts	Number of multicast packets transmitted
• ifOutPayloadCrcErrors	Received payload CRC errors
• ifOutUcastPkts	Number of unicast packets transmitted
• IOS	8B10B—Idle Ordered Sets
• IPC	Invalid Packet Count
• LBCL-AVG	Average Laser Bias Current in microA
• LBCL-MAX	Maximum Laser Bias Current in microA
• LBCL-MIN	Minimum Laser Bias Current in microA
• LBCN	Normalized Laser Bias Current for OC3-8
• LBCN-HWT	Normalized Laser Bias Current—Higher Threshold
• LBCN-LWT	Normalized Laser Bias Current—Lower Threshold
• LOSSL	Loss of Signal Seconds—Line
• LP-BBE	Low-Order Path Background Block Error
• LP-BBER	Low-Order Path Background Block Error Ratio

Table 23-128 **Output Parameter Support**

Parameter	Description
• LP-EB	Low-Order Path Errored Block
• LP-ES	Low-Order Path Errored Second
• LP-ESA	Low-Order Path Errored Seconds-A
• LP-ESB	Low-Order Path Errored Seconds-B
• LP-ESR	Low-Order Path Errored Second Ratio
• LP-FC	Low-Order Path Failure Count
• LP-NPJC-DET	Low-Order Negative Pointer Justification Count, Detected
• LP-NPJC-GEN	Low Order Negative Pointer Justification Count, Generated
• LP-PPJC-DET	Low-Order Positive Pointer Justification Count, Detected
• LP-PPJC-GEN	Low-Order positive Pointer Justification Count, Generated
• LP-SEP	Low-Order Path Severely Errored Period
• LP-SEPI	Low-Order Path Severely Errored Period Intensity
• LP-SES	Low-Order Path Severely Errored
• LP-UAS	Low-Order Path Unavailable Seconds
• MS-PSC	Protection switch count
• MS-PSD	Protection switch duration
• NIOS	8B10B—Non Idle Ordered Sets
• NPJC-PDET	Negative Pointer Justification Count, Path Detected
• NPJC-PGEN	Negative Pointer Justification Count, Path Generated
• OPR-AVG	Average Receive Power in one tenth of a microwatt
• OPR-MAX	Maximum Receive Power in one tenth of a microwatt
• OPR-MIN	Minimum Receive Power in one tenth of a microwatt
• OPRN	Normalized Optical Receive Power for OC3-8
• OPRN-MAX	Maximum value for OPRN
• OPRN-MIN	Minimum value for OPRN
• OPT-AVG	Average Transmit Power in one tenth of a microwatt
• OPT-MAX	Maximum Transmit Power in one tenth of a microwatt
• OPT-MIN	Minimum Transmit Power in one tenth of a microwatt
• OPTN	Normalized value for Optical Power Transmitted for the OC3-8 card
• OPTN-MAX	Maximum value for OPTN
• OPTN-MIN	Minimum value for OPTN
• OPWR-AVG	Optical Power—Average Interval Value in one tenth of a dBm
• OPWR-MAX	Optical Power—Maximum Interval Value in one tenth of a dBm
• OPWR-MIN	Optical Power—Minimum Interval Value in one tenth of a dBm
• PPJC-PDET	Positive Pointer Justification Count, Path Detected
• PPJC-PGEN	Positive Pointer Justification Count, Path Generated

Table 23-128 **Output Parameter Support**

Parameter	Description
• PSC	Protection Switching Count
• PSC-R	Protection Switching Count—Ring
• PSC-S	Protection Switching Count—Span
• PSC-W	Protection Switching Count—Working
• PSD	Protection Switching Duration
• PSD-R	Protection Switching Duration—Ring
• PSD-S	Protection Switching Duration—Span
• PSD-W	Protection Switching Duration—Working
• SASCPP	Severely Errored Framing/AIS Second—CP-Bit Path
• SASP	Severely Errored Framing/AIS Seconds Path
• SEFS	Severely Errored Framing Seconds
• SEFSP	Severely Errored Framing Seconds—Path (DS3XM-12 DS1 PM count)
• SESCOPP	Severely Errored Second—CP-Bit Path
• SESL	Severely Errored Second—Line
• SESNPFE	Severely Errored Second—Network Path (DS3XM-12 DS1 PM count)
• SESP	Severely Errored Second—Path
• SES-PM	OTN—Severely Errored Second—Path
• SESR-PM	OTN—Severely Errored Second Ratio—Path Monitor Point expressed as one tenth of a percentage
• SESR-SM	OTN—Severely Errored Second Ratio—Section Monitor Point expressed as one tenth of a percentage
• SESS	Severely Errored Second—Section
• SES-SM	OTN—Severely Errored Second—Section Monitor Point
• SESV	Severely Errored Second—VC Path
• UASCPP	Unavailable Second—CP-Bit Path
• UASL	Unavailable Second—Line
• UASNPFE	Unavailable Second—Network Path (DS3XM-12 DS1 PM count)
• UASP	Unavailable Second—Path
• UAS-PM	OTN—Unavailable Second—Path Monitor Point
• UAS-SM	OTN—Unavailable Second—Section Monitor Point
• UASV	Unavailable Second—VC Path
• UNC-WORDS	FEC—Uncorrectable Words
• VPC	Valid Packet Count
• OSNR-MIN	Minimum Optical Signal To Noise Ratio.
• OSNR-MAX	Maximum Optical Signal To Noise Ratio.
• OSNR-AVG	Average Optical Signal To Noise Ratio.
• PMD-MIN	Minimum Polarization Mode Dispersion.

Table 23-128 Output Parameter Support

Parameter	Description
• PMD-MAX	Maximum Polarization Mode Dispersion.
• PMD-AVG	Average Polarization Mode Dispersion.
<MONVAL>	The value to which the register identified by MONTYPE is to be initialized to or the measured value of a monitored parameter. The value is in the form of numeric counts or rates. MONVAL is a string.
<VLDTY>	(Optional) Indicates whether the information for the specified time period was accumulated over the entire time period or some portion thereof. Validity indicator for the reported PM data. The parameter type is VALIDITY, which is the response validity.
• COMPL	Complete response
• PRTL	Partial response
<LOCN>	(Optional) Location associated with a particular command. The parameter type is LOCATION, which is the location where the action is to take place
• FEND	Action occurs on the far end of the facility.
• NEND	Action occurs on the near end of the facility.
<DIRECTION>	The PM count retrieval direction. The parameter type is DIRECTION, which is the transmit and receive directions.
• BTH	Both transmit and receive directions
• RCV	Receive direction only
• TRMT	Transmit direction only
<TMPER>	(Optional) Accumulation time period for performance counters. The parameter type is TMPER, which is the accumulation time period for the performance management center.
• 1-DAY	Performance parameter accumulation interval length; every 24-hours. For NCS PM data, only one day of history data is available. For RMON managed PM data, seven days of history data are available.
• 1-HR	Performance parameter accumulation interval length; every 1 hour. This is only applicable to RMON managed PM data. There are 24 hours of history data available.
• 1-MIN	Performance parameter accumulation interval length; every 1 minute. This is only applicable to RMON managed PM data. There are 60 minutes of history available.
• 15-MIN	Performance parameter accumulation interval length; every 15 minutes. There are 32 15-MIN buckets of history data available for this accumulation interval length.
• RAW-DATA	Performance parameter accumulation interval length; starting from the last time the counters were cleared. This is only applicable to RMON managed PMs.
<MONDAT>	(Optional) The beginning date of the PM or storage register period specified in TMPER. The format of MONDAT is MM-DD, where MM (month of year) ranges from 1 to 12 and DD (day of month) ranges from 1 to 31. MONDAT is a string.
<MONTM>	(Optional) The beginning time of day of the PM or storage register period specified in TMPER. The format of MONTM is HH-MM, where HH (hour of day) ranges from 0 to 23 and MM (minute of hour) ranges from 0 to 59. MONTM is a string.

23.122 RTRV-PMODE-<VC_PATH>

The Retrieve Performance Mode of PM Data Collection for VC3, VC44C, VC38C, VC464C, VC48C, VC4-12C, VC4, VC12, VC416C, VC42C, VC4-48C or VC43C (RTRV-PMODE-<VC_PATH>) command retrieves the type of PM mode that has been previously set in the NE. This command can be used to identify whether the PM parameters are Section, Line, or Path type, and to identify whether or not the PM are being collected by the NE.

Usage Guidelines

- See [Table 29-1 on page 29-1](#) for supported modifiers by platform.
- The PM mode and state of an entity is set by using the SET-PMODE command.
- This command returns the categories that are enabled only.
- This near-end monitoring of the IPPM only supports STM1, STM4, STM16, and STM64 on VC Path.
- The far-end IPPM data collection is supported by the MRC-12, and ADM-10G cards.
- This release of software will support only the Path (P) mode type PM parameters with this command, that is, this command will not be applicable for Line (L) and Section (S) mode types. It should be noted that the PM monitoring for Line (L) and Section (S) are supported by the NCS, and storing of PM data is always performed.

Category

Performance

Security

Retrieve

Input Format

RTRV-PMODE-<VC_PATH>:[<TID>]:<SRC>:<CTAG>::<LOCN>;

Input Example

RTRV-PMODE-VC4:CISCO:VC4-4-1-1-1:123::NEND;

Table 23-129 Input Parameter Support

Parameter	Description
<SRC>	Source access identifier from the “27.10 CrossConnectId” section on page 27-15 .
<LOCN>	Location associated with a particular command. Identifies the location from which the PM mode is to be retrieved. Must not be null. The parameter type is LOCATION, which is the location where the action is to take place.
• FEND	Action occurs on the far end of the facility.
• NEND	Action occurs on the near end of the facility.

Output Format

```
SID DATE TIME
M CTAG COMPLD
"<CROSSCONNECTID>:[<LOCN>],<MODETYPE>"
;
```

Output Example

```
TID-000 1998-06-20 14:30:00
M 001 COMPLD
"VC4-1-1-1:NEND,P"
;
```

Table 23-130 Output Parameter Support

Parameter	Description
<CROSSCONNECTID>	Access identifier from the “27.10 CrossConnectId” section on page 27-15.
<LOCN>	(Optional) Location associated with a particular command. Identifies the location from which the PM mode is to be retrieved. The parameter type is LOCATION, which is the location where the action is to take place.
• FEND	Action occurs on the far end of the facility.
• NEND	Action occurs on the near end of the facility.
<MODETYPE>	The type of PM parameters that the entity or the sub entity is to store as a result of an attribute change. The parameter type is PM_MODE, which is the type of PM parameters.
• P	Transport Path PM parameters

23.123 RTRV-PMSCHED-<MOD2>

The Retrieve Performance Monitoring Schedule for 10GFC, 10GIGE, 40GIGE, 100GIGE, 1GFC, 1GFICON, 2GFC, 2GFICON, 5GIB, 8GFC, CHGRP, CLNT, D1VIDEO, DS3I, DV6000, DVBASI, E1, E3, E4, ESCON, ETRCLO, ETH, FSTE, G1000, GFPOS, GIGE, HDLC, HDTV, ISC1, ILK, ISCCOMPAT, ISC3PEER2R, ISC3PEER1G, ISC3PEER2G, STM4, STM64, STM1, STM16, OCH, OMS, OTS, OTU2, OTU3, OTU4, POS, STM1E, VC3, VC44C, VC38C, VC464C, VC48C, VC4-12C, VC4, VC416C, VC42C, VC43C, VC11, VC12, 3GVIDEO, HDSOI, ISC3STP1G, ISC3STP2G, OTU1, or SDSOI (RTRV-PMSCHED-<MOD2>) command retrieves the PM reporting schedule that was set for the NE by the SCHED-PMREPT command. See [Table 29-1 on page 29-1](#) for supported modifiers by platform.

Usage Guidelines None

Category Performance

Security Retrieve

Input Format	RTRV-PMSCHED-<MOD2>:[<TID>]:<AID>:<CTAG>;		
Input Example	RTRV-PMSCHED-ISC3STP2G::VFAC-13-5-7-1:777;		
Input Parameters	<table> <tr> <td><AID></td><td>Access identifier from the “27.1 ALL” section on page 27-1. The AR-MXP, AR-XP, and AR-XPE cards use the VFAC Access Identifier.</td></tr> </table>	<AID>	Access identifier from the “27.1 ALL” section on page 27-1 . The AR-MXP, AR-XP, and AR-XPE cards use the VFAC Access Identifier.
<AID>	Access identifier from the “27.1 ALL” section on page 27-1 . The AR-MXP, AR-XP, and AR-XPE cards use the VFAC Access Identifier.		
Output Format	SID DATE TIME M CTAG COMPLD "<AID>,[<AIDTYPE>]:<REPTINVL>,<REPTDAT>,<REPTTM>,[<NUMINVL>],, [<MONLEV>],<LOCN>,,[<TMPER>],[<TMOFST>],[<INHMODE>]" ;		
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "VFAC-3-1-1,ISC3STP2G:30-MIN,5-25,14-46,100,,1-UP,NEND,,15-MIN,0-0-15,ALW" ;		

Table 23-131 Output Parameter Support

Parameter	Description
<AID>	Access identifier from the “27.1 ALL” section on page 27-1 .
<AIDTYPE>	(Optional) Type of facility, link or other addressable entity targeted by the message. The parameter type is MOD2, which is the line/path modifier.
• 100GIGE	100 Gigabit Ethernet.
• 10GFC	10-Gigabit Fibre Channel payload
• 10GIGE	10-Gigabit Ethernet
• 40GIGE	40-Gigabit Ethernet
• 1GFC	1-Gigabit Fibre Channel payload
• 1GFICON	1-Gigabit fiber connectivity payload
• 2GFC	2-Gigabit Fibre Channel payload
• 2GFICON	2-Gigabit fiber connectivity payload
• 3GVIDEO	3G-SDI video payload.
• 4GFC	4-Gigabit Fibre Channel payload
• 4GFICON	4-Gigabit fiber connectivity payload
• 5GIB	5Gbps InfiniBand (IB_5G) payload
• 8GFC	8-Gigabit Fibre Channel payload
• D1VIDEO	D1 Video
• DS3I	DS3i-N-12 Line
• DV6000	DV6000

Table 23-131 **Output Parameter Support**

Parameter	Description
• DVBASI	Digital Video Broadband Asynchronous Serial Interface (DVBASI) payload
• E1	E1
• E3	E3
• E4	E4 frame, only applicable to STM1E Ports 9 through 12 when it is in E4-FRAMED or E4-UNFRAMED mode
• ESCON	ESCON
• ETRCLO	ETRCLO
• ETH	ETH facility
• FSTE	FSTE facility
• G1000	G1000 facility
• GFPOS	GFP over POS, virtual ports partitioned using GFP's multiplexing capability
• GIGE	Gigabit Ethernet
• HDSDI	1.5G HD-SDI video payload.
• HDTV	HDTV
• ISC1	InterSystem Channel, a protocol defined by IBM (ISC1) payload
• ISC3PEER1G	1-Gbps ISC3 peer
• ISC3PEER2G	2-Gbps ISC3 peer
• ISC3PEER2R	1-Gbps or 2-Gbps ISC3 peer used in transparent (2R) mode
• ISC3STP1G	ISC-3 STP 1G video payload.
• ISC3STP2G	ISC-3 STP 2G video payload.
• ISCCOMPAT	1-Gbps ISC1, ISC2, and ISC3 compatibility
• STM1	STM1 facility
• STM4	STM4 facility
• STM16	STM16 facility
• STM64	STM64 facility
• OCH	Optical channel
• OCHCC	OCH client connection
• OCHNC	OCH network connection
• OCHTERM	OCH termination
• OMS	Optical Multiplex Section
• OTS	Optical Transport Section
• OTU1	Optical Transport Unit Level 1
• OTU2	Optical Transport Unit Level 2
• OTU3	Optical Transport Unit Level 3
• OTU4	Optical Transport Unit Level 4
• POS	POS port

Table 23-131 **Output Parameter Support**

Parameter	Description
• SDSDI	270M SDI video payload.
• STM1E	STM1E facility, only applicable to the STM1E facility (when it is in STM1E mode) of NCS STM1E-12 card
• VC3	VC3 path
• VC44C	VC44C path
• VC38C	VC38C path
• VC464C	VC464C path
• VC48C	VC48C path
• VC4	VC4 path
• VC416C	VC416C path
• VC42C	VC42C path
• VC43C	VC43C path
• VC11	VC11 path
• VC12	VC12 path
<REPTINVL>	Reporting interval. How often a report is to be generated and sent to the appropriate NE. REPTINVL is a string.
<REPTDAT>	Report date. Date for the next report. REPTDAT is a string.
<REPTTM>	Report time. The time of day for the next PM report. REPTTM is a string. Note PM schedule processing is performed every 5 minutes. Therefore, specifying a REPTINVL of 5-MIN or less would be processed at the earliest every 5 minutes.
<NUMINVL>	(Optional) The remaining number of intervals over which PM is to be reported. NUMINVL is an integer.
<MONLEV>	(Optional) The discriminating level of the requested monitored parameter in the format of LEVEL-DIRN, where LEVEL is the measured value of the monitored parameter (MONVAL) and DIRN is the type of direction. A null value defaults to 1-UP. MONLEV is a string.
<LOCN>	Location associated with a particular command. Identifies the location from which the PM mode is to be retrieved. The parameter type is LOCATION, which is the location where the action is to take place.
• FEND	Action occurs on the far end of the facility.
• NEND	Action occurs on the near end of the facility.
<TMPER>	(Optional) Accumulation time period for performance counters. The parameter type is TMPER, which is the accumulation time period for the performance management center.
• 1-DAY	Performance parameter accumulation interval length is every 24 hours. For NCS PM data, only one day of history data is available. For RMON managed PM data, seven days of history data are available.
• 1-HR	Performance parameter accumulation interval length is every 1 hour. This is only applicable to RMON managed PM data. There are 24 hours of history data available.
• 1-MIN	Performance parameter accumulation interval length is every 1 minute. This is only applicable to RMON managed PM data. There are 60 minutes of history available.

Table 23-131 *Output Parameter Support*

Parameter	Description
15-MIN	Performance parameter accumulation interval length is every 15 minutes. There are 32 15-MIN buckets of history data available for this accumulation interval length.
RAW-DATA	Performance parameter accumulation interval starts from the last time the counters were cleared. This is only applicable to RMON managed PMs.
<TMOFST>	(Optional) Time offset between reporting/diagnostics/exercises; from the end of the last complete accumulation time period to the beginning of the accumulation time period specified by TMPER. TMOFST is a string.
<INHMODE>	(Optional) Indicates whether a function is inhibited by an INH command. Indicates whether the reporting of PM data is inhibited (by the INH-PMREPT-ALL command) or is allowed (by the ALW-PMREPT-ALL command). The parameter type is INH_MODE, which indicates whether or not the function is inhibited.
ALW	Function is allowed.
INH	Function is inhibited.

23.124 RTRV-PMSCHED-ALL

The Retrieve Performance Schedule All (RTRV-PMSCHED-ALL) command retrieves all the PM reporting schedules that were set for the NE using the SCHED-PMREPT command.

Usage Guidelines	None
Category	Performance
Security	Retrieve
Input Format	RTRV-PMSCHED-ALL:[<TID>]::<CTAG>;
Input Example	RTRV-PMSCHED-ALL:CISCO-NODE::123;
Input Parameters	None
Output Format	SID DATE TIME M CTAG COMPLD “<AID>,[<AIDTYPE>]:<REPTINVL>,<REPTDAT>,<REPTTM>,[<NUMINVL>],, [<MONLEV>,<LOCN>,,[<TMPER>],<TMOFST>,[<INHMODE>]” ;

Output Example

```

TID-000 1998-06-20 14:30:00
M 001 COMPLD
  "FAC-3-1,STM1:30-MIN,5-25,14-46,100,,1-UP,NEND,,15-MIN,0-0-15,ALW"
;

```

Table 23-132 Output Parameter Support

Parameter	Description
<AID>	Access identifier from the “27.1 ALL” section on page 27-1 .
<AIDTYPE>	(Optional) Type of facility, link, or other addressable entity targeted by the message. The parameter type is MOD2, which is the line/path modifier.
• 100GIGE	100 Gigabit Ethernet.
• 10GFC	10-Gigabit Fibre Channel payload
• 10GIGE	10-Gigabit Ethernet
• 40GIGE	40-Gigabit Ethernet
• 1GFC	1-Gigabit Fibre Channel payload
• 1GFICON	1-Gigabit fiber connectivity payload
• 2GFC	2-Gigabit Fibre Channel payload
• 2GFICON	2-Gigabit fiber connectivity payload
• 3GVIDEO	3G-SDI video payload.
• 4GFC	4-Gigabit Fibre Channel payload
• 4GFICON	4-Gigabit fiber connectivity payload
• 5GIB	5Gbps InfiniBand (IB_5G) payload
• 8GFC	8-Gigabit Fibre Channel payload
• CHGRP	Channel group
• D1VIDEO	D1 Video
• DS3I	DS3i-N-12 Line
• DV6000	DV6000
• DVBASI	Digital Video Broadband Asynchronous Serial Interface (DVBASI) payload
• E1	E1
• E3	E3
• E4	E4 frame, only applicable to STM1E Ports 9 through 12 when it is in E4-FRAMED or E4-UNFRAMED mode
• ESCON	ESCON
• ETRCLO	ETRCLO
• FSTE	FSTE facility
• G1000	G1000 facility
• GFPOS	GFP over POS, virtual ports partitioned using GFP's multiplexing capability
• GIGE	Gigabit Ethernet
• HDSDI	1.5G HD-SDI video payload.
• HDTV	HDTV

Table 23-132 **Output Parameter Support**

Parameter	Description
• HDLC	High-level data link control (HDLC) frame mode.
• ISC1	InterSystem Channel, a protocol defined by IBM (ISC1) payload
• ISC3PEER1G	1-Gbps ISC3 Peer
• ISC3PEER2G	2-Gbps ISC3 Peer
• ISC3PEER2R	1-Gbps or 2-Gbps ISC3 peer used in transparent (2R) mode
• ISC3STP1G	ISC-3 STP 1G video payload.
• ISC3STP2G	ISC-3 STP 2G video payload.
• ISCCOMPAT	1-Gbps ISC1, ISC2, and ISC3 compatibility
• MSISC	MSISC
• STM1	STM1 facility
• STM4	STM4 facility
• STM16	STM16 facility
• STM64	STM64 facility
• OCH	Optical channel
• OCHCC	OCH client connection
• OCHNC	OCH network connection
• OCHTERM	OCH termination
• OMS	Optical Multiplex Section
• OTS	Optical Transport Section
• OTU1	Optical Transport Unit Level 1
• OTU2	Optical Transport Unit Level 2
• OTU3	Optical Transport Unit Level 3
• OTU4	Optical Transport Unit Level 4
• POS	POS port
• REP	Resilient Ethernet Protocol
• SDSDI	270M SDI video payload.
• STM1E	STM1E facility, only applicable to the STM1E facility (when it is in STM1E mode) of NCS STM1E-12 card
• VC3	VC3 path
• VC44C	VC44C path
• VC38C	VC38C path
• VC464C	VC464C path
• VC48C	VC48C path
• VC4	VC4 path
• VC416C	VC416C path
• VC42C	VC42C path

Table 23-132 **Output Parameter Support**

Parameter	Description
• VC43C	VC43C path
• VC11	VC11 path
• VC12	VC12 path
<REPTINVL>	Reporting interval. How often a report is to be generated and sent to the appropriate NE. REPTINVL is a string.
<REPTDAT>	Report date. Date for the next report. REPTDAT is a string.
<REPTTM>	Report time. The time of day for the next PM report. REPTTM is a string.
<NUMINVL>	(Optional) The remaining number of intervals over which PM is to be reported. NUMINVL is an integer.
<MONLEV>	(Optional) The discriminating level of the requested monitored parameter in the format of LEVEL-DIRN, where LEVEL is the measured value of the monitored parameter (MONVAL) and DIRN is the type of direction. A null value defaults to 1-UP. MONLEV is a string.
<LOCN>	Location associated with a particular command. Identifies the location from which the PM mode is to be retrieved. The parameter type is LOCATION, which is the location where the action is to take place.
• FEND	Action occurs on the far end of the facility.
• NEND	Action occurs on the near end of the facility.
<TMPER>	(Optional) Accumulation time period for performance counters. The parameter type is TMPER, which is the accumulation time period for the performance management center.
• 1-DAY	Performance parameter accumulation interval length is every 24 hours. For NCS PM data, only one day of history data is available. For RMON managed PM data, seven days of history data are available.
• 1-HR	Performance parameter accumulation interval length is every 1 hour. This is only applicable to RMON managed PM data. There are 24 hours of history data available.
• 1-MIN	Performance parameter accumulation interval length is every 1 minute. This is only applicable to RMON managed PM data. There are 60 minutes of history available.
• 15-MIN	Performance parameter accumulation interval length is every 15 minutes. There are 32 15-MIN buckets of history data available for this accumulation interval length.
• RAW-DATA	Performance parameter accumulation interval starts from the last time the counters were cleared. This is only applicable to RMON managed PMs.
<TMOFST>	(Optional) Time offset between reporting/diagnostics/exercises; from the end of the last complete accumulation time period to the beginning of the accumulation time period specified by TMPER. TMOFST is a string.
<INHMODE>	(Optional) Indicates whether a function is inhibited by an INH command. Indicates whether the reporting of PM data is inhibited (by the INH-PMREPT-ALL command) or is allowed (by the ALW-PMREPT-ALL command). The parameter type is INH_MODE, which indicates whether the function is inhibited.
• ALW	Function is allowed.
• INH	Function is inhibited.

23.125 RTRV-POS

The Retrieve Packet Over NCS (RTRV-POS) command retrieves the back-end port information for the Ethernet card when the back-end port is working in POS mode.

Usage Guidelines

- RTRV-POS is supported for ML-Series cards.
- For ML-Series cards, the EDGE, RPRSPAN, JUMBO, ADMINSTATE, ENCAP, and NAME parameters are valid when the card mode is in ML-IEEE-RPR. Other parameters, including PST and SST, are not valid.
- Because the back-end port is virtual, the Virtual Facility (VFAC) AID should be used when issuing the command.

Category

Ports

Security

Retrieve

Input Format

RTRV-POS:[<TID>]:<AID>:<CTAG>;

Input Example

RTRV-POS:TID:VFAC-1-1:CTAG;

Input Parameters

<AID> Access identifier from the [“27.15 FACILITY” section on page 27-23](#).

Output Format

```
SID DATE TIME
M CTAG COMPLD
“<AID>::[ADMINSTATE=<ADMINSTATE>],[JUMBO=<MTU>],[ENCAP=<ENCAP>],
[RPRSPAN=<RPRSPAN>],[EDGE=<EDGE>],[NAME=<NAME>]”;
;
```

Output Example

```
TID-000 1998-06-20 14:30:00
M 001 COMPLD
“VFAC-1-1::ADMINSTATE=DOWN,JUMBO=N,ENCAP=RPR-GFP-F,RPRSPAN=EAST,
EDGE=Y,NAME=\"RPR\".”
;
```

Table 23-133 Output Parameter Support

Parameter	Description
<AID>	Access identifier from the “ 27.15 FACILITY ” section on page 27-23.
<ADMINSTATE>	(Optional) Administration state. The parameter type is UP_DOWN (up or down).
• DOWN	Down
• UP	Up
<ENCAP>	(Optional) Frame encapsulation type
• CBR	CBR mapping mode.
• GFP	GFP mapping mode.
• GMP	GMP mapping mode is supported only on 8GFC on 10x10G-LC card.
• TRP	Transparent mapping mode.
• RPR-GFP-F	RPR-over-GFP frame mode
<JUMBO>	Jumbo frame values
• Y	Yes
• N	No
<RPRSPAN>	RPR span values
• EAST	East direction
• WEST	West direction
• <EDGE>	RPR edge values
• Y	Yes
• N	No
<NAME>	Port name, facility name, or VCAT group name.

23.126 RTRV-PROTNSW-<MOD2NCSPAYLOAD>

The Retrieve Protection Switch for 10GFC, 10GIGE, 40GIGE, 100GIGE, 1GFC, 1GFICON, 2GFC, 2GFICON, 8GFC, D1VIDEO, DV6000, DVBASI, ETRCLO, FSTE, GIGE, HDTV, ISC1, ISC3, OTU3, OTU4, PASSTHRU, 3GVIDEO, SDSDI, HDSDI, AUTO, OTU1, ISC3STP1G, or ISC3STP2G (RTRV-PROTNSW-<MOD2NCSPAYLOAD>) command retrieves the protection switch status of client facilities.

Usage Guidelines

The command supports the modifier 3GVIDEO, SDSDI, HDSDI, AUTO, OTU1, ISC3STP1G, ISC3STP2G.

Category

Performance

Security

Retrieve

Input Format

RTRV-PROTNSW-<MOD2NCSPAYLOAD>:[<TID>]:<SRC>:<CTAG>[:::];

Input Example

RTRV-PROTNSW-ISC3STP1G:CISCO:VFAC-13-5-7-1:007;

Input Parameters

<SRC> Source access identifier from the [“27.15 FACILITY” section on page 27-23](#). The AR-MXP, AR-XP, and AR-XPE cards use the VFAC Access Identifier.

Output Format

SID DATE TIME
M CTAG COMPLD
“<AIDUNIONID>:<SC>,[<SWITCHTYPE>]”
;

Output Example

TID-000 1998-06-20 14:30:00
M 001 COMPLD
“FAC-1-1-1:FRCD,MANWKSWBK”
;

Table 23-134 Output Parameter Support

Parameter	Description
<AIDUNIONID>	Access identifier from the “27.15 FACILITY” section on page 27-23 .
<SC>	Switch command to be initiated on the paths. The parameter type is SW, which is the type of switch to be initiated.
• APS-CLEAR	APS-CLEAR switch state. It is a read-only switch state and is not allowed in the OPR-PROTNSW-xxx commands.
• CLEAR	CLEAR switch state. The CLEAR switch state is not allowed in the OPR-PROTNSW-xxx commands.
• EXERCISE	EXERCISE switch state. The EXERCISE switch state is not allowed in the OPR-PROTNSW-xxx commands.
• FRCD	Forces a switch unless another FRCD or LOCKOUT is in effect.
• LOCKOUT	Locks the facility out of switching. The system cannot switch to this facility to carry service.
• MAN	Requests a manual switch of the facility.
<SWITCHTYPE>	(Optional) Switch type. The parameter type is SWITCH_TYPE, which is the MS-SPRing switch type. MANWKSWBK, MANWKSWPR, FRCDWKSWBK, FRCDWKSWPR, LOCKOUTOFPR, and LOCKOUTOFWK are retrieve-only values for RTRV-PROTNSW-STM commands. They are not applicable for the OPR-PROTNSW-STM commands. RING and SPAN are the only allowed values for MS-SPRing protection.
• FRCDWKSWBK	Working unit is forced to switch back to working.
• FRCDWKSWPR	Working unit is forced to switch to the protection unit.

Table 23-134 Output Parameter Support

Parameter	Description
<AIDUNIONID>	Access identifier from the “27.15 FACILITY” section on page 27-23.
• LOCKOUTOFPR	Lock out of protection
• LOCKOUTOFWK	Lock out of working
• MANWKSWBK	Manual switch of working unit back to working
• MANWKSWPR	Manual switch of working unit back to the protection unit
• RING	MS-SPRing switch type
• SPAN	MS-SPRing span switch type

23.127 RTRV-PROTNSW-<STM_TYPE>

The Retrieve Protection Switch for STM1, STM4, STM16, or STM64 (RTRV-PROTNSW=<STM_TYPE>) command retrieves the switching state of a NCS line specified in the AID. See [Table 29-1 on page 29-1](#) for supported modifiers by platform.

Usage Guidelines None

Category Protection

Security Retrieve

Input Format RTRV-PROTNSW-<STM_TYPE>[:<TID>]:<AID>:<CTAG>[::::];

Input Example RTRV-PROTNSW-STM16:CISCO:FAC-5-1:123;

Input Parameters <AID> Access identifier from the [“27.15 FACILITY”](#) section on page 27-23.

Output Format

```

SID DATE TIME
M CTAG COMPLD
“<AID>:<SC>,<SWITCHTYPE>”
;
```

Output Example

```
TID-000 1998-06-20 14:30:00
M 001 COMPLD
"Fac-5-1:MAN,MANWKSWBK"
;
```

Table 23-135 *Output Parameter Support*

Parameter	Description
<AID>	Access identifier from the “27.15 FACILITY” section on page 27-23.
<SC>	Switch command to be initiated on the paths. The parameter type is SW, which is the type of switch to be initiated.
• APS-CLEAR	APS-CLEAR switch state. It is a read-only switch state and is not allowed in the OPR-PROTNSW-xxx commands.
• CLEAR	CLEAR switch state. The CLEAR switch state is not allowed in the OPR-PROTNSW-xxx commands.
• EXERCISE	EXERCISE switch state. The EXERCISE switch state is not allowed in the OPR-PROTNSW-xxx commands.
• FRCD	Forces a switch unless another FRCD or LOCKOUT is in effect.
• LOCKOUT	Locks the facility out of switching. The system cannot switch to this facility to carry service.
• MAN	Requests a manual switch of the facility.
<SWITCHTYPE>	(Optional) Switch type. The parameter type is SWITCH_TYPE, which is the MS-SPRing switch type. MANWKSWBK, MANWKSWPR, FRCDWKSWBK, FRCDWKSWPR, LOCKOUTOFPR, and LOCKOUTOFWK are retrieve-only values for RTRV-PROTNSW-STM commands. They are not applicable for the OPR-PROTNSW-STM commands. RING and SPAN are the only allowed values for MS-SPRing protection.
• FRCDWKSWBK	Working unit is forced to switch back to working.
• FRCDWKSWPR	Working unit is forced to switch to the protection unit.
• LOCKOUTOFPR	Lock out of protection
• LOCKOUTOFWK	Lock out of working
• MANWKSWBK	Manual switch of working unit back to working
• MANWKSWPR	Manual switch of working unit back to the protection unit
• RING	MS-SPRing switch type
• SPAN	MS-SPRing span switch type

23.128 RTRV-PROTNSW-<OCN_TYPE>

The Retrieve Protection Switch for OC3, OC12, OC48, OC192, OC768 (RTRV-PROTNSW-<OCN_TYPE>) command retrieves the switching state of a SONET line specified in the AID.

Usage Guidelines See [Table 29-1](#) on page 29-1 for supported modifiers by platform.

Category Protection

Security Retrieve

Input Format RTRV-PROTNSW-<OCN_TYPE>:[<TID>]:<AID>:<CTAG>[:];

Input Example RTRV-PROTNSW-OC48:CISCO:FAC-5-1:123;

Input Parameters	<AID>	Access identifier from the “27.15 FACILITY” section on page 27-23.

Output Format

```

SID DATE TIME
M CTAG COMPLD
  "<AID>:<SC>,[<SWCHTYPE>]"
;

```

Output Example

```

TID-000 1998-06-20 14:30:00
M 001 COMPLD
  "FAC-5-1:MAN,MANWKSWBK"
;

```

Output Parameters	<AID>	Access identifier from the “27.15 FACILITY” section on page 27-23.
	<SC>	Switch command to be initiated on the paths. The parameter type is SW, which is the type of switch to be initiated.
	• APS-CLEAR	APS-CLEAR switch state. It is a read-only switch state and is not allowed in the OPR-PROTNSW-xxx commands.
	• CLEAR	CLEAR switch state. CLEAR switch state is not allowed in the OPR-PROTNSW-xxx commands.
	• EXERCISE	EXERCISE switch state. EXERCISE switch state is not allowed in the OPR-PROTNSW-xxx commands.
	• FRCD	Forces a switch unless another FRCD or LOCKOUT is in effect.
	• LOCKOUT	Locks the facility out of switching. The system cannot switch to this facility to carry service.
	• MAN	Requests a manual switch of the facility.

<SWITCHTYPE>	(Optional) Switch type. The parameter type is SWITCH_TYPE, which is the BLSR switch type. MANWKSWBK, MANWKSWPR, FRCDWKSWBK, FRCDWKSWPR, LOCKOUTOFPR, and LOCKOUTOFWK are retrieve-only values for RTRV-PROTNSW-OCn commands. They are not applicable for the OPR-PROTNSW-OCn commands. RING and SPAN are the only allowed values for BLSR protection.
• FRCDWKSWBK	Working unit is forced to switch back to working.
• FRCDWKSWPR	Working unit is forced to switch to the protection unit.
• LOCKOUTOFPR	Lockout of protection.
• LOCKOUTOFWK	Lockout of working.
• MANWKSWBK	Manual switch of working unit back to working.
• MANWKSWPR	Manual switch of working unit back to the protection unit.
• RING	BLSR ring switch type.
• SPAN	BLSR span switch type.

23.129 RTRV-PROTNSW-<PATH>

The Retrieve Protection Switch for VC3, VC44C, VC38C, VC464C, VC48C, VC4-12C, VC4, VC416C, VC42C, VC43C, VC11, or VC12 (RTRV-PROTNSW-<PATH>) command retrieves the switching state of a NCS SNCP VC path specified in the AID. Because Telcordia GR-1400 does not allow LOCKOUT_OF_WORKING on the SNCP WORKING path/AID, the “AID:LOCKOUT,LOCKOUTOFWK” is not presented in the protection switch retrieval result.

See [Table 29-1 on page 29-1](#) for supported modifiers by platform.

Usage Guidelines None

Category Protection

Security Retrieve

Input Format RTRV-PROTNSW-<PATH>[:<TID>]:<SRC>:<CTAG>[:];

Input Example RTRV-PROTNSW-VC4:CISCO:VC4-5-1-1:123;

Input Parameters <SRC> Source access identifier from the [“27.10 CrossConnectId” section on page 27-15](#).

Output Format

```

SID DATE TIME
M CTAG COMPLD
  "<CROSSCONNECTID>:<SC>,<SWITCHTYPE>]"
;

```

Output Example

```

TID-000 1998-06-20 14:30:00
M 001 COMPLD
  "VC4-5-1-1:MAN,MANWKSWBK"
;

```

Table 23-136 Output Parameter Support

Parameter	Description
<CROSSCONN ECTID>	Access identifier from the “27.10 CrossConnectId” section on page 27-15.
<SC>	Switch command that is to be initiated on the paths. The parameter type is SW, which is the type of switch to be initiated.
• APS-CLEAR	APS-CLEAR switch state. It is a read-only switch state and is not allowed in the OPR-PROTNSW-xxx commands.
• CLEAR	CLEAR switch state. The CLEAR switch state is not allowed in the OPR-PROTNSW-xxx commands.
• EXERCISE	EXERCISE switch state. The EXERCISE switch state is not allowed in the OPR-PROTNSW-xxx commands.
• FRCD	Forces a switch unless another FRCD or LOCKOUT is in effect.
• LOCKOUT	Locks the facility out of switching. The system cannot switch to this facility to carry service.
• MAN	Requests a manual switch of the facility.
<SWITCHTYPE>	(Optional) Switch type. The parameter type is SWITCH_TYPE, which is the MS-SPRing switch type. MANWKSWBK, MANWKSWPR, FRCDWKSWBK, FRCDWKSWPR, LOCKOUTOFPR, and LOCKOUTOFWK are retrieve-only values for RTRV-PROTNSW-STM commands. They are not applicable for the OPR-PROTNSW-STM commands. RING and SPAN are the only allowed values for MS-SPRing protection.
• FRCDWKSWBK	Working unit is forced to switch back to working.
• FRCDWKSWPR	Working unit is forced to switch to the protection unit.
• LOCKOUTOFPR	Lock out of protection
• LOCKOUTOFWK	Lock out of working
• MANWKSWBK	Manual switch of working unit back to working
• MANWKSWPR	Manual switch of working unit back to the protection unit
• RING	MS-SPRing switch type
• SPAN	MS-SPRing span switch type

23.130 RTRV-PROTNSW-OCH

The Retrieve Protection Switch Optical Channel (RTRV-PROTNSW-OCH) command retrieves the protection switch status of a TXPP_MR_2.5G card.

Usage Guidelines None

Category NCS

Security Retrieve

Input Format RTRV-PROTNSW-OCH:[<TID>]:<AID>:<CTAG>;

Input Example RTRV-PROTNSW-OCH:VA454-22:CHAN-2-2:100;

Input Parameters <AID> Access identifier from the [“27.7 CHANNEL” section on page 27-12.](#)

Output Format

```
SID DATE TIME
M CTAG COMPLD
“<AID>:<SW>,<SWTYPE>”
;
```

Output Example

```
TID-000 1998-06-20 14:30:00
M 001 COMPLD
“CHAN-2-2:FRCD,FRCDWKS WBK”
;
```

Table 23-137 Output Parameter Support

Parameter	Description
<AID>	Access identifier from the “27.7 CHANNEL” section on page 27-12.
<SW>	Indicates the switch operation. The parameter type is SW, which is the type of switch to be initiated.
• APS-CLEAR	APS-CLEAR switch state. It is a read-only switch state and is not allowed in the OPR-PROTNSW-xxx commands.
• CLEAR	CLEAR switch state. The CLEAR switch state is not allowed in the OPR-PROTNSW-xxx commands.
• EXERCISE	EXERCISE switch state. The EXERCISE switch state is not allowed in the OPR-PROTNSW-xxx commands.

Table 23-137 Output Parameter Support

Parameter	Description
• FRCD	Forces a switch unless another FRCD or LOCKOUT is in effect.
• LOCKOUT	Locks the facility out of switching. The system cannot switch to this facility to carry service.
• MAN	Requests a manual switch of the facility.
<SWITCHTYPE>	Indicates the switch type operation. The parameter type is SWITCH_TYPE, which is the MS-SPRing switch type. MANWKSWBK, MANWKSWPR, FRCDWKSWBK, FRCDWKSWPR, LOCKOUTOFPR, and LOCKOUTOFWK are retrieve-only values for RTRV-PROTNSW-STM commands. They are not applicable for the OPR-PROTNSW-STM commands. RING and SPAN are the only allowed values for MS-SPRing protection.
• FRCDWKSWBK	Working unit is forced to switch back to working.
• FRCDWKSWPR	Working unit is forced to switch to the protection unit.
• LOCKOUTOFPR	Lock out of protection
• LOCKOUTOFWK	Lock out of working
• MANWKSWBK	Manual switch of working unit back to working
• MANWKSWPR	Manual switch of working unit back to the protection unit
• RING	MS-SPRing switch type
• SPAN	MS-SPRing span switch type

23.131 RTRV-PROTNSW-OTS

The Retrieve Protection Switch OTS (RTRV-PROTNSW-OTS) command retrieves the protection switch status of a TXPP_MR_2.5G card or OTU2-XP card in splitter mode.

Usage Guidelines None

Category NCS

Security Retrieve

Input Format RTRV-PROTNSW-OTS:[<TID>]:<AID>:<CTAG>;

Input Example RTRV-PROTNSW-OTS:VA454-22:CHAN-2-2:100;

Input Parameters <AID> Access identifier from the [“27.7 CHANNEL”](#) section on [page 27-12](#).

Output Format

```
SID DATE TIME
M CTAG COMPLD
"<AID>:<SW>,<SWTYPE>"
;
```

Output Example

```
TID-000 1998-06-20 14:30:00
M 001 COMPLD
"CHAN-2-2:FRCD,FRCDWKSWBK"
;
```

Output Parameters**Table 23-138 Output Parameter Support**

Parameter	Description
<AID>	Access identifier from the “27.7 CHANNEL” section on page 27-12 .
<SW>	Indicates the switch operation. The parameter type is SW, which is the type of switch to be initiated.
• CLEAR	CLEAR switch state. CLEAR switch state is not allowed in the OPR-PROTNSW-xxx commands.
• FRCD	Forces a switch unless another FRCD or LOCKOUT is in effect.
• LOCKOUT	Locks the facility out of switching. The system cannot switch to this facility to carry service.
• MAN	Requests a manual switch of the facility.
<SWITCHTYPE>	Indicates the switch type operation. The parameter type is SWITCH_TYPE, which is the BLSR switch type. MANWKSWBK, MANWKSWPR, FRCDWKSWBK, FRCDWKSWPR, LOCKOUTOFPR, and LOCKOUTOFWK are retrieve-only values for RTRV-PROTNSW-OCn commands. They are not applicable for the OPR-PROTNSW-OCn commands. RING and SPAN are the only allowed values for BLSR protection.
• FRCDWKSWBK	Working unit is forced to switch back to working.
• FRCDWKSWPR	Working unit is forced to switch to the protection unit.
• LOCKOUTOFPR	Lockout of protection.
• LOCKOUTOFWK	Lockout of working.
• MANWKSWBK	Manual switch of working unit back to working.
• MANWKSWPR	Manual switch of working unit back to the protection unit.

23.132 RTRV-PROTOCOL

The Retrieve Protocol (RTRV-PROTOCOL) command retrieves the status of a protocol/service supported in the NE. Valid protocols include: SHELL, EMS, TL1, and SNMP. If the AID is not specified, the status of all of the protocols is retrieved.

Usage Guidelines If the AID is TL1, the status can be retrieved to show if the protocol is in SECURE or UNSECURE mode.

Category Security

Security Retrieve

Input Format RTRV-PROTOCOL:[<TID>]:[<AID>]:<CTAG>;

Input Example RTRV-PROTOCOL::EMS:123;

Table 23-139 Input Parameter Support

Parameter	Description
<AID>	(Optional) Identifies the protocol/service to which the command pertains. Defaults to ALL. A null value is equivalent to ALL. The parameter type is PROTOCOLAID, which is the AID for the protocol/service.
• EMS	CTC or CTM protocol/service
• SHELL	Shell/file system access protocol
• SNMP	SNMP protocol/service
• TL1	TL1 protocol service

Output Format SID DATE TIME
M CTAG COMPLD
“<PROTOCOLAID>:<PROTOCOLSTAT>”
;

Output Example TID-000 1998-06-20 14:30:00
M 001 COMPLD
“EMS:UNSECURE”
;

Table 23-140 Output Parameter Support

Parameter	Description
<PROTOCOLAID>	Identifies the protocol/service to which the command pertains. The parameter type is PROTOCOLAID, which is the AID for the protocol/service.
• EMS	CTC or CTM protocol/service
• SHELL	Shell/file system access protocol
• SNMP	SNMP protocol/service
• TL1	TL1 protocol service

Table 23-140 Output Parameter Support

Parameter	Description
<PROTOCOLAID>	Identifies the protocol/service to which the command pertains. The parameter type is PROTOCOLAID, which is the AID for the protocol/service.
<PROTOCOLSTAT> >	Identifies the status of the protocol/service. The parameter type is PROTOCOLSTAT, which is the status of the protocol.
• DISABLED	The protocol cannot be used
• SECURE	The protocol is enabled and communications using the protocol are sure, for example, through SSH. Not applicable for SNMP protocols.
• UNSECURE	The protocol is enabled but communication is not secure, for example, through Telnet.

23.133 RTRV-PRBS

(Cisco NCS 2002 and Cisco NCS 2006) The Retrieve PseudoRandom Binary Sequence (RTRV-PRBS) is used to retrieve the PRBS configuration.

Usage Guidelines

- 100G-LC-C and 100G-CK-C trunk supports the PRBS generation.
- PRBS can be configured at the port level.
- PRBS is not dependent on the card operating mode.
- Enabling or disabling PRBS is possible when the port is in OOS-DSBLD state.
- After the PRBS is set to ON or OFF, the port states can be moved to other states without any issues.

Category

Ports

Security

Maintenance

Input Format

RTRV-PRBS:[<TID>]:<aid>:<CTAG>[:::];

Input Example

RTRV-PRBS::CHAN-7-2-1:1;

Table 23-141 RTRV-PRBS Command - Parameter Support

Input Parameters	Description
<AID>	Access Identifier.

Output Format

SID DATE TIME
M CTAG COMPLD

“<AID>,<AIDTYPE>]:[PRBSGENPATTERN=<PRBSGENPATTERN>],[PRBSDETPATTERN=<PRBSDETPATTERN>],[PATTERNSYNCSTATUS=<PATTERNSYNCSTATUS>];”

Output Example

TID-000 1998-06-20 14:30:00
M 001 COMPLD

“CHAN-7-2,OCH:PRBSGENPATTERN=NONE,PRBSDETPATTERN=NONE,PATTERNSYNCSTATUS=PATTERN-NONE”
;

Table 23-142 Output Parameter Support

Parameter	Description
<AID>	Access Identifier.
• EMS	CTC or CTM protocol/service
• SHELL	Shell/file system access protocol
• SNMP	SNMP protocol/service
• TL1	TL1 protocol service
<PRBSGENPATTERN>	PRBSGENPATTERN. The PRBS generator pattern. It can be any of the following: • NONE • PRBS-11 • PRBS-23 • PRBS-31
<PRBSDETPATTERN>	PRBS detection pattern. It can be any of the following: • NONE • PRBS-11 • PRBS-23 • PRBS-31
<PATTERNSYNCSTATUS>	Pattern sync status. It can be any of the following: • PATTERN-NONE • PATTERN-OK • PATTERN-ERROR

23.134 RTRV-PTHTRC-<PATH>

The Retrieve Path Trace for VC3, VC44C, VC38C, VC464C, VC48C, VC4-12C, VC4, VC416C, VC42C, VC43C, VC11, VC12 (RTRV-PTHTRC-<PATH>) command retrieves the contents of the NCS path trace message. See [Table 29-1 on page 29-1](#) for supported modifiers by platform.

Usage Guidelines

The path trace message is a 64-character string with the last two characters reserved for the terminating CR (carriage return) and the LF (line feed). The message can be an incoming path trace message, an expected incoming path trace message, or an outgoing path trace message that is inserted into the path overhead of the outgoing signal.

The path trace mode has three modes: OFF, MANUAL, and AUTO. The path trace mode defaults to OFF mode. The MANUAL mode performs the comparison of the received string with the user-entered expected string. The AUTO mode performs the comparison of the present received string with an expected string set to a previously received string. If there is a mismatch, the TIM-P alarm is raised. When the path trace mode is in OFF mode, there is no path trace processing, and all the alarm and state conditions are reset.

When the expected string is queried under the OFF path trace mode, the expected string is a copy of the provisioned string or NULL. When an expected string is queried under the MANUAL path trace mode, the expected string is a copy of the user-entered string. When an expected string is queried under the AUTO path trace mode, the expected string is a copy of the acquired received string or NULL if the string has not been acquired.

When the incoming string is queried under the OFF path trace mode, the incoming string is NULL. When an incoming string is queried under the MANUAL or AUTO path trace mode, the incoming string is a copy of the received string or NULL if the string has not been received.

When the transmitted string is queried under the OFF, MANUAL, or AUTO path trace mode, the transmitted string is the provisioned transmit string.

**Note**

- A null value for the <MSGTYPE> defaults to INCTRC.
- Only the NEND of the location value is supported. A null value of the location defaults to NEND.
- Sending a FEND of the location with this command will return an “unsupported LOCN value” error message.
- J1 (EXPTRC/INCTRC) is implemented on the E1, E3, E4, DS3i-N-12, STM, MRC-12, and STM64-XFP cards.
- TRC is supported only on E1, E3, E4, DS3i-N-12, MRC-12, and STM64-XFP cards.
- The virtual facility AID (VFAC) is only valid on slots holding ML-Series cards.
- After the MS-SPRing switch, the working path is switched out and the traffic goes through the protection path. The J1 trace message can be retrieved from the protection VC path.
- If there is an VC PCA on the protection path during the MS-SPRing switch, the PCA path is preemptive. If this command is sent on the protection path after a MS-SPRing switch, the command will return the trace message off of the protection path and not from the PCA path.
- According to Telcordia GR-833, RTRV-PTHTRC-<PATH> can only have a single output row. Therefore, you cannot specify multiple AIDs using “&” with this command because each AID would require its own output row. You also cannot use AIDs that end in “ALL” because this might also result in multiple output rows.

Category

Troubleshooting and Test Access

Security

Retrieve

Input Format RTRV-PTHTRC-<PATH>[:<TID>]:<SRC>:<CTAG>::[:<MSGTYPE>][:<LOCN>];

Input Example RTRV-PTHTRC-VC4:CISCO:VC4-2-1-1:123::EXPTRC:NEND;

Table 23-143 Input Parameter Support

Parameter	Description
<SRC>	Source access identifier from the “ 27.10 CrossConnectId ” section on page 27-15.
<MSGTYPE>	Type of autonomous message to be retrieved. A null value defaults to INCTRC. The parameter type is MSGTYPE, which is the type of trace message.
• EXPTRC	Expected incoming path trace message
• INCTRC	Incoming path trace message
• TRC	Outgoing path trace message
<LOCN>	Location associated with a particular command in reference to the entity identified by the AID. The parameter type is LOCATION, which is the location where the action is to take place.
• FEND	Action occurs on the far end of the facility.
• NEND	Action occurs on the near end of the facility.

Output Format SID DATE TIME
M CTAG COMPLD
“<TRACMSG>”
;

Output Example TID-000 1998-06-20 14:30:00
M 001 COMPLD
“TRACMSG”
;

Output Parameters <TRACMSG> The path trace message returned to the requester. The message can be up to 64 characters in length with the last two characters reserved for the CR and LF. TRACMSG is a string.

23.135 RTRV-PTSYS

The Retrieve Packet Transport System (RTRV-PTSYS) command retrieves the provisioned information of the CPT 50 panel.

Usage Guidelines This command is valid for CPT 50 panel. Retrieves the PTSYS information provisioned on the Node.

Category Equipment

Security	Retrieve
Input Format	RTRV-PTSYS:[<TID>]:<AID>:<CTAG>;
Input Example	PTSYS-1:PTSYSID=1,OPMODE=NMS,MEMLIST=\ "SLOT-3-36&SLOT-2&PTSA;
Input Parameters	<AID> AID of the PTSYS.
Output Format	SID DATE TIME M CTAG COMPLD " <PTSYS AID>:<MODE>,<MEMLIST>,<FOGLIST>" ;
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "PTSYS-1:PTSYSID=1,OPMODE=NMS,MEMLIST=\ "SLOT-3&PTSA-37\ ",FOGLIST=\ "FOG-1-36" ;

Table 23-144 Output Parameter Support

Parameter	Description
<AID>	AID of the CPT 50 panel to be retrieved.
<PTSYSID>	PTSYS number or ID.
<OPMODE>	Operation mode of the PTSYSTEM.
• NMS	TCP IPC mode.
• IOS	IPC mode.
<MEMLIST>	Defines the slot of the PT systme.
<FOGLIST>	Defines the FOG members.

23.136 RTRV-QNQ-CHGRP

The Retrieve QinQ Channel Group (RTRV-QNQ-CHGRP) command retrieves the IEEE 802.1Q tunneling (QinQ) relationship between the CE-VLAN and the S-VLAN for Gigabit Ethernet uniport provisioning associated to a channel group.

Usage Guidelines	None
Category	Channel Group

Security Retrieve

Input Format RTRV-QNQ-CHGRP:[<TID>]:<AID>:<CTAG>::<FIRSTCEVLANID>,<LASTCEVLANID>,<SVLANID>[:];

Input Example RTRV-QNQ-CHGRP::CHGRP-1-1:1::110,110,1208;

Table 23-145 Input Parameter Support

Parameter	Description
<AID>	Access identifier from the “27.8 CHGRP” section on page 27-14 .
<FIRSTCEVLANID>	VLAN identifier. A VLAN ID is a number between 1 and 4096. The value 0 is reserved for untagged VLANs. This identifier is used for customer VLAN IDs and service provider VLAN IDs.
<LASTCEVLANID>	VLAN identifier. A VLAN ID is a number between 1 and 4096. The value 0 is reserved for untagged VLANs. This identifier is used for customer VLAN IDs and service provider VLAN IDs.
<SVLANID>	VLAN identifier. A VLAN ID is a number between 1 and 4096. The value 0 is reserved for untagged VLANs. This identifier is used for customer VLAN IDs and service provider VLAN IDs.
<INGRESSCOS>	Identifies the COS value set in the S-VLAN tag.
• 0 to 7	Set a Cos value
• DSCP	The COS is set according to DSCP to COS mapping table.
• TRUST	Use the Customer COS
• VLAN	The COS will be provisioned on CVLAN basis (QinQ selective mode)

Output Format SID DATE TIME
M CTAG COMPLD
“<AID>:<FIRSTCEVLANID>,<LASTCEVLANID>,<SVLANID>:RULE=<RULE>,[INTERNALVLAN=<INTERNAL_VLAN_ID>],[INGRESSCOS=<INGRESSCOS>[:];

Output Example TID-000 1998-06-20 14:30:00
M 001 COMPLD
“CHGRP-1-1:110,111,1208:RULE=DOUBLE-ADD,INTERNALVLAN=18,INGRASSCOS=”
;

Table 23-146 Output Parameter Support

Parameter	Description
<AID>	Ethernet AIDs are used to access L2 Ethernet ports. Access identifier from the “27.14 ETH” section on page 27-23 .
<FIRSTCEVLANI D>	VLAN identifier. A VLAN ID is a number between 1 and 4096. The value 0 is reserved for untagged VLANs. This identifier is used for customer VLAN IDs and service provider VLAN IDs.
<LASTCEVLANID >	VLAN identifier. A VLAN ID is a number between 1 and 4096. The value 0 is reserved for untagged VLANs. This identifier is used for customer VLAN IDs and service provider VLAN IDs.
<SVLANID>	VLAN identifier. A VLAN ID is a number between 1 and 4096. The value 0 is reserved for untagged VLANs. This identifier is used for customer VLAN IDs and service provider VLAN IDs.
<RULE>	Used to represent the Rules allowed for VLAN tagging operations. Default is ADD.
• ADD	The S-VLAN tag is added to the CE-VLAN tag.
• XLTE	The S-VLAN tag substitutes the CE-VLAN tag (single Q).
• XLTE-ADD	XLTE and ADD rule applied together. This rule request to supply an internal S-VLAN. First the Internal VLAN substitutes the Customer VLAN, then Service Provider VLAN TAG (S-VLAN) is added
• DOUBLE-ADD	ADD rule applied two times. This rule request to supply an internal S-VLAN. First the Internal VLAN is added, then Service Provider VLAN TAG (S-VLAN) is added to have a double tag
<INTERNAL_VLA N_ID>	Internal VLAN ID
<INGRESSCOS>	Identifies the COS value set in the S-VLAN tag.
• 0 to 7	Set a Cos value
• DSCP	The COS is set according to DSCP to COS mapping table.
• TRUST	Use the Customer COS.
• VLAN	The COS provisioned on CVLAN basis (QinQ selective mode)

23.137 RTRV-QNQ-ETH

The Retrieve QinQ Ethernet (RTRV-QNQ-ETH) command retrieves the IEEE 802.1Q tunneling (QinQ) relationship between the CE-VLAN and the S-VLAN for Gigabit Ethernet uniport provisioning associated to an L2 Ethernet port.

Usage Guidelines None

Category Ethernet

Security Retrieve

Input Format RTRV-QNQ-ETH:[<TID>]:<AID>:<CTAG>::<FIRSTCEVLANID>,<LASTCEVLANID>,<SVLANID>[:];

Input Example RTRV-QNQ-ETH:PETALUMA:ETH-1-1-1:238::110,110,1208;

Table 23-147 Input Parameter Support

Parameter	Description
<AID>	Ethernet AIDs are used to access L2 Ethernet ports. Access identifier from the “27.14 ETH” section on page 27-23 .
<FIRSTCEVLANID>	VLAN identifier. A VLAN ID is a number between 1 and 4096. The value 0 is reserved for untagged VLANs. This identifier is used for customer VLAN IDs and service provider VLAN IDs.
<LASTCEVLANID>	VLAN identifier. A VLAN ID is a number between 1 and 4096. The value 0 is reserved for untagged VLANs. This identifier is used for customer VLAN IDs and service provider VLAN IDs.
<SVLANID>	VLAN identifier. A VLAN ID is a number between 1 and 4096. The value 0 is reserved for untagged VLANs. This identifier is used for customer VLAN IDs and service provider VLAN IDs.
<INGRESSCOS>	Identifies the COS value set in the S-VLAN tag.
• 0 to 7	Set a Cos value
• DSCP	The COS is set according to DSCP to COS mapping table.
• TRUST	Use the Customer COS
• VLAN	The COS will be provisioned on CVLAN basis (QinQ selective mode)

Output Format SID DATE TIME
M CTAG COMPLD
“<AID>:<FIRSTCEVLANID>,<LASTCEVLANID>,<SVLANID>:RULE=<RULE>,[INTERNALVLAN=<INTERNAL_VLAN_ID>],[INGRESSCOS=<INGRESSCOS>[:];

Output Example TID-000 1998-06-20 14:30:00
M 001 COMPLD
“ETH-1-1-1:110,111,1208:RULE=XLTE:”
;

Table 23-148 Output Parameter Support

Parameter	Description
<AID>	Ethernet AIDs are used to access L2 Ethernet ports. Access identifier from the “27.14 ETH” section on page 27-23 .
<FIRSTCEVLANID>	VLAN identifier. A VLAN ID is a number between 1 and 4096. The value 0 is reserved for untagged VLANs. This identifier is used for customer VLAN IDs and service provider VLAN IDs.

Table 23-148 *Output Parameter Support*

Parameter	Description
<LASTCEVLANID>	VLAN identifier. A VLAN ID is a number between 1 and 4096. The value 0 is reserved for untagged VLANs. This identifier is used for customer VLAN IDs and service provider VLAN IDs.
<SVLANID>	VLAN identifier. A VLAN ID is a number between 1 and 4096. The value 0 is reserved for untagged VLANs. This identifier is used for customer VLAN IDs and service provider VLAN IDs.
<RULE>	Used to represent the Rules allowed for VLAN tagging operations. Default is ADD.
• ADD	The S-VLAN tag is added to the CE-VLAN tag.
• XLTE	The S-VLAN tag substitutes the CE-VLAN tag (single Q).
• XLTE-ADD	XLTE and ADD rule applied together. This rule request to supply an internal S-VLAN. First the Internal VLAN substitutes the Customer VLAN, then Service Provider VLAN TAG (S-VLAN) is added
• DOUBLE-ADD	ADD rule applied two times. This rule request to supply an internal S-VLAN. First the Internal VLAN is added, then Service Provider VLAN TAG (S-VLAN) is added to have a double tag
<INTERNAL_VLAN_ID>	Internal VLAN ID
<INGRESSCOS>	Identifies the COS value set in the S-VLAN tag.
• 0 to 7	Set a Cos value
• DSCP	The COS is set according to DSCP to COS mapping table.
• TRUST	Use the Customer COS.
• VLAN	The COS provisioned on CVLAN basis (QinQ selective mode)

23.138 RTRV-RAMAN

Retrieve RAMAN command retrieves the attributes of a RAMAN measure.

Usage Guidelines None

Category NCS

Security Retrieve

Input Format RTRV-RAMAN:[<TID>]:<AID>:<CTAG>;

Input Example RTRV-RAMAN:PENNGROVE:LINE-6-1-TX:236;

Input Parameters**Table 23-149 Input Parameter Support**

Parameter	Description
<AID>	The LINE aid used to access Optical Transport Section (OTS) layer of Optical Network units.
LINE[-{1-12}]-{1-5,12-16}-{1-5} -{RX,TX}	The receive/transmit Lines (COM=1, OSC=2, LINE=3, DC=4, RAMAN=5) in a OPT-RAMP-C cards.
LINE[-{1-12}]-{1-5,12-16}-{1-5} -ALL	All the Lines (COM=1,OSC=2,LINE=3, DC=4, RAMAN=5) in a OPT-RAMP-C cards.

Output Format

SID DATE TIME

M CTAG COMPLD

" <aid>:<meas_index>:<minramanlev>,<maxramanlev>,<date>,<time>";

Output Example

TID-000 1998-06-20 14:30:00

M 001 COMPLD

"LINE-6-1-TX:1:MINRAMANLEV=1.0,MAXRAMANLEV=2.0,TIME=00-00-00,DATE=02-02-07;

Output Parameters**Table 23-150 Parameter Support**

Parameter	Description
<AID>	The LINE aid used to access Optical Transport Section (OTS) layer of Optical Network units.
LINE[-{1-12}]-{1-5,12-16}-{1-5} -{RX,TX}	The receive/transmit Lines (COM=1, OSC=2, LINE=3, DC=4, RAMAN=5) in a OPT-RAMP-C cards.
LINE[-{1-12}]-{1-5,12-16}-{1-5} -ALL	All the Lines (COM=1,OSC=2,LINE=3, DC=4, RAMAN=5) in a OPT-RAMP-C cards.
<MEAS_INDEX >	Raman measure IndexDefault value.
<MINRAMANLEV >	Power measured with MIN Raman power level.
<MAXRAMANLEV >	Power measured with MAX Raman power level.
<DATE>	Identifies the date. Date is a String. Default value is - "current date"
<TIME>	Identifies the time. Time is a String. Default value is - "current time".

23.139 RTRV-REP

The Retrieve Resilient Ethernet Protocol (RTRV-REP) command retrieves the Resilient Ethernet Protocol (REP) configuration on the ethernet port of GE_XP or 10GE_XP card.

Usage Guidelines

- This command accept the ALL AID.
- This command is applicable only to GE_XP and 10GE_XP cards.

Category

Ethernet

Security

Retrieve

Input Format

RTRV-REP:[<TID>]:<AID>:<CTAG>;

Input Example

RTRV-REP:PENNGROVE:CHAN-16-1-RX:114;

Input Parameters

<AID>	Ethernet AIDs are used to access L2 Ethernet ports. Access identifier from the “27.14 ETH” section on page 27-23 .

Output Format

SID DATE TIME
M CTAG COMPLD
“<AID>::[SEGMENTID=<SEGMENTID>],[EDGE=<EDGE>],[PORTROLE=<PORTROLE>],[PREFERRED=<PREFERRED>],[PREEMPTDELAY=<PREEMPTDELAY>][:]”
;

Output Example

SID DATE TIME
M CTAG COMPLD
ETH-16-1-1::SEGMENTID=1,EDGE=Y,PORTROLE=NO_NEIGHBOR,PREFERRED=N,
REEMPTDELAY=0”
;

Output Parameters

<AID>	Ethernet AIDs are used to access L2 Ethernet ports. Access identifier from the “27.15 FACILITY” section on page 27-23 .
<SEGMENTID>	Indicates the segment ID for REP segment. The valid range is from 0 to 1024.
<EDGE>	Configures the port as an edge port.
• Y	To configure the port as an edge port.
• N	Not to configure the port as an edge port.
<PORTROLE>	The parameter type is REP_PORT_ROLE, which indicates the port’s role in a REP Segment for the ethernet ports.
• PRIMARY	Indicates that the port is a primary port.

• NO_NEIGHB OR	Indicates that the port has no neighbor port in the segment.
• NO_NEIGHB OR_PRIMA RY	Indicates that the port is a primary port and has no neighbor port in the segment.
• REGULAR	Indicates that the port is a regular port.
• None	Indicates that the port is an edge port.
<PREFERRED>	Indicates that the port is the preferred alternate port. Or the preferred port for VLAN load balancing.
• Y	Yes
• N	No

23.140 RTRV-RMONTH-<MOD2_RMON>

The Retrieve Remote Monitoring Threshold for 10GFC, 10GIGE, 40GIGE, 100GIGE, 1GFC, 1GFICON, 2GFC, 2GFICON, 4GFC, 4GFICON, 8GFC, CHGRP, FSTE, G1000, ETH, GFP, GFPOS, GIGE, HDLC, ISCCOMPAT, ISC3PEER1G, ISC3PEER2G, OCH, POS, 3GVIDEO, SDSDI , HDSDI, AUTO, ISC3STP1G, or ISC3STP2G (RTRV-RMONTH-<MOD2_RMON>) command retrieves an entry in the remote monitoring (RMON) alarm table for the threshold of data statistics managed by the RMON engine. See [Table 29-1 on page 29-1](#) for supported modifiers by platform.

Usage Guidelines

The command supports the modifier 3GVIDEO, SDSDI , HDSDI, AUTO, OTU1, ISC3STP1G, ISC3STP2G, and OTU2.

Category

Performance

Security

Provisioning

Input Format

RTRV-RMONTH-<MOD2_RMON>:[<TID>]:<SRC>:<CTAG>::[<MONTYPE>],,,[<INTVL>]:[RISE=<RISE>],[FALL=<FALL>],[SAMPLE=<SAMPLE>],[STARTUP=<STARTUP>][:];

Input Example

RTRV-RMONTH-ISC3STP1G::VFAC-4-1-1:1::MEDIANDSTATSRXLCVEERRORS,,,10:RISE=10,FALL=1,SAMPLE=ABSOLUTE;

Table 23-151 Input Parameter Support

Parameter	Description
<AID>	Access identifier from the “27.15 FACILITY” section on page 27-23 . AID for the facility that the data statistic is managed by.
<MONTYPE>	(Optional) Monitored type. Type of RMON monitored data statistic. A null value is equivalent to ALL. The parameter type is ALL_MONTYPE, which is the monitored type list.

Table 23-151 *Input Parameter Support*

Parameter	Description
• AISSP	Alarm Indication Signal Seconds—Path
• ALL	All possible values
• BBEP	NCS Background Block Errors Path
• BBE-PM	OTN—Background Block Errors—Path Monitor Point
• BBER	NCS Background Block Error Ratio
• BBER-PM	OTN—Background Block Error Ratio—Path Monitor Point expressed in tenths of a percentage.
• BBER-SM	OTN—Background Block Error Ratio—Section Monitor Point expressed in tenths of a percentage.
• BBE-SM	OTN—Background Block Errors—Section Monitor Point
• BIEC	FEC—Bit Errors Corrected
• CGV	8B10B—Code Group Violations
• CVCPP	Coding Violations—CP-Bit Path
• CVL	Coding Violations—Line
• CVP	Coding Violations—Path
• CVS	Coding Violations—Section
• CVV	Coding Violations—Section
• DCG	8B10B—Data Code Groups
• ESCPP	Errored Seconds—CP—Bit Path
• ESL	Errored Seconds—Line
• ESP	Errored Seconds—Path
• ES-PM	OTN—Errored Seconds—Path Monitor Point
• ESR	Errored Second—Ratio
• ESR-PM	Errored Seconds Ratio—Path monitor Point expressed in tenths of a percentage
• ESR-SM	Errored Seconds Ratio—Section monitor Point expressed in tenths of a percentage
• ESS	Errored Seconds—Section
• ES-SM	OTN—Errored Seconds—Section Monitor Point
• ESV	Errored Seconds—VC Path
• dot3StatsFCSErrors	A count of frames received on a particular interface that are an integral number of octets in length but do not pass the FCS check.
• dot3StatsFrameTooLong	A count of frames received on a particular interface that exceed the maximum permitted frame size.
• etherStatsBroadcastPkts	The total number of good packets received that were directed to a multicast address
• etherStatsCollisions	Number of transmit packets that are collisions
• etherStatsCRCAlignmentErrors	The total number of packets received that have a length (excluding framing bits, but including FCS octets) of between 64 and 1518 octets

Table 23-151 *Input Parameter Support*

Parameter	Description
• CVV	Coding Violations—Section
• DCG	8B10B—Data Code Groups
• ESCPP	Errored Seconds—CP—Bit Path
• ESL	Errored Seconds—Line
• ESP	Errored Seconds—Path
• ES-PM	OTN—Errored Seconds—Path Monitor Point
• ESR	Errored Second—Ratio
• ESR-PM	Errored Seconds Ratio—Path monitor Point expressed in tenths of a percentage
• ESR-SM	Errored Seconds Ratio—Section monitor Point expressed in tenths of a percentage
• ESS	Errored Seconds—Section
• ES-SM	OTN—Errored Seconds—Section Monitor Point
• ESV	Errored Seconds—VC Path
• dot3StatsFCSErrors	A count of frames received on a particular interface that are an integral number of octets in length but do not pass the FCS check.
• dot3StatsFrameTooLong	A count of frames received on a particular interface that exceed the maximum permitted frame size.
• etherStatsBroadcastPkts	The total number of good packets received that were directed to a multicast address
• etherStatsCollisions	Number of transmit packets that are collisions
• etherStatsCRCAlignmentErrors	The total number of packets received that have a length (excluding framing bits, but including FCS octets) of between 64 and 1518 octets

Table 23-151 Input Parameter Support

Parameter	Description
• HP-BBER	High-Order Path Background Block Error Ratio
• HP-EB	High-Order Path Errored Block
• HP-ES	High-Order Path Errored Second
• HP-ESA	High-Order Path Errored Seconds—A
• HP-ESB	High-Order Path Errored Seconds—B
• HP-ESR	High-Order Path Errored Second Ratio
• HP-FC	High-Order Path Failure Count
• HP-NPJC-PDET	High-Order Path Negative Pointer Justification Count - Path Detected
• HP-NPJC-PGEN	High-Order Path Pointer Justification Count Seconds - Path Generated
• HP-OI	Outage Intensity
• HP-PJCDIFF	High-Order Path Pointer Justification Count Difference
• HP-PJCS-PDET	High-Order Path Pointer Justification Count Seconds-Path Detected
• HP-PPJC-PDET	High-Order Path Positive Pointer Justification Count-Path Detected
• HP-PPJC-PGEN	High-Order Path Positive Pointer Justification Count-Path Generated
• HP-SEPI	The number of SEP events in available time
• HP-SES	High-Order Path Severely Errored Seconds
• HP-SESR	High-Order Path Severely Errored Second Ratio
• HP-UAS	High-Order Path Unavailable Seconds
• ifInBroadcastPkts	Number of broadcast packets received since the last counter reset
• ifInDiscards	The number of inbound packets
• ifInErrorBytePkts	Receive Error Byte
• ifInErrors	The number of inbound packets (or transmission units) that contained errors
• ifInFramingErrorPkts	Receive Framing Error
• ifInJunkInterPkts	Receive Interpacket Junk
• ifInMulticastPkts	Number of multicast packets received since the last counter reset
• ifInOctets	Number of bytes transmitted since the last counter reset
• ifInUcastPkts	Number of unicast packets received since the last counter reset
• ifOutBroadcastPkts	Number of broadcast packets transmitted
• ifOutDiscards	The number of outbound packets
• ifOutErrors	The number of outbound packets (or transmission units) that could not be transmitted because of errors
• ifOutMulticastPkts	Number of multicast packets transmitted
• ifOutPayloadCrcErrors	Received payload CRC errors

Table 23-151 **Input Parameter Support**

Parameter	Description
• ifOutUcastPkts	Number of unicast packets transmitted
• IOS	8B10B—Idle Ordered Sets
• IPC	Invalid Packet Count
• LBCL-AVG	Average Laser Bias Current in microA
• LBCL-MAX	Maximum Laser Bias Current in microA
• LBCL-MIN	Minimum Laser Bias Current in microA
• LBCN	Normalized Laser Bias Current for STM1-8
• LBCN-HWT	Normalized Laser Bias Current—Higher Threshold
• LBCN-LWT	Normalized Laser Bias Current—Lower Threshold
• LOSSL	Loss of Signal Seconds—Line
• LP-BBE	Low-Order Path Background Block Error
• LP-BBER	Low-Order Path Background Block Error Ratio
• LP-EB	Low-Order Path Errored Block
• LP-ES	Low-Order Path Errored Second
• LP-ESA	Low-Order Path Errored Seconds—A
• LP-ESB	Low-Order Path Errored Seconds—B
• LP-ESR	Low-Order Path Errored Second Ratio
• LP-FC	Low-Order Path Failure Count
• LP-NPJC-DET	Low-Order Negative Pointer Justification Count-Detected
• LP-NPJC-GEN	Low-Order Negative Pointer Justification Count-Generated
• LP-PPJC-DET	Low-Order Positive Pointer Justification Count-Detected
• LP-PPJC-GEN	Low-Order Positive Pointer Justification Count-Generated
• LP-SEP	A sequence of between 3 to 9 consecutive SES
• LP-SEPI	Low-Order Path Severely Errored Period Intensity
• LP-SES	Low-Order Path Severely Errored Seconds
• LP-UAS	Low-Order Path Unavailable Seconds
• MS-PSC	Protection switch count
• MS-PSD	Protection switch duration
• NIOS	8B10B—Non Idle Ordered Sets
• NPJC-PDET	Negative Pointer Justification Count-Path Detected
• NPJC-PGEN	Negative Pointer Justification Count-Path Generated
• OPR-AVG	Average Receive Power in one tenth of a microwatt
• OPR-MAX	Maximum Receive Power one tenth of a microwatt
• OPR-MIN	Minimum Receive Power in one tenth of a microwatt
• OPRN	Normalized Optical Receive Power for STM1-8
• OPRN-MAX	Maximum value for OPRN

Table 23-151 *Input Parameter Support*

Parameter	Description
• OPRN-MIN	Minimum value for OPRN
• OPT-AVG	Average Transmit Power in tenths of a microW
• OPT-MAX	Maximum Transmit Power in tenths of a microW
• OPT-MIN	Minimum Transmit Power in tenths of a microW
• OPTN	Normalized value for Optical Power Transmitted for STM1-8 card
• OPTN-MAX	Maximum value for OPTN
• OPTN-MIN	Minimum value for OPTN
• OPWR-AVG	Optical Power—Average Interval Value in tenths of a dBm
• OPWR-MAX	Optical Power—Maximum Interval Value in tenths of a dBm
• OPWR-MIN	Optical Power—Minimum Interval Value in tenths of a dBm
• PPJC-PDET	Positive Pointer Justification Count-Path Detected
• PPJC-PGEN	Positive Pointer Justification Count-Path Generated
• PRE-FECBER	Enum to hold PRE-FECBER value
• PSC	Protection Switching Count
• PSC-R	Protection Switching Count—Ring
• PSC-S	Protection Switching Count—Span
• PSC-W	Protection Switching Count—Working
• PSD	Protection Switching Duration
• PSD-R	Protection Switching Duration—Ring
• PSD-S	Protection Switching Duration—Span
• PSD-W	Protection Switching Duration—Working
• SASCPP	Severely Errored Framing/AIS Second—CP-Bit Path
• SASP	Severely Errored Framing/AIS Seconds Path
• SEFS	Severely Errored Framing Seconds
• SESCOPP	Severely Errored Second—CP-Bit Path
• SESL	Severely Errored Second—Line
• SESP	Severely Errored Second—Path
• SES-PM	OTN—Severely Errored Second—Path
• SESR	Severely Errored Second—Ratio
• SESR-PM	OTN—Severely Errored Second Ratio—Path Monitor Point expressed in tenths of a percentage
• SESR-SM	OTN—Severely Errored Second Ratio—Section Monitor Point expressed in tenths of a percentage
• SESS	Severely Errored Second—Section
• SES-SM	OTN—Severely Errored Second—Section Monitor Point
• SESV	Severely Errored Second—VC Path
• UASCPP	Unavailable Second—CP-Bit Path

Table 23-151 Input Parameter Support

Parameter	Description
• UASL	Unavailable Second—Line
• UASP	Unavailable Second—Path
• UAS-PM	OTN—Unavailable Second—Path Monitor Point
• UAS-SM	OTN—Unavailable Second—Section Monitor Point
• UASV	Unavailable Second—VC Path
• UNC-WORDS	FEC—Uncorrectable Words
• VPC	Valid Packet Count
<INTVL>	(Optional) The interval in seconds over which the data is sampled and compared with the rising and falling threshold. A valid value is any integer larger than or equal to 10 (seconds). A null value is equivalent to ALL.
<RISE>	(Optional) The rising threshold for the sampled statistic. A valid value is any integer. A null value is equivalent to ALL.
<FALL>	(Optional) The falling threshold. A valid value is any integer smaller than the rising threshold. A null value is equivalent to ALL.
<SAMPLE>	(Optional) The method of calculating the value to be compared to the thresholds. A null value is equivalent to ALL. The parameter type is SAMPLE_TYPE, which describes how the data will be calculated during the sampling period.
• ABSOLUTE	Comparing directly
• DELTA	Comparing with the current value of the selected variable subtracted from the last sample
<STARTUP>	(Optional) Dictates whether an event will generate if the first valid sample is greater than or equal to the rising threshold, less than or equal to the falling threshold, or both. A null value is equivalent to ALL. The parameter type is STARTUP_TYPE, which indicates whether an event will be generated when the first valid sample is crossing the rising or falling threshold.
• FALLING	Generates the event when the sample is smaller than or equal to the falling threshold.
• RISING	Generates the event when the sample is greater than or equal to the rising threshold.
• RISING-OR-FALLING	Generates the event when the sample is crossing the rising threshold or the falling threshold.

Output Format

RTRV-RMONTH-SDSDI:CISCO:VFAC-2-5-1:1234::MEDIAINDSTATSRXLCVERRORS,,,,100:RISE=1000, FALL=100,SAMPLE=DELTA,STARTUP=RISING;

Output Example

TID-000 1998-06-20 14:30:00

M 001 COMPLD

"VFAC-2-5-1,SDSDI: MEDIAINDSTATSRXLCVERRORS,,,,100:INDEX=2,RISE=1000,FALL=100,SAMPLE=DELTA,STARTUP=RISING"

;

Table 23-152 *Output Parameter Support*

Parameter	Description
<AIDUNIONID>	Access identifier from the “27.15 FACILITY” section on page 27-23.
<AIDTYPE>	The type of facility, link or other addressable entity targeted by the message. The parameter type is MOD2_RMON, which is the line modifier.
• 100GIGE	100 Gigabit Ethernet.
• 10GFC	10-Gigabit Fibre Channel payload
• 10GIGE	10-Gigabit Ethernet
• 1GFC	1-Gigabit Fibre Channel payload
• 1GFICON	1-Gigabit fiber connectivity payload
• 2GFC	2-Gigabit Fibre Channel payload
• 40GIGE	40-Gigabit Ethernet
• 8GFC	8-Gigabit Fibre Channel payload
• ETH	Ethernet
• FSTE	Fast Ethernet (10/100 Megabits per second)
• G1000	Gigabit Ethernet (used for G1000 ports)
• GFPOS	Generic framing protocol over NCS
• GIGE	Gigabit Ethernet (used for non-G1000 ports)
• OCH	Optical channel
• OTU4	Optical Transport Unit Level 4
• POS	Packet over NCS
<MONTYPE>	Monitored type. Type of RMON monitored data statistic. The parameter type is ALL_MONTYPE, which is the monitored type list.
• AISSP	Alarm Indication Signal Seconds—Path
• ALL	All possible values
• BBEP	NCS Background Block Errors Path
• BBE-PM	OTN—Background Block Errors—Path Monitor Point
• BBER	NCS Background Block Error Ratio
• BBER-PM	OTN—Background Block Error Ratio—Path Monitor Point expressed in tenths of a percentage
• BBER-SM	OTN—Background Block Error Ratio—Section Monitor Point expressed in tenths of a percentage
• BBE-SM	OTN—Background Block Errors—Section Monitor Point
• BIEC	FEC—Bit Errors Corrected
• CGV	8B10B—Code Group Violations
• CVCPP	Coding Violations—CP-Bit Path
• CVL	Coding Violations—Line
• CVP	Coding Violations—Path
• CVS	Coding Violations—Section

Table 23-152 **Output Parameter Support**

Parameter	Description
• CVV	Coding Violations—Section
• DCG	8B10B—Data Code Groups
• ESCPP	Errored Seconds—CP—Bit Path
• ESL	Errored Seconds—Line
• ESP	Errored Seconds—Path
• ES-PM	OTN—Errored Seconds—Path Monitor Point
• ESR	Errored Second—Ratio
• ESR-PM	Errored Seconds Ratio—Path monitor point expressed in tenths of a percentage
• ESR-SM	Errored Seconds Ratio—Section monitor point expressed in tenths of a percentage
• ESS	Errored Seconds—Section
• ES-SM	OTN—Errored Seconds—Section Monitor Point
• ESV	Errored Seconds—VC Path
• dot3StatsFCSErrors	A count of frames received on a particular interface that are an integral number of octets in length but do not pass the FCS check.
• dot3StatsFrameTooLong	A count of frames received on a particular interface that exceed the maximum permitted frame size.
• etherStatsBroadcastPkts	The total number of good packets received that were directed to a multicast address
• etherStatsCollisions	Number of transmit packets that are collisions
• etherStatsCRCAlignErrors	The total number of packets received that have a length (excluding framing bits, but including frame check sequence [FCS] octets) of between 64 and 1518 octets
• etherStatsDropEvents	Number of received frames dropped at the port level
• etherStatsFragments	The total number of packets received that were less than 64 octets
• etherStatsJabbers	The total number of packets received that are longer than 1518 octets
• etherStatsOctets	The total number of octets of data
• etherStatsOversizePkts	The total number of packets received that are longer than 1518 octets
• etherStatsPkts	The total number of packets (including bad packets, broadcast packets, and multicast packets) received
• etherStatsUndersizePkts	The total number of packets received that are less than 64 octets
• FCP	Failure Count—Line
• FC-PM	OTN—Failure Count—Path Monitor Point
• FC-SM	OTN—Failure Count—Section Monitor Point
• HP-AR	Availability Ratio
• HP-BBE	High-Order Path Background Block Error
• HP-BBER	High-Order Path Background Block Error Ratio
• HP-EB	High-Order Path Errored Block
• HP-ES	High-Order Path Errored Second
• HP-ESA	High-Order Path Errored Seconds—A

Table 23-152 **Output Parameter Support**

Parameter	Description
• HP-ESB	High-Order Path Errored Seconds—B
• HP-ESR	High-Order Path Errored Second Ratio
• HP-FC	High-Order Path Failure Count
• HP-NPJC-PDET	High-Order Path Negative Pointer Justification Count-Path Detected
• HP-NPJC-PGEN	High-Order Path Negative Pointer Justification Count-Path Generated
• HP-OI	Outage Intensity
• HP-PJCDIFF	High-Order Path Pointer Justification Count Difference
• HP-PJCS-PDET	High-Order Path Pointer Justification Count Seconds-Path Detected
• HP-PPJC-PDET	High-Order Path Positive Pointer Justification Count-Path Detected
• HP-PPJC-PGEN	High-Order Path Positive Pointer Justification Count-Path Generated
• HP-SEPI	The number of SEP events in available time
• HP-SES	High-Order Path Severely Errored Seconds
• HP-SESR	High-Order Path Severely Errored Second Ratio
• HP-UAS	High-Order Path Unavailable Seconds
• ifInBroadcastPkts	Number of broadcast packets received since the last counter reset
• ifInDiscards	The number of inbound packets
• ifInErrorBytePktss	Receive Error Byte
• ifInErrors	The number of inbound packets (or transmission units) that contained errors
• ifInFramingErrorPkts	Receive Framing Error
• ifInJunkInterPkts	Receive Interpacket Junk
• ifInMulticastPkts	Number of multicast packets received since the last counter reset
• ifInOctets	Number of bytes transmitted since the last counter reset
• ifInUcastPkts	Number of unicast packets received since the last counter reset
• ifOutBroadcastPkts	Number of broadcast packets transmitted
• ifOutDiscards	The number of outbound packets
• ifOutErrors	The number of outbound packets (or transmission units) that could not be transmitted because of errors
• ifOutMulticastPkts	Number of multicast packets transmitted
• ifOutPayloadCrcErrors	Received payload CRC errors
• ifOutUcastPkts	Number of unicast packets transmitted
• IOS	8B10B—Idle Ordered Sets
• IPC	Invalid Packet Count
• LBCL-AVG	Average Laser Bias Current in microA
• LBCL-MAX	Maximum Laser Bias Current in microA
• LBCL-MIN	Minimum Laser Bias Current in microA
• LBCN	Normalized Laser Bias Current for STM1-8

Table 23-152 **Output Parameter Support**

Parameter	Description
• LBCN-HWT	Normalized Laser Bias Current—Higher Threshold
• LBCN-LWT	Normalized Laser Bias Current—Lower Threshold
• LOSSL	Loss of Signal Seconds—Line
• LP-BBE	Low-Order Path Background Block Error
• LP-BBER	Low-Order Path Background Block Error Ratio
• LP-EB	Low-Order Path Errored Block
• LP-ES	Low-Order Path Errored Second
• LP-ESA	Low-Order Path Errored Seconds—A
• LP-ESB	Low-Order Path Errored Seconds—B
• LP-ESR	Low-Order Path Errored Second Ratio
• LP-FC	Low-Order Path Failure Count
• LP-NPJC-DET	Low-Order Negative Pointer Justification Count-Detected
• LP-NPJC-GEN	Low-Order Negative Pointer Justification Count-Generated
• LP-PPJC-DET	Low-Order Positive Pointer Justification Count-Detected
• LP-PPJC-GEN	Low-Order Positive Pointer Justification Count-Generated
• LP-SEP	A sequence of between 3 to 9 consecutive severely errored seconds (SES)
• LP-SEPI	Low-Order Path Severely Errored Period Intensity
• LP-SES	Low-Order Path Severely Errored Seconds
• LP-UAS	Low-Order Path Unavailable Seconds
• MS-PSC	Multiplex Section-Protection switch count
• MS-PSD	Multiplex Section-Protection switch duration
• NIOS	8B10B—Non Idle Ordered Sets
• NPJC-PDET	Negative Pointer Justification Count-Path Detected
• NPJC-PGEN	Negative Pointer Justification Count-Path Generated
• OPR-AVG	Average Receive Power in tenths of a microW
• OPR-MAX	Maximum Receive Power in tenths of a microW
• OPR-MIN	Minimum Receive Power in tenths of a microW
• OPRN	Normalized Optical Receive Power for STM1-8
• OPRN-MAX	Maximum value for OPRN
• OPRN-MIN	Minimum value for OPRN
• OPT-AVG	Average Transmit Power in tenths of a microW
• OPT-MAX	Maximum Transmit Power in tenths of a microW
• OPT-MIN	Minimum Transmit Power in tenths of a microW
• OPTN	Normalized value for Optical Power Transmitted for STM1-8 card
• OPTN-MAX	Maximum value for OPTN
• OPTN-MIN	Minimum value for OPTN

Table 23-152 *Output Parameter Support*

Parameter	Description
• OPWR-AVG	Optical Power—Average Interval Value in tenths of a dBm
• OPWR-MAX	Optical Power—Maximum Interval Value in tenths of a dBm
• OPWR-MIN	Optical Power—Minimum Interval Value in tenths of a dBm
• PPJC-PDET	Positive Pointer Justification Count-Path Detected
• PPJC-PGEN	Positive Pointer Justification Count-Path Generated
• PRE-FECBER	Enum to hold PRE-FECBER value
• PSC	Protection Switching Count
• PSC-R	Protection Switching Count—Ring
• PSC-S	Protection Switching Count—Span
• PSC-W	Protection Switching Count—Working
• PSD	Protection Switching Duration
• PSD-R	Protection Switching Duration—Ring
• PSD-S	Protection Switching Duration—Span
• PSD-W	Protection Switching Duration—Working
• SASCPP	Severely Errored Framing/AIS Second—CP-Bit Path
• SASP	Severely Errored Framing/AIS Seconds Path
• SEFS	Severely Errored Framing Seconds
• SESCOPP	Severely Errored Second—CP-Bit Path
• SESL	Severely Errored Second—Line
• SESP	Severely Errored Second—Path
• SES-PM	OTN—Severely Errored Second—Path
• SESR	Severely Errored Second—Ratio
• SESR-PM	OTN—Severely Errored Second Ratio—Path Monitor Point expressed in tenths of a percentage
• SESR-SM	OTN—Severely Errored Second Ratio—Section Monitor Point expressed in tenths of a percentage
• SESS	Severely Errored Second—Section
• SES-SM	OTN—Severely Errored Second—Section Monitor Point
• SESV	Severely Errored Second—VC Path
• UASCPP	Unavailable Second—CP-Bit Path
• UASL	Unavailable Second—Line
• UASP	Unavailable Second—Path
• UAS-PM	OTN—Unavailable Second—Path Monitor Point
• UAS-SM	OTN—Unavailable Second—Section Monitor Point
• UASV	Unavailable Second—VC Path
• UNC-WORDS	FEC—Uncorrectable Words
• VPC	Valid Packet Count

Table 23-152 **Output Parameter Support**

Parameter	Description
<INTVL>	The interval in seconds over which the data is sampled and compared with the rising and falling threshold. A valid value is any integer larger than or equal to 10 (seconds).
<INDEX>	The index for the threshold created by the system in the RMON threshold table. INDEX is an integer.
<RISE>	The rising threshold for the sampled statistic. A valid value is any integer.
<FALL>	The falling threshold. A valid value is any integer smaller than the rising threshold.
<SAMPLE>	The method of calculating the value to be compared to the thresholds. The parameter type is SAMPLE_TYPE, which describes how the data will be calculated during the sampling period.
• ABSOLUTE	Comparing directly
• DELTA	Comparing with the current value of the selected variable subtracted by the last sample
<STARTUP>	Dictates whether an event will generate if the first valid sample is greater than or equal to the rising threshold, less than or equal to the falling threshold, or both. The parameter type is STARTUP_TYPE, which indicates whether an event will be generated when the first valid sample is crossing the rising or falling threshold.
• FALLING	Generates the event when the sample is smaller than or equal to the falling threshold.
• RISING	Generates the event when the sample is greater than or equal to the rising threshold.
• RISING-OR-FALLING	Generates the event when the sample is crossing the rising threshold, or the falling threshold.

23.141 RTRV-ROLL-<MOD_PATH>

The Retrieve Roll for VC3, VC44C, VC464C, VC48C, VC4, VC416C, VC42C, VC43C, VC11, or VC12 (RTRV-ROLL-<MOD_PATH>) command retrieves roll data parameters. See [Table 29-1 on page 29-1](#) for supported modifiers by platform.

Usage Guidelines

None

Category

Bridge and Roll

Security

Retrieve

Input Format

RTRV-ROLL-<MOD_PATH>[:<TID>]:<SRC>:<CTAG>;

Input Example

RTRV-ROLL-VC4:CISCO:VC4-1-1-1:6;

Input Parameters	<SRC> Source access identifier from the “27.32 VC” section on page 27-35 . Roll path (VC).
Output Format	<pre> SID DATE TIME M CTAG COMPLD “<FROM>,<TO>:RFROM=<RFROM>,RTO=<RTO>,RMODE=<RMODE>, VLDSIG=<VLDSIG>” ; </pre>
Output Example	<pre> TID-000 1998-06-20 14:30:00 M 001 COMPLD “VC4-1-1-1,VC4-2-1-1:RFROM=VC4-2-1-1,RTO=VC4-3-1-1,RMODE=AUTO,VLDSIG=N” ; </pre>

Table 23-153 Output Parameter Support

Parameter	Description
<FROM>	One of the termination points (legs) of the existing cross-connection. AID from the “27.32 VC” section on page 27-35 .
<TO>	One of the termination points (legs) of the existing cross-connection. AID from the “27.32 VC” section on page 27-35 .
<RFROM>	The termination point of the existing cross-connect that is to be rolled. AID from the “27.32 VC” section on page 27-35 .
<RTO>	The termination point that will become a leg of the new cross-connection. AID from the “27.32 VC” section on page 27-35 .
<RMODE>	(Optional) The rolling mode of operation. The parameter type is RMODE, which specifies the roll mode.
• AUTO	Automatic. When a valid signal is available, the roll under AUTO mode will automatically delete the previous endpoint.
• MAN	Manual. Enter the corresponding delete roll/bulkroll command to delete the previous endpoint.
<VLDSIG>	Shows whether or not the roll has received a valid signal. VLDSIG is Y if the signal is valid and N if it is not. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.

23.142 RTRV-ROUTE

The Retrieve Route (RTRV-ROUTE) command retrieves static routes.

Usage Guidelines

- There is no Domain Name Server (DNS) service available on the node. Only numeric IP addresses will be accepted.
- The optional parameters DESTIP, IPMASK, NXTHOP, and COST are used to filter the retrieved static routes. In the absence of any optional parameter, all the static routes on the node will be retrieved.

Category System

Security Retrieve

Input Format RTRV-ROUTE:[<TID>]::<CTAG>::<DESTIP>],[<IPMASK>],[<NXTHOP>],[<COST>];

Input Example RTRV-ROUTE:CISCO::123::10.64.72.57,255.255.255.0,10.64.10.1,200;

Table 23-154 Input Parameter Support

Parameter	Description
<DESTIP>	(Optional) Destination IP. DESTIP is a string. A null value is equivalent to ALL.
<IPMASK>	(Optional) IP mask. IPMASK is a string. A null value is equivalent to ALL.
<NXTHOP>	(Optional) Next hop. NXTHOP is a string. A null value is equivalent to ALL.
<COST>	(Optional) Unsigned integer. Valid range is from 1 to 32,797. A null value is equivalent to ALL.

Output Format

```

SID DATE TIME
M CTAG COMPLD
“,:<DESTIP>,<IPMASK>,<NXTHOP>,<COST>”
;

```

Output Example

```

TID-000 1998-06-20 14:30:00
M 001 COMPLD
“,:“10.64.72.57”,“255.255.255.0”,“10.64.10.1”,200”
;

```

Table 23-155 Output Parameter Support

Parameter	Description
<DESTIP>	Destination IP. DESTIP is a string.
<IPMASK>	IP mask. IPMASK is a string.
<NXTHOP>	Next hop. NXTHOP is a string.
<COST>	Cost. COST is an integer.

23.143 RTRV-ROUTE-GRE

The Retrieve Route Generic Routing Encapsulation (RTRV-ROUTE-GRE) command displays the existing GRE tunnels.

Usage Guidelines None

Category	System
Security	Retrieve
Input Format	RTRV-ROUTE-GRE:[<TID>]::<CTAG>[:::];
Input Example	RTRV-ROUTE-GRE:CISCO::123;
Input Parameters	None
Output Format	SID DATE TIME M CTAG COMPLD “,;IPADDR=<IPADDR>,IPMASK=<IPMASK>,NSAP=<NSAP>,COST=<COST>” ;
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD “,;IPADDR=10.64.72.57,IPMASK=255.255.255.0, NSAP=39840F80FFFFFFF0000DDDDAA000010CFB4910200,COST=110” ;

Table 23-156 **Output Parameter Support**

Parameter	Description
<IPADDR>	IP address of the tunnel endpoint. IPADDR is a string.
<IPMASK>	Subnet mask for the tunnel endpoint. IPMASK is a string.
<NSAP>	NSAP address for the tunnel endpoint. NSAP is a string.
<COST>	Routing cost associated with the tunnel. COST is an integer.

23.144 RTRV-SHELFSTAT

The RTRV-SHELFSTAT command retrieves and reports the temperature and voltage of the shelf.

Usage Guidelines	None
Category	Equipment

Security	Retrieve
Input Format	RTRV-SHELFSTAT:[<TID>]:<AID>:<CTAG>;
Input Example	RTRV-SHELFSTAT:CISCO454::1;
Output Format	SID DATE TIME M CTAG COMPLD "AID:AIDTYPE,TEMPERATURE= <TEMPERATURE>,VOLTAGEA= <VOLTAGEA>,VOLTAGEB= <VOLTAGEB>[,VOLTAGEC= <VOLTAGEC>,VOLTAGED= <VOLTAGED>]" ;
Output Example	TID-000 2008-07-19 18:57:00 M 001 COMPLD ":SHELF,TEMPERATURE=22C,VOLTAGEA=51760,VOLTAGEB=51783,VOLTAGEC=51760,VOLT AGED=51783" ;

Table 23-157 Output Parameter Support

Parameter	Description
<Temperature>	Temperature of the shelf (in degrees Celsius).
<VOLTAGEA>	Voltage of the shelf that corresponds to power supply A (in millivolts).
<VOLTAGEB>	Voltage of the shelf that corresponds to power supply B (in millivolts).
<VOLTAGEC>	Voltage of the shelf that corresponds to power supply C (in millivolts).
<VOLTAGED>	Voltage of the shelf that corresponds to power supply D (in millivolts).

23.145 RTRV-SLV-WDMANS

The Retrieve Span Loss Verification Wavelength Division Multiplexing Automatic Node Setup (RTRV-SLV-WDMANS) command retrieves the expected span loss verification provisioned by the ED-SLV-WDMANS command.

Usage Guidelines	None
Category	NCS
Security	Retrieve

Input Format RTRV-SLV-WDMANS:[<TID>]:<AID>:<CTAG>;

Input Example RTRV-SLV-WDMANS:VA454-22:WDMANS-E:116;

Input Parameters <AID> Access identifier from the “27.33 WDMANS” section on page 27-37.

Output Format SID DATE TIME
M CTAG COMPLD
“<AID>::[ROLE=<ROLE>],[HIGHSLVEXP=<HIGHSLVEXP>],[LOWSLVEXP=<LOWSLVEXP>],
[SLVACT=<SLVACT>],[RESOLUTION=<RESOLUTION>],[TYPE=<TYPE>]”
;

Output Example TID-000 1998-06-20 14:30:00
M 001 COMPLD
“WDMANS-E::HIGHSLVEXP=10.0,LOWSLVEXP=5.0,SLVACT=10.0,RESOLUTION=1.0:”
;

Table 23-158 Output Parameter Support

Parameter	Description
<AID>	Access identifier from the “27.33 WDMANS” section on page 27-37.
<ROLE>	The role the unit is playing in the protection group.
• PROT	The entity is the protection unit in the protection group.
• WORK	The entity is the working unit in the protection group.
<HIGHSLVEXP>	(Optional) The high range value of the expected span loss verification. HIGHSLVEXP is a float.
<LOWSLVEXP>	(Optional) The low range value of the expected span loss verification. LOWSLVEXP is a float.
<SLVACT>	(Optional) The value of the calculated span loss verification. SLVACT is a float.
<RESOLUTION>	(Optional) The value of the resolution applied to the calculated span loss verification. RESOLUTION is a float.
<TYPE>	Indicates the type of the calculated span loss verification.
• ACTIVE-CHANNE EL	Span Loss calculated with OSC channel.
• OSC	Span Loss calculated with OSC channel.

23.146 RTRV-STCN-REP

The RTRV Segment Topology Change Notification Resilient Ethernet Protocol (RTRV-STCN-REP) command retrieves the Segment Topology Change Notification (STCN) for REP Segment on the ethernet ports.

Usage Guidelines

- REP must be configured on the ethernet port.
- This command is applicable only to GE_XP and 10GE_XP cards.

Category

Ethernet

Security

Retrieve

Input Format

RTRV-STCN-REP:[<TID>]:<AID>:<CTAG>[:::];

Input Example

RTRV-STCN-REP:CISCO:ETH-16-1-1:1;

Input Parameters

<AID>	Access identifier from the “27.15 FACILITY” section on page 27-23.

Output Format

SID DATE TIME
M CTAG COMPLD
“<AID>:[STCNENABLED=<STCNENABLED>],[SEGRANGE=<SEGRANGE>],[STCNPORT=<STCNPORT>]”
;

Output Example

SID DATE TIME
M CTAG COMPLD
“ETH-16-1-1::STCNENABLED=Y,SEGRANGE=\"1000-1020\"&1020-1021,
STCNPORT=ETH-16-2-1”

Output Parameters

Input Parameters	Description
<AID>	Access identifier from the “27.15 FACILITY” section on page 27-23.
<STCNENABLED>	To enable or disable the Segment Topology Notification on ethernet entity for REP.
• Y	Enables STCN on the ethernet port.
• N	Disables STCN on the ethernet port.
<SEGRANGESTART>	Indicates the segment range start value for the STCN. The valid range is from 0 to 1024.
<SEGRANGEEND>	Indicates the segment range end value for the STCN. The valid range is from 0 to 1024.
<STCNPORT>	Determines on which ethernet port the STCN should be sent. STCNPORT is an AID, it takes ETH AID value. The default is NULL.

23.147 RTRV-STM1E

The Retrieve STM1E (RTRV-STM1E) command retrieves the attributes and state information of a STM1E facility.

Usage Guidelines None

Category Ports

Security Retrieve

Input Format RTRV-STM1E:[<TID>]:<AID>:<CTAG>[:];

Input Example RTRV-STM1E:CISCO1:FAC-6-1:8888;

Input Parameters <AID> Access identifier from the [“27.15 FACILITY” section on page 27-23](#).

Output Format

```
SID DATE TIME
M CTAG COMPLD
“<AID>::[PAYLOAD=<PAYLOAD>],[SYNCMSG=<SYNCMSG>],[SENDDUS=<SENDDUS>],
[PJMON=<PJMON>],[SFBER=<SFBER>],[SDBER=<SDBER>],[SOAK=<SOAK>],
[SOAKLEFT=<SOAKLEFT>],[NAME=<NAME>]:<PSTPSTQ>,<SSTQ>]”
;
```

Output Example

```
TID-000 1998-06-20 14:30:00
M 001 COMPLD
“FAC-6-1::PAYLOAD=STM1E,SYNCMSG=Y,SENDDUS=N,PJMON=48,SFBER=1E-4,
SDBER=1E-6,SOAK=10,SOAKLEFT=12-25,NAME=“STM1EPORT”:UNLOCKED-DISABLED,
AUTOMATICINSERVICE”
;
```

Table 23-159 Output Parameter

Parameter	Description
<AID>	Access identifier from the “27.15 FACILITY” section on page 27-23 .
<PAYLOAD>	(Optional) The payload for the card. The parameter type is PAYLOAD, which identifies the payload type.
• 100GIGE	100 Gigabit Ethernet.
• 10GFC	10-Gigabit Fibre Channel payload

Table 23-159 **Output Parameter**

Parameter	Description
• 10GIGE	10-Gigabit Ethernet
• 1GFC	1-Gigabit Fibre Channel payload
• 1GFICON	1-Gigabit fiber connectivity payload
• 2GFC	2-Gigabit Fibre Channel payload
• 2GFICON	2-Gigabit fiber connectivity payload
• 3GVIDEO	3G-SDI video payload.
• AUTO	Auto
• DV6000	Video mode
• DVBASI	DVBASI payload
• E4-FRAMED	E4-FRAMED payload mode for NCS STM1E-12 card
• E4-UNFRAMED	E4-UNFRAMED payload mode for NCS STM1E-12 card
• ESCON	ESCON mode
• ETRCLO	ETR/CLO payload mode
• FSTE	FSTE payload
• GIGE	Gigabit Ethernet Payload
• HDLC	High-level data link control (HDLC) frame mode.
• HDTV	HDTV mode
• HDSDI	1.5G HD-SDI video payload.
• IB	IB payload
• ISC1	ISC1 mode
• ISC3	ISC3 mode
• ISC3STP1G	ISC-3 STP 1G video payload.
• ISC3STP2G	ISC-3 STP 2G video payload.
• OTU1	Optical Transport Unit Level 1
• OTU4	Optical Transport Unit Level 4
• STM4	NCS STM4 mode
• STM1	NCS STM1 mode
• STM16	NCS STM16 mode
• STM1E	NCS STM1E payload mode
• PASS-THROUGH	Pass-through mode
• NCS	NCS Payload mode
• SDI-D1-VIDEO	SDI-D1-Video mode
• SDSDI	270M SDI video payload.
<SYNCMMSG>	(Optional) Indicates if synchronization messaging is enabled or disabled. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.

Table 23-159 Output Parameter

Parameter	Description
• Y	Enable an attribute.
<SENDDUS>	(Optional) Indicates if the facility will send the DUS value as the synchronization message. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<PJMON>	(Optional) Identifies an STM port PJMON. Defaults to 0 (zero). PJMON is an integer. Set a valid VC4 number of the optical port. Note The PJMON number displayed in TL1 interface does not correspond to the PJVC4MON number in CTC, but instead corresponds to the VC4 number of the optical port.
<SFBER>	(Optional) The port signal failure threshold. The parameter type is SF_BER, which is the threshold for declaring signal failure on a facility or path.
• 1E-3	SFBER is 1E-3.
• 1E-4	SFBER is 1E-4.
• 1E-5	SFBER is 1E-5.
<SDBER>	(Optional) Port signal degrade threshold. The parameter type is SD_BER, which is the threshold for declaring signal degrade on a facility or path.
• 1E-5	SDBER is 1E-5.
• 1E-6	SDBER is 1E-6.
• 1E-7	SDBER is 1E-7.
• 1E-8	SDBER is 1E-8.
• 1E-9	SDBER is 1E-9.
<SOAK>	(Optional) Locked-Automatic In Service to Unlocked transition soak time as measured in 15-minute intervals. SOAK is an integer.
<SOAKLEFT>	(Optional) Time remaining for the transition from Locked-AutomaticInService to Unlocked measured in 1 minute intervals. The format is HH-MM where HH ranges from 00 to 48 and MM ranges from 00 to 59. Rules for SOAKLEFT are as follows: - When the port is in Locked;Locked,Maintenance; or Unlocked state, the parameter is not displayed. - When the port is in Locked,AutomaticInService state but the countdown has not started due to a fault signal, the value will be SOAKLEFT=NOT-STARTED. - When the port is in Locked,AutomaticInService state and the countdown has started, the value will be shown in HH-MM format.
<NAME>	(Optional) Port name. NAME is a string.
<PSTPSTQ>	Primary state. The parameter type is PST_PSTQ, which is the service state of the entity described by the PST and PSTQ.
• Unlocked-Enabled	In service and normal
• Unlocked-Disabled	Out of service and autonomous
• Locked-Disabled	Out of service, autonomous and management
• Locked-Enabled	Out of service and management

Table 23-159 **Output Parameter**

Parameter	Description
<SSTQ>	(Optional) Secondary state. The parameter type is SST, which provides additional information pertaining to PST and PSTQ.
• AutomaticInService	Automatic in service
• Disabled	Disabled
• Loopback	Loopback
• MismatchofEquipmentAlarm	Mismatch of equipment and attributes
• Maintenance	Maintenance mode
• OutOfGroup	Out of group
• SoftwareDownloaded	Software downloading
• Unassigned	Unassigned
• NotInstalled	Unequipped

23.148 RTRV-SRVTYPE

The Retrieve Service Type (RTRV-SRVTYPE) command retrieves the service type on the ports of the TNC card.

Category Ports

Security Retrieve

Input Format RTRV-SRVTYPE:[<TID>]:<AID>:<CTAG>;

Input Example RTRV-SRVTYPE::ALL:CTAG;

Input Parameters

<AID>	Supports only “ALL” AID.

Output Format

```

SID DATE TIME
M CTAG COMPLD
  "<AID>:<SRVTYPE>;"
;

```

Output Example

```
TID-000 1998-06-20 14:30:00
M 001 COMPLD
  "FAC-1-1-1:UDC"
;
```

Output Parameters	<AID>	Supports only "ALL" AID.
	<SRVTYPE>	Indicates the service type set on the TNC port.
	• UDC	To set the service type to UDC.
	• VOIP	To set the service type to VOIP
	• NONE	To set the service type to NONE.

23.149 RTRV-SYNCN

The Retrieve Synchronization (RTRV-SYNCN) command retrieves the synchronization reference list used to determine the sources for the NE's reference clock and the BITS output clock. For each clock, up to three synchronization sources can be specified (that is, PRIMARY, SECOND, and THIRD).

- Usage Guidelines**
- To retrieve/set the timing mode, SSM message set, and Quality of RES information, use the RTRV-NE-SYNCN and ED-NE-SYNCN commands.
 - The output example shown here is in line timing mode.

Category Synchronization

Security Retrieve

Input Format RTRV-SYNCN:[<TID>]:<AID>:<CTAG>[:::];

Input Example RTRV-SYNCN:BOYES:SYNC-NE:234;

Input Parameters

<AID>	Access identifier from the "27.29 SYNC_REF" section on page 27-34.

Output Format

```
SID DATE TIME
M CTAG COMPLD
  "<AID>:<REF>,<REFVAL>,<QREF>,<STATUS>,<PROTECTSTATUS>]"
;
```

Output Example

```
TID-000 1998-06-20 14:30:00
M 001 COMPLD
  "SYNC-NE:PRI,FAC-1-2,G811,ACT,WORK"
;
```

Table 23-160 Output Parameter Support

Parameter	Description
<AID>	Access identifier from the “27.29 SYNC_REF” section on page 27-34.
<REF>	Rank of synchronization reference. Access identifier from the “27.30 SYNC_SW” section on page 27-35.
<REFVAL>	Value of a synchronization reference. Access identifier from the “27.28 SYN_SRC” section on page 27-34.
<QREF>	(Optional) Indicates whether the working or protect card (in a protection group) provides timing. This parameter has no significance if the reference source is BITS or INTERNAL and is left blank. The parameter type is SYNC_CLOCK_REF_QUALITY_LEVEL, which is the clock source quality level for NCS.
• DUS_NCS	Do Not Use For Synchronization
• G811	ITU-T G.811 Standard
• RES_NCS	Reserved For Network Synchronization Use
• G812T	ITU-T G.812T Standard
• STU_NCS	Synchronized, Traceability Unknown
• G812TL	ITU-T G.812TL Standard
• SETS	Synchronous Equipment Timing Source
• SSM-FAILED	Incoming timing signal cannot be used for synchronization as it has an alarm like LOS, LOF, AIS-L.
<STATUS>	(Optional) Status. The parameter type is STATUS, which is the status of the unit in the protection pair.
• ACT	The entity is the active unit in the shelf.
• NA	Status is unavailable.
• STBY	The entity is the standby unit in the shelf.
<PROTECTSTATUS>	(Optional) Applicable to 1+1 protection. Designates the role of the entity in the protection group, either working or protect. The parameter type is SIDE, which is the role the unit plays in the protection group.
• PROT	The entity is a protection unit in the protection group.
• WORK	The entity is a working unit in the protection group.

23.150 RTRV-TACC

The Retrieve Test Access (RTRV-TACC) command retrieves details associated with a test access point (TAP). The TAP is identified by the TAP number. The ALL input TAP value means that the command will return all the configured TACCs in the NE.

Usage Guidelines None

Category Troubleshooting and Test Access

Security Retrieve

Input Format RTRV-TACC:[<TID>]:<TAP>:<CTAG>;

Input Example RTRV-TACC:CISCO:241:CTAG;

Input Parameters

<TAP>	The assigned number for AID being used as a test access point. TAP must be an integer within a range of 1 to 999. The ALL TAP value returns all the configured TACCs in this NE. TAP is a string. TAP must not be null.

Output Format

```

SID DATE TIME
M CTAG COMPLD
  "<TAP>:<TACC_AIDA>,<TACC_AIDB>,[<MD>],[<CROSSCONNECTID1>],
  <AIDUNIONID>,<PATHWIDTH>"
;
```

Output Example

```

TID-000 1998-06-20 14:30:00
M 001 COMPLD
  "241:VC4-12-1-1,VC4-12-1-2,MONE,VC4-2-1-1,VC4-5-1-1,VC4"
;
```

Table 23-161 Output Parameter Support

Parameter	Description
<TAP>	The assigned number for the AID being used as a test access point. TAP is an integer.
<TACC_AIDA>	Access identifier from the “27.10 CrossConnectId” section on page 27-15. The A path of the test access point. The first VC path of the TAP.
<TACC_AIDB>	Access identifier from the “27.10 CrossConnectId” section on page 27-15. The B path of the test access point. The second VC path of the TAP. For single FAD TAP, this path will be empty.
<MD>	(Optional) Test access mode. It identifies the mode of access between the TAP and the circuit connected to the TAP. The parameter type is TACC_MODE, which is the test access mode.
LOOPE	Indicates to split both the A and B paths. Connect the line incoming from E direction to the line outgoing in the E direction, and connect this looped configuration to the FAD. The line outgoing in the F direction shall have a QRS connected, and the line incoming from the F direction shall be terminated by the nominal characteristic impedance of the line. Intrusive test access mode.

Table 23-161 **Output Parameter Support**

Parameter	Description
• LOOPF	Indicates to split both the A and B paths. Connect the line incoming from F direction to the line outgoing in the F direction, and connect this looped configuration to the FAD. The line outgoing in the E direction shall have a QRS connected, and the line incoming from the E direction shall be terminated by the nominal characteristic impedance of the line. Intrusive test access mode.
• MONE	Indicates that a monitor connection is to be provided from the FAD to the A transmission path of the accessed circuit.
• MONEF	Indicates that a monitor connection is to be provided from the FAD1 to a DFAD, or the odd pair of a FAP, to the A transmission path and from FAD2 of the same DFAD, or the even pair of a FAP, to the B transmission path of the accessed circuit.
• MONF	Indicates that a monitor connection is to be provided from the FAD to the B transmission path of the accessed circuit.
• SPLTA	Indicates that a connection is to be provided from both the E and F sides of the A transmission path of the circuit under test to the FAD and split the A transmission path. Intrusive test access mode.
• SPLTB	Indicates that a connection is to be provided from both the E and F sides of the B transmission path of the circuit under test to the FAD and split the B transmission path. Intrusive test access mode.
• SPLTE	Indicates to split both the A and B paths and connect the E side of the accessed circuit to the FAD. The line outgoing in the F direction shall have a QRS connected, and the line incoming from the F direction shall have a QRS connected, and the line incoming from the E direction shall be terminated by the nominal characteristic impedance of the line. Intrusive test access mode.
• SPLTEF	Indicates to split both the A and B paths, and connect the E side of the accessed circuit to FAD1 and the F side to FAD2. Intrusive test access mode.
• SPLTF	Indicates to split both the A and B paths, and connect the F side of the accessed circuit to the FAD. The line outgoing in the E direction shall have a QRS connected, and the line incoming in the E direction shall have a QRS connected, and the line incoming from the E direction shall be terminated by the nominal characteristic impedance of the line. Intrusive test access mode.
<CROSSCONNECTID1>	(Optional) Access identifier from the “ 27.10 CrossConnectId ” section on page 27-15. The E path of the cross-connect.
<AIDUNIONID>	Access identifier from the “ 27.2 AidUnionId ” section on page 27-7.
<PATHWIDTH>	Cross-connect width. The parameter type is CRS_TYPE, which is the cross-connection type.
• VC	All VC cross-connects
• VC3	VC3 cross-connect
• VC4	VC4 cross-connect
• VC42c	VC4-2C cross-connect
• VC43C	VC4-3C cross-connect
• VC44C	VC4-4C cross-connect
• VC46C	VC4-6C cross-connect
• VC48C	VC4-8C cross-connect
• VC412C	VC4-12C cross-connect
• VC416C	VC4-16C cross-connect

Table 23-161 Output Parameter Support

Parameter	Description
• VC464C	VC4-64C cross-connect
• VC11	VC11 cross-connect
• VC12	VC12 cross-connect

23.151 RTRV-TADRMAP

The Retrieve Target Identifier Address Mapping (RTRV-TADRMAP) command retrieves the contents of the TADRMAP table.

Usage Guidelines When MODE is NSAP, TID name of the NODE can be specified to trigger TARP.

Category System

Security Provisioning

Input Format RTRV-TADRMAP:[<TID>]:[<AID>]:<CTAG>[::MODE=<MODE>];

Input Example RTRV-TADRMAP:CISCO:AIP:100:::MODE=PROV;

Table 23-162 Input Parameter Support

Parameter	Description
<AID>	Access identifier from the “27.1 ALL” section on page 27-1.
<MODE>	(Optional) Must not be null. The parameter type is MODE, which determines the category of addresses to return.
• ALL	Discovered and provisioned addresses
• DISC	Discovered addresses
• IP	IP addresses
• NSAP	NSAP addresses
• PROV	Provisioned

Output Format SID DATE TIME
M CTAG COMPLD
“[TID=<TID>],[IP ADDRESS =<IPADDRESS>],[NSAP=<NSAP>]”
;

Output Examples

- ```

1. TID-000 1998-06-20 14:30:00
M 001 COMPLD
 "TID=RANGERS1,IP ADDRESS = 64.101.245.5,
 NSAP=39840FFFFFFFFFOOOODDDDA01D00F0400000700"
;

1. TID-000 1998-06-20 14:30:00
M 001 COMPLD
 "TID=RANGERS1,IP ADDRESS ="[3ffe:0501:0008:0000:0260:97ff:fe40:efab]",
 NSAP=39840FFFFFFFFFOOOODDDDA01D00F0400000700"
;

```

**Table 23-163** Output Parameter Support

| Parameter   | Description                                    |
|-------------|------------------------------------------------|
| <TID>       | (Optional) Target identifier. TID is a string. |
| <IPADDRESS> | (Optional) IP address. IPADDRESS is a string.  |
| <NSAP>      | (Optional) NSAP address. NSAP is a string.     |

## 23.152 RTRV-TH-<MOD2>

The Retrieve Threshold for 10GFC, 10GIGE, 40GIGE, 100GIGE, 1GFC, 1GFICON, 2GFC, 4GFC, 2GFICON, 5GIB, 8GFC, CLNT, D1VIDEO, DS3I, DV6000, DVBASI, E1, E3, E4, ESCON, ETRCLO, ETH, FSTE, G1000, GFPOS, GIGE, HDTV, ISC1, ILK, ISCCOMPAT, ISC3PEER2R, ISC3PEER1G, ISC3PEER2G, STM4, STM64, STM1, STM16, OCH, OMS, OTS, OTU3, POS, STM1E, VC3, VC44C, VC38C, VC464C, VC48C, VC4-12C, VC4, VC416C, VC42C, VC43C, VC11, VC12, 3GVIDEO, SDSDI, HDSDI, AUTO, OTL, OTU1, OTU2, OTU4, ISC3STP1G, or ISC3STP2G (RTRV-TH-<MOD2>) command retrieves the threshold level of one or more monitored parameters. See [Table 29-1 on page 29-1](#) for supported modifiers by platform.

**Usage Guidelines**

The command supports the modifier 3GVIDEO, SDSDI, HDSDI, AUTO, OTU1, ISC3STP1G, and ISC3STP2G.

- After the MS-SPRing switches, the working path is switched out, the traffic goes through the protection path, and the threshold can be retrieved from the protection path.
- If there is a VC PCA on the protection path, the PCA path is preemptive during the MS-SPRing switch. Sending this command on the protection path after MS-SPRing switch, the command returns the PMs from the protection path, not from the PCA path.
- The message is issued to retrieve the thresholds for PM and the alarm thresholds. If it is used to retrieve the alarm thresholds, the time period is not applicable.
- The presentation rules are as follows: Client port only—Laser, Alarm, and NCS Thresholds are applicable and will appear. Laser and alarm thresholds are only available for near-end. If the card payload is in NCS mode, then NCS thresholds will appear. The receiver temperature montypes (RXT) are only applicable to the trunk port. The transceiver voltage montypes (XCVR) are not applicable, though they are displayed or handled.

- Laser and Alarm thresholds are always available. Laser and alarm thresholds are only for near-end. If ITU-T G.709 is enabled, then the OTN thresholds will appear. If ITU-T G.709 is enabled and FEC is enabled, then the FEC thresholds will appear. If the card payload is in NCS mode, then NCS thresholds will appear. The XCVR montypes are not applicable, though they are displayed or handled.
- The RTRV-TH-OTL retrieves Optical Thresholds. This command is denied on sublanes of CFP-LC card, as optical thresholds are retrieved on aggregate port. The command retrieves optical thresholds on sublanes of 100G-LC-C card.
- The RTRV-TH-<MOD2> is denied when retrieving optical thresholds on Aggregate port of 100G-LC-C card.
- The RTRV-TH-<MOD2> is denied on virtual ports of 100G-LC-C as they are retrieved on Aggregate port of CFP-LC card.
- RTRV-TH-OCH on fixed trunk of the 100G-LC-C card also retrieves OSNR and PMD TCA thresholds.

**Category** Performance

**Security** Retrieve

**Input Format** RTRV-TH-<MOD2>:[<TID>]:<AID>:<CTAG>::[<MONTYPE>],[<LOCN>],[<TMPER>][::];

**Input Example** RTRV-TH-OCH:100G-LC-C:CHAN-7-2:1::OSNR-MIN,NEND,15-MIN;

**Table 23-164** Input Parameter Support

| Parameter | Description                                                                                                                                                                                                         |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <AID>     | Access identifier from the “ <a href="#">27.1 ALL</a> ” section on page 27-1. The AR-MXP, AR-XP, and AR-XPE cards use the VFAC Access Identifier.                                                                   |
| <MONTYPE> | (Optional) Monitored type. A null value is equivalent to ALL. The parameter type is ALL_MONTYPE, which is the monitored type list.<br><b>Note</b> MONTYPE defaults to CVL for STM, to ESP for VCn, to UASV for VT1. |
| • AISSP   | Alarm Indication Signal Seconds—Path                                                                                                                                                                                |
| • ALL     | All possible values                                                                                                                                                                                                 |
| • BBEP    | NCS Background Block Errors Path                                                                                                                                                                                    |
| • BBE-PM  | OTN—Background Block Errors—Path Monitor Point                                                                                                                                                                      |
| • BBER    | NCS Background Block Error Ratio                                                                                                                                                                                    |
| • BBER-PM | OTN—Background Block Error Ratio—Path Monitor Point expressed in tenths of a percentage                                                                                                                             |
| • BBER-SM | OTN—Background Block Error Ratio—Section Monitor Point expressed in tenths of a percentage                                                                                                                          |
| • BBE-SM  | OTN—Background Block Errors—Section Monitor Point                                                                                                                                                                   |
| • BIEC    | FEC—Bit Errors Corrected                                                                                                                                                                                            |

**Table 23-164 Input Parameter Support**

| Parameter                  | Description                                                                                                                              |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| • BIT-EC                   | The number of bit errors corrected by the FEC algorithm                                                                                  |
| • CGV                      | 8B10B—Code Group Violations                                                                                                              |
| • CVCPP                    | Coding Violations—CP-Bit Path                                                                                                            |
| • CVL                      | Coding Violations—Line                                                                                                                   |
| • CVP                      | Coding Violations—Path                                                                                                                   |
| • CVS                      | Coding Violations—Section                                                                                                                |
| • CVV                      | Coding Violations—Section                                                                                                                |
| • DCG                      | 8B10B—Data Code Groups                                                                                                                   |
| • ESCPP                    | Errored Seconds—CP—Bit Path                                                                                                              |
| • ESL                      | Errored Seconds—Line                                                                                                                     |
| • ESP                      | Errored Seconds—Path                                                                                                                     |
| • ES-PM                    | OTN—Errored Seconds—Path Monitor Point                                                                                                   |
| • ESR                      | Errored Second—Ratio                                                                                                                     |
| • ESR-PM                   | Errored Seconds Ratio—Path monitor Point expressed in tenths of a percentage                                                             |
| • ESR-SM                   | Errored Seconds Ratio—Section monitor Point expressed in tenths of a percentage                                                          |
| • ESS                      | Errored Seconds—Section                                                                                                                  |
| • ES-SM                    | OTN—Errored Seconds—Section Monitor Point                                                                                                |
| • ESV                      | Errored Seconds—VC Path                                                                                                                  |
| • etherStatsBroadcastPkts  | The total number of good packets received that were directed to a multicast address                                                      |
| • etherStatsCollisions     | Number of transmit packets that are collisions                                                                                           |
| • etherStatsCRCAlignErrors | The total number of packets received that have a length (excluding framing bits, but including FCS octets) of between 64 and 1518 octets |
| • etherStatsDropEvents     | Number of received frames dropped at the port level                                                                                      |
| • etherStatsFragments      | The total number of packets received that were less than 64 octets                                                                       |
| • etherStatsJabbers        | The total number of packets received that are longer than 1518 octets                                                                    |
| • etherStatsOctets         | The total number of octets of data                                                                                                       |
| • etherStatsOversizePkts   | The total number of packets received that are longer than 1518 octets                                                                    |
| • etherStatsPkts           | The total number of packets (including bad packets, broadcast packets, and multicast packets) received                                   |
| • etherStatsUndersizePkts  | The total number of packets received that are less than 64 octets                                                                        |
| • FCP                      | Failure Count—Line                                                                                                                       |
| • FC-PM                    | OTN—Failure Count—Path Monitor Point                                                                                                     |
| • FC-SM                    | OTN—Failure Count—Section Monitor Point                                                                                                  |
| • HP-AR                    | Availability Ratio                                                                                                                       |
| • HP-BBE                   | High-Order Path Background Block Error                                                                                                   |
| • HP-BBER                  | High-Order Path Background Block Error Ratio                                                                                             |
| • HP-EB                    | High-Order Path Errored Block                                                                                                            |

**Table 23-164**     *Input Parameter Support*

| Parameter               | Description                                                                                            |
|-------------------------|--------------------------------------------------------------------------------------------------------|
| • HP-ES                 | High-Order Path Errored Second                                                                         |
| • HP-ESA                | High-Order Path Errored Seconds—A                                                                      |
| • HP-ESB                | High-Order Path Errored Seconds—B                                                                      |
| • HP-ESR                | High-Order Path Errored Second Ratio                                                                   |
| • HP-FC                 | High-Order Path Failure Count                                                                          |
| • HP-NPJC-PDET          | High-Order Path Negative Pointer Justification Count-Path Detected                                     |
| • HP-NPJC-PGEN          | High-Order Path Negative Pointer Justification Count-Path Generated                                    |
| • HP-OI                 | Outage Intensity                                                                                       |
| • HP-PJCDIFF            | High-Order Path Pointer Justification Count Difference                                                 |
| • HP-PJCS-PDET          | High-Order Path Pointer Justification Count Seconds-Path Detected                                      |
| • HP-PPJC-PDET          | High-Order Path Positive Pointer Justification Count-Path Detected                                     |
| • HP-PPJC-PGEN          | High-Order Path Positive Pointer Justification Count-Path Generated                                    |
| • HP-SEPI               | The number of SEP events in available time                                                             |
| • HP-SES                | High-Order Path Severely Errored Seconds                                                               |
| • HP-SESR               | High-Order Path Severely Errored Second Ratio                                                          |
| • HP-UAS                | High-Order Path Unavailable Seconds                                                                    |
| • ifInBroadcastPkts     | Number of broadcast packets received since the last counter reset                                      |
| • ifInDiscards          | The number of inbound packets                                                                          |
| • ifInErrorBytePkts     | Receive Error Byte                                                                                     |
| • ifInErrors            | The number of inbound packets (or transmission units) that contained errors                            |
| • ifInFramingErrorPkts  | Receive Framing Error                                                                                  |
| • ifInJunkInterPkts     | Receive Interpacket Junk                                                                               |
| • ifInMulticastPkts     | Number of multicast packets received since the last counter reset                                      |
| • ifInOctets            | Number of bytes transmitted since the last counter reset                                               |
| • ifInUcastPkts         | Number of unicast packets received since the last counter reset                                        |
| • ifOutBroadcastPkts    | Number of broadcast packets transmitted                                                                |
| • ifOutDiscards         | The number of outbound packets                                                                         |
| • ifOutErrors           | The number of outbound packets (or transmission units) that could not be transmitted because of errors |
| • ifOutMulticastPkts    | Number of multicast packets transmitted                                                                |
| • ifOutPayloadCrcErrors | Received payload CRC errors                                                                            |
| • ifOutUcastPkts        | Number of unicast packets transmitted                                                                  |
| • IOS                   | 8B10B—Idle Ordered Sets                                                                                |
| • IPC                   | Invalid Packet Count                                                                                   |
| • LBCL-AVG              | Average Laser Bias Current in microA                                                                   |
| • LBCL-MAX              | Maximum Laser Bias Current in microA                                                                   |

**Table 23-164** *Input Parameter Support*

| Parameter     | Description                                                    |
|---------------|----------------------------------------------------------------|
| • LBCL-MIN    | Minimum Laser Bias Current in microA                           |
| • LBCN        | Normalized Laser Bias Current for STM1-8                       |
| • LBCN-HWT    | Normalized Laser Bias Current—Higher Threshold                 |
| • LBCN-LWT    | Normalized Laser Bias Current—Lower Threshold                  |
| • LOSSL       | Loss of Signal Seconds—Line                                    |
| • LP-BBE      | Low-Order Path Background Block Error                          |
| • LP-BBER     | Low-Order Path Background Block Error Ratio                    |
| • LP-EB       | Low-Order Path Errored Block                                   |
| • LP-ES       | Low-Order Path Errored Second                                  |
| • LP-ESA      | Low-Order Path Errored Seconds—A                               |
| • LP-ESB      | Low-Order Path Errored Seconds—B                               |
| • LP-ESR      | Low-Order Path Errored Second Ratio                            |
| • LP-FC       | Low-Order Path Failure Count                                   |
| • LP-NPJC-DET | Low-Order Negative Pointer Justification Count-Detected        |
| • LP-NPJC-GEN | Low-Order Negative Pointer Justification Count-Generated       |
| • LP-PPJC-DET | Low-Order Positive Pointer Justification Count-Detected        |
| • LP-PPJC-GEN | Low-Order Positive Pointer Justification Count-Generated       |
| • LP-SEP      | A sequence of between 3 to 9 consecutive SES                   |
| • LP-SEPI     | Low-Order Path Severely Errored Period Intensity               |
| • LP-SES      | Low-Order Path Severely Errored Seconds                        |
| • LP-UAS      | Low-Order Path Unavailable Seconds                             |
| • MS-PSC      | Protection switch count                                        |
| • MS-PSD      | Protection switch duration                                     |
| • NIOS        | 8B10B—Non Idle Ordered Sets                                    |
| • NPJC-PDET   | Negative Pointer Justification Count-Path Detected             |
| • NPJC-PGEN   | Negative Pointer Justification Count-Path Generated            |
| • OPR-AVG     | Average Receive Power in tenths of a microW                    |
| • OPR-MAX     | Maximum Receive Power in tenths of a microW                    |
| • OPR-MIN     | Minimum Receive Power in tenths of a micro W                   |
| • OPRN        | Normalized Optical Receive Power for STM1-8                    |
| • OPRN-MAX    | Maximum value for OPRN                                         |
| • OPRN-MIN    | Minimum value for OPRN                                         |
| • OPT-AVG     | Average Transmit Power in tenths of a microW                   |
| • OPT-MAX     | Maximum Transmit Power in tenths of a microW                   |
| • OPT-MIN     | Minimum Transmit Power in tenths of a microW                   |
| • OPTN        | Normalized value for Optical Power Transmitted for STM1-8 card |



**Table 23-164**     *Input Parameter Support*

| Parameter    | Description                                                                                 |
|--------------|---------------------------------------------------------------------------------------------|
| • OPTN-MAX   | Maximum value for OPTN                                                                      |
| • OPTN-MIN   | Minimum value for OPTN                                                                      |
| • OPWR-AVG   | Optical Power—Average Interval Value in tenths of a dBm                                     |
| • OPWR-MAX   | Optical Power—Maximum Interval Value in tenths of a dBm                                     |
| • OPWR-MIN   | Optical Power—Minimum Interval Value in tenths of a dBm                                     |
| • PPJC-PDET  | Positive Pointer Justification Count-Path Detected                                          |
| • PPJC-PGEN  | Positive Pointer Justification Count-Path Generated                                         |
| • PRE-FECBER | Enum to hold PRE-FECBER value                                                               |
| • PSC        | Protection Switching Count                                                                  |
| • PSC-R      | Protection Switching Count—Ring                                                             |
| • PSC-S      | Protection Switching Count—Span                                                             |
| • PSC-W      | Protection Switching Count—Working                                                          |
| • PSD        | Protection Switching Duration                                                               |
| • PSD-R      | Protection Switching Duration—Ring                                                          |
| • PSD-S      | Protection Switching Duration—Span                                                          |
| • PSD-W      | Protection Switching Duration—Working                                                       |
| • SASCPP     | Severely Errored Framing/AIS Second—CP-Bit Path                                             |
| • SASP       | Severely Errored Framing/AIS Seconds Path                                                   |
| • SEFS       | Severely Errored Framing Seconds                                                            |
| • SESCOPP    | Severely Errored Second—CP-Bit Path                                                         |
| • SESL       | Severely Errored Second—Line                                                                |
| • SESP       | Severely Errored Second—Path                                                                |
| • SES-PM     | OTN—Severely Errored Second—Path                                                            |
| • SESR       | Severely Errored Second—Ratio                                                               |
| • SESR-PM    | OTN—Severely Errored Second Ratio—Path Monitor Point expressed as tenths of a percentage    |
| • SESR-SM    | OTN—Severely Errored Second Ratio—Section Monitor Point expressed as tenths of a percentage |
| • SESS       | Severely Errored Second—Section                                                             |
| • SES-SM     | OTN—Severely Errored Second—Section Monitor Point                                           |
| • SESV       | Severely Errored Second—VC Path                                                             |
| • UASCPP     | Unavailable Second—CP-Bit Path                                                              |
| • UASL       | Unavailable Second—Line                                                                     |
| • UASP       | Unavailable Second—Path                                                                     |
| • UAS-PM     | OTN—Unavailable Second—Path Monitor Point                                                   |
| • UAS-SM     | OTN—Unavailable Second—Section Monitor Point                                                |
| • UASV       | Unavailable Second—VC Path                                                                  |

**Table 23-164 Input Parameter Support**

| Parameter   | Description                                                                                                                                                                                                                                                   |
|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| • UNC-WORDS | FEC—Uncorrectable Words                                                                                                                                                                                                                                       |
| • VPC       | Valid Packet Count                                                                                                                                                                                                                                            |
| • OSNR-MIN  | Minimum Optical Signal To Noise Ratio.                                                                                                                                                                                                                        |
| • OSNR-MAX  | Maximum Optical Signal To Noise Ratio.                                                                                                                                                                                                                        |
| • OSNR-AVG  | Average Optical Signal To Noise Ratio.                                                                                                                                                                                                                        |
| • PMD-MIN   | Minimum Polarization Mode Dispersion.                                                                                                                                                                                                                         |
| • PMD-MAX   | Maximum Polarization Mode Dispersion.                                                                                                                                                                                                                         |
| • PMD-AVG   | Average Polarization Mode Dispersion.                                                                                                                                                                                                                         |
| <LOCN>      | (Optional) Location associated with a particular command in reference to the entity identified by the AID. LOCN defaults to NEND. A null value is equivalent to ALL. The parameter type is LOCATION, which is the location where the action is to take place. |
| • FEND      | Action occurs on the far end of the facility.                                                                                                                                                                                                                 |
| • NEND      | Action occurs on the near end of the facility.                                                                                                                                                                                                                |
| <TMPER>     | (Optional) Accumulation time period for performance counters. Defaults to 15-MIN. Must not be null. The parameter type is TMPER, which is the accumulation time period for the performance management center.                                                 |
| • 1-DAY     | Performance parameter accumulation interval length is every 24 hours. For NCS PM data only one day of history data is available. For RMON managed PM data seven days of history data are available.                                                           |
| • 1-HR      | Performance parameter accumulation interval length is every 1 hour. This is only applicable to RMON managed PM data. There are 24 hours of history data available.                                                                                            |
| • 1-MIN     | Performance parameter accumulation interval length is every 1 minute. This is only applicable to RMON managed PM data. There are 60 minutes of history available.                                                                                             |
| • 15-MIN    | Performance parameter accumulation interval length is every 15 minutes. There are 32 15-MIN buckets of history data available for this accumulation interval length.                                                                                          |
| • RAW-DATA  | Performance parameter accumulation interval starts from the last time the counters were cleared. This is only applicable to RMON managed PMs.                                                                                                                 |

**Output Format**

```

SID DATE TIME
M CTAG COMPLD
"<AID>,[<AIDTYPE>]:<MONTYPE>,[<LOCN>],,<THLEV>,[<TMPER>]"
;

```

**Output Example**

```

100g 2012-05-15 14:28:19
M 1 COMPLD
"CHAN-2-2,OCH:OSNR-MAX,NEND,,40.0,15-MIN"
;

```

**Table 23-165**     **Output Parameter Support**

| Parameter    | Description                                                                                                                                   |
|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| <AID>        | Access identifier from the “27.1 ALL” section on page 27-1.                                                                                   |
| <AIDTYPE>    | (Optional) Type of facility, link, or other addressable entity targeted by the message. The parameter type is MOD2B, which is the alarm type. |
| • 100GIGE    | 100 Gigabit Ethernet.                                                                                                                         |
| • 10GIGE     | 10 Gigabit Ethernet.                                                                                                                          |
| • 1GFC       | 1-Gigabit Fibre Channel payload                                                                                                               |
| • 1GFICON    | 1-Gigabit fiber connectivity payload                                                                                                          |
| • 2GFC       | 2-Gigabit Fibre Channel payload                                                                                                               |
| • 10GFC      | 10-Gigabit Fibre Channel payload                                                                                                              |
| • 2GFICON    | 2-Gigabit fiber connectivity payload                                                                                                          |
| • 3GVIDEO    | 3G-SDI video payload.                                                                                                                         |
| • 4GFC       | 4-Gigabit Fibre Channel payload                                                                                                               |
| • 4GFICON    | 4-Gigabit fiber connectivity payload                                                                                                          |
| • 40GIGE     | 40-Gigabit Ethernet                                                                                                                           |
| • 5GIB       | 5Gbps InfiniBand (IB_5G) payload                                                                                                              |
| • 8GFC       | 8-Gigabit Fibre Channel payload                                                                                                               |
| • CHGRP      | Channel group                                                                                                                                 |
| • CLNT       | Client facility for MXP/TXP cards                                                                                                             |
| • DS3I       | DS3i-N-12 facility                                                                                                                            |
| • DVBASI     | Digital Video Broadband Asynchronous Serial Interface (DVBASI) payload                                                                        |
| • E1         | E1 facility                                                                                                                                   |
| • E100       | E100 facility                                                                                                                                 |
| • E1000      | E1000 facility                                                                                                                                |
| • E3         | E3 facility                                                                                                                                   |
| • E4         | E4 facility                                                                                                                                   |
| • EQPT       | EQPT facility                                                                                                                                 |
| • ETH        | ETH facility                                                                                                                                  |
| • FSTE       | Fast Ethernet port facility                                                                                                                   |
| • G1000      | G1000 facility                                                                                                                                |
| • GIGE       | Gigabit Ethernet port facility                                                                                                                |
| • HDLC       | High-level data link control (HDLC) frame mode.                                                                                               |
| • HDSDI      | 1.5G HD-SDI video payload                                                                                                                     |
| • ISC1       | InterSystem Channel, a protocol defined by IBM (ISC1) payload                                                                                 |
| • ISC3PEER1G | 1-Gbps ISC3 peer                                                                                                                              |
| • ISC3PEER2G | 2-Gbps ISC3 peer                                                                                                                              |
| • ISC3PEER2R | 1-Gbps or 2-Gbps ISC3 peer used in transparent (2R) mode                                                                                      |

**Table 23-165**     **Output Parameter Support**

| Parameter   | Description                                                                          |
|-------------|--------------------------------------------------------------------------------------|
| • ISC3STP1G | ISC-3 STP 1G video payload.                                                          |
| • ISC3STP2G | ISC-3 STP 2G video payload.                                                          |
| • ISCCOMPAT | 1-Gbps ISC1, ISC2, and ISC3 compatibility                                            |
| • MSISC     | MSISC                                                                                |
| • OCH       | Optical channel                                                                      |
| • ODU0      | Optical Data Unit Level 0                                                            |
| • OMS       | Optical Multiplex Section                                                            |
| • OTS       | Optical Transport Section                                                            |
| • OTL       | Optical Channel Transport Lane.                                                      |
| • OTU1      | Optical Transport Unit Level 1                                                       |
| • OTU3      | Optical Transport Unit Level 3                                                       |
| • OTU4      | Optical Transport Unit Level 4                                                       |
| • POS       | POS port alarm                                                                       |
| • REP       | Resilient Ethernet Protocol                                                          |
| • SDSDI     | 270M SDI video payload                                                               |
| • STM1      | STM1 alarm                                                                           |
| • STM1E     | STM1E alarm                                                                          |
| • STM4      | STM4 alarm                                                                           |
| • STM16     | STM16 alarm                                                                          |
| • STM64     | STM64 alarm                                                                          |
| • VC11      | VC11 alarm                                                                           |
| • VC12      | VC12 alarm                                                                           |
| • VC3       | VC3 alarm                                                                            |
| • VC44C     | VC44C alarm                                                                          |
| • VC38C     | VC38C alarm                                                                          |
| • VC464C    | VC464C alarm                                                                         |
| • VC48C     | VC48C alarm                                                                          |
| • VC4       | VC4 alarm                                                                            |
| • VC416C    | VC416C alarm                                                                         |
| • VC42C     | VC42C alarm                                                                          |
| • VC43C     | VC43C alarm                                                                          |
| <MONTYPE>   | Monitored type. The parameter type is ALL_MONTYPE, which is the monitored type list. |
| • AISSP     | Alarm Indication Signal Seconds—Path                                                 |
| • ALL       | All possible values                                                                  |
| • BBEP      | NCS Background Block Errors Path                                                     |
| • BBE-PM    | OTN—Background Block Errors—Path Monitor Point                                       |

**Table 23-165**     **Output Parameter Support**

| Parameter                  | Description                                                                                                                              |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| • BBER                     | NCS Background Block Error Ratio                                                                                                         |
| • BBER-PM                  | OTN—Background Block Error Ratio—Path Monitor Point expressed as tenths of a percentage                                                  |
| • BBER-SM                  | OTN—Background Block Error Ratio—Section Monitor Point expressed as tenths of a percentage                                               |
| • BBE-SM                   | OTN—Background Block Errors—Section Monitor Point                                                                                        |
| • BIEC                     | FEC—Bit Errors Corrected                                                                                                                 |
| • BIT-EC                   | The number of bit errors corrected by the FEC algorithm                                                                                  |
| • CGV                      | 8B10B—Code Group Violations                                                                                                              |
| • CVCPP                    | Coding Violations—CP-Bit Path                                                                                                            |
| • CVL                      | Coding Violations—Line                                                                                                                   |
| • CVP                      | Coding Violations—Path                                                                                                                   |
| • CVS                      | Coding Violations—Section                                                                                                                |
| • CVV                      | Coding Violations—Section                                                                                                                |
| • DCG                      | 8B10B—Data Code Groups                                                                                                                   |
| • ESCPP                    | Errored Seconds—CP—Bit Path                                                                                                              |
| • ESL                      | Errored Seconds—Line                                                                                                                     |
| • ESP                      | Errored Seconds—Path                                                                                                                     |
| • ES-PM                    | OTN—Errored Seconds—Path Monitor Point                                                                                                   |
| • ESR                      | Errored Second—Ratio                                                                                                                     |
| • ESR-PM                   | Errored Seconds Ratio—Path monitor Point expressed as tenths of a percentage                                                             |
| • ESR-SM                   | Errored Seconds Ratio—Section monitor Point expressed as tenths of a percentage                                                          |
| • ESS                      | Errored Seconds—Section                                                                                                                  |
| • ES-SM                    | OTN—Errored Seconds—Section Monitor Point                                                                                                |
| • ESV                      | Errored Seconds—VC Path                                                                                                                  |
| • etherStatsBroadcastPkts  | The total number of good packets received that were directed to a multicast address                                                      |
| • etherStatsCollisions     | Number of transmit packets that are collisions                                                                                           |
| • etherStatsCRCAlignErrors | The total number of packets received that have a length (excluding framing bits, but including FCS octets) of between 64 and 1518 octets |
| • etherStatsDropEvents     | Number of received frames dropped at the port level                                                                                      |
| • etherStatsFragments      | The total number of packets received that were less than 64 octets                                                                       |
| • etherStatsJabbers        | The total number of packets received that are longer than 1518 octets                                                                    |
| • etherStatsOctets         | The total number of octets of data                                                                                                       |
| • etherStatsOversizePkts   | The total number of packets received that are longer than 1518 octets                                                                    |
| • etherStatsPkts           | The total number of packets (including bad packets, broadcast packets, and multicast packets) received                                   |
| • etherStatsUndersizePkts  | The total number of packets received that are less than 64 octets                                                                        |

**Table 23-165**     **Output Parameter Support**

| Parameter              | Description                                                                                            |
|------------------------|--------------------------------------------------------------------------------------------------------|
| • FCP                  | Failure Count—Line                                                                                     |
| • FC-PM                | OTN—Failure Count—Path Monitor Point                                                                   |
| • FC-SM                | OTN—Failure Count—Section Monitor Point                                                                |
| • HP-AR                | Availability Ratio                                                                                     |
| • HP-BBE               | High-Order Path Background Block Error                                                                 |
| • HP-BBER              | High-Order Path Background Block Error Ratio                                                           |
| • HP-EB                | High-Order Path Errored Block                                                                          |
| • HP-ES                | High-Order Path Errored Second                                                                         |
| • HP-ESA               | High-Order Path Errored Seconds—A                                                                      |
| • HP-ESB               | High-Order Path Errored Seconds—B                                                                      |
| • HP-ESR               | High-Order Path Errored Second Ratio                                                                   |
| • HP-FC                | High-Order Path Failure Count                                                                          |
| • HP-NPJC-PDET         | High-Order Path Negative Pointer Justification Count-Path Detected                                     |
| • HP-NPJC-PGEN         | High-Order Path Negative Pointer Justification Count-Path Generated                                    |
| • HP-OI                | Outage Intensity                                                                                       |
| • HP-PJCDIFF           | High-Order Path Pointer Justification Count Difference                                                 |
| • HP-PJCS-PDET         | High-Order Path Pointer Justification Count Seconds-Path Detected                                      |
| • HP-PPJC-PDET         | High-Order Path Positive Pointer Justification Count-Path Detected                                     |
| • HP-PPJC-PGEN         | High-Order Path Positive Pointer Justification Count-Path Generated                                    |
| • HP-SEPI              | The number of SEP events in available time                                                             |
| • HP-SES               | High-Order Path Severely Errored Seconds                                                               |
| • HP-SESR              | High-Order Path Severely Errored Second Ratio                                                          |
| • HP-UAS               | High-Order Path Unavailable Seconds                                                                    |
| • ifInBroadcastPkts    | Number of broadcast packets received since the last counter reset                                      |
| • ifInDiscards         | The number of inbound packets                                                                          |
| • ifInErrorBytePktss   | Receive Error Byte                                                                                     |
| • ifInErrors           | The number of inbound packets (or transmission units) that contained errors                            |
| • ifInFramingErrorPkts | Receive Framing Error                                                                                  |
| • ifInJunkInterPkts    | Receive Interpacket Junk                                                                               |
| • ifInMulticastPkts    | Number of multicast packets received since the last counter reset                                      |
| • ifInOctets           | Number of bytes transmitted since the last counter reset                                               |
| • ifInUcastPkts        | Number of unicast packets received since the last counter reset                                        |
| • ifOutBroadcastPkts   | Number of broadcast packets transmitted                                                                |
| • ifOutDiscards        | The number of outbound packets                                                                         |
| • ifOutErrors          | The number of outbound packets (or transmission units) that could not be transmitted because of errors |

**Table 23-165**     **Output Parameter Support**

| Parameter               | Description                                              |
|-------------------------|----------------------------------------------------------|
| • ifOutMulticastPkts    | Number of multicast packets transmitted                  |
| • ifOutPayloadCrcErrors | Received payload CRC errors                              |
| • ifOutUcastPkts        | Number of unicast packets transmitted                    |
| • IOS                   | 8B10B—Idle Ordered Sets                                  |
| • IPC                   | Invalid Packet Count                                     |
| • LBCL-AVG              | Average Laser Bias Current in microA                     |
| • LBCL-MAX              | Maximum Laser Bias Current in microA                     |
| • LBCL-MIN              | Minimum Laser Bias Current in microA                     |
| • LBCN                  | Normalized Laser Bias Current for STM1-8                 |
| • LBCN-HWT              | Normalized Laser Bias Current—Higher Threshold           |
| • LBCN-LWT              | Normalized Laser Bias Current—Lower Threshold            |
| • LOSSL                 | Loss of Signal Seconds—Line                              |
| • LP-BBE                | Low-Order Path Background Block Error                    |
| • LP-BBER               | Low-Order Path Background Block Error Ratio              |
| • LP-EB                 | Low-Order Path Errored Block                             |
| • LP-ES                 | Low-Order Path Errored Second                            |
| • LP-ESA                | Low-Order Path Errored Seconds—A                         |
| • LP-ESB                | Low-Order Path Errored Seconds—B                         |
| • LP-ESR                | Low-Order Path Errored Second Ratio                      |
| • LP-FC                 | Low-Order Path Failure Count                             |
| • LP-NPJC-DET           | Low-Order Negative Pointer Justification Count-Detected  |
| • LP-NPJC-GEN           | Low-Order Negative Pointer Justification Count-Generated |
| • LP-PPJC-DET           | Low-Order Positive Pointer Justification Count-Detected  |
| • LP-PPJC-GEN           | Low-Order Positive Pointer Justification Count-Generated |
| • LP-SEP                | A sequence of between 3 to 9 consecutive SES             |
| • LP-SEPI               | Low-Order Path Severely Errored Period Intensity         |
| • LP-SES                | Low-Order Path Severely Errored Seconds                  |
| • LP-UAS                | Low-Order Path Unavailable Seconds                       |
| • MS-PSC                | Protection switch count                                  |
| • MS-PSD                | Protection switch duration                               |
| • NIOS                  | 8B10B—Non Idle Ordered Sets                              |
| • NPJC-PDET             | Negative Pointer Justification Count-Path Detected       |
| • NPJC-PGEN             | Negative Pointer Justification Count-Path Generated      |
| • OPR-AVG               | Average Receive Power in tenths of a micro W             |
| • OPR-MAX               | Maximum Receive Power in tenths of a micro W             |
| • OPR-MIN               | Minimum Receive Power in tenths of a micro W             |

**Table 23-165**     **Output Parameter Support**

| Parameter    | Description                                                                                 |
|--------------|---------------------------------------------------------------------------------------------|
| • OPRN       | Normalized Optical Receive Power for STM1-8                                                 |
| • OPRN-MAX   | Maximum value for OPRN                                                                      |
| • OPRN-MIN   | Minimum value for OPRN                                                                      |
| • OPT-AVG    | Average Transmit Power in tenths of a microW                                                |
| • OPT-MAX    | Maximum Transmit Power in tenths of a microW                                                |
| • OPT-MIN    | Minimum Transmit Power in tenths of a microW                                                |
| • OPTN       | Normalized value for Optical Power Transmitted for STM1-8 card                              |
| • OPTN-MAX   | Maximum value for OPTN                                                                      |
| • OPTN-MIN   | Minimum value for OPTN                                                                      |
| • OPWR-AVG   | Optical Power—Average Interval Value in tenths of a dBm                                     |
| • OPWR-MAX   | Optical Power—Maximum Interval Value in tenths of a dBm                                     |
| • OPWR-MIN   | Optical Power—Minimum Interval Value in tenths of a dBm                                     |
| • PPJC-PDET  | Positive Pointer Justification Count-Path Detected                                          |
| • PPJC-PGEN  | Positive Pointer Justification Count-Path Generated                                         |
| • PRE-FECBER | Enum to hold PRE-FECBER value                                                               |
| • PSC        | Protection Switching Count                                                                  |
| • PSC-R      | Protection Switching Count—Ring                                                             |
| • PSC-S      | Protection Switching Count—Span                                                             |
| • PSC-W      | Protection Switching Count—Working                                                          |
| • PSD        | Protection Switching Duration                                                               |
| • PSD-R      | Protection Switching Duration—Ring                                                          |
| • PSD-S      | Protection Switching Duration—Span                                                          |
| • PSD-W      | Protection Switching Duration—Working                                                       |
| • SASCPP     | Severely Errored Framing/AIS Second—CP-Bit Path                                             |
| • SASP       | Severely Errored Framing/AIS Seconds Path                                                   |
| • SEFS       | Severely Errored Framing Seconds                                                            |
| • SESCOPP    | Severely Errored Second—CP-Bit Path                                                         |
| • SESL       | Severely Errored Second—Line                                                                |
| • SESP       | Severely Errored Second—Path                                                                |
| • SES-PM     | OTN—Severely Errored Second—Path                                                            |
| • SESR       | Severely Errored Second—Ratio                                                               |
| • SESR-PM    | OTN—Severely Errored Second Ratio—Path Monitor Point expressed as tenths of a percentage    |
| • SESR-SM    | OTN—Severely Errored Second Ratio—Section Monitor Point expressed as tenths of a percentage |
| • SESS       | Severely Errored Second—Section                                                             |
| • SES-SM     | OTN—Severely Errored Second—Section Monitor Point                                           |



**Table 23-165**     *Output Parameter Support*

| Parameter   | Description                                                                                                                                                                                          |
|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| • SESV      | Severely Errored Second—VC Path                                                                                                                                                                      |
| • UASCPP    | Unavailable Second—CP-Bit Path                                                                                                                                                                       |
| • UASL      | Unavailable Second—Line                                                                                                                                                                              |
| • UASP      | Unavailable Second—Path                                                                                                                                                                              |
| • UAS-PM    | OTN—Unavailable Second—Path Monitor Point                                                                                                                                                            |
| • UAS-SM    | OTN—Unavailable Second—Section Monitor Point                                                                                                                                                         |
| • UASV      | Unavailable Second—VC Path                                                                                                                                                                           |
| • UNC-WORDS | FEC—Uncorrectable Words                                                                                                                                                                              |
| • VPC       | Valid Packet Count                                                                                                                                                                                   |
| • OSNR-MIN  | Minimum Optical Signal To Noise Ratio.                                                                                                                                                               |
| • OSNR-MAX  | Maximum Optical Signal To Noise Ratio.                                                                                                                                                               |
| • OSNR-AVG  | Average Optical Signal To Noise Ratio.                                                                                                                                                               |
| • PMD-MIN   | Minimum Polarization Mode Dispersion.                                                                                                                                                                |
| • PMD-MAX   | Maximum Polarization Mode Dispersion.                                                                                                                                                                |
| • PMD-AVG   | Average Polarization Mode Dispersion.                                                                                                                                                                |
| <LOCN>      | (Optional) Location associated with a particular command. The parameter type is LOCATION, which is the location where the action is to take place.                                                   |
| • FEND      | Action occurs on the far end of the facility.                                                                                                                                                        |
| • NEND      | Action occurs on the near end of the facility.                                                                                                                                                       |
| <THELV>     | Threshold level. THLEV is a float.                                                                                                                                                                   |
| <TMPER>     | (Optional) Accumulation time period for performance counters. The parameter type is TMPER, which is the accumulation time period for the performance management center.                              |
| • 1-DAY     | Performance parameter accumulation interval length is every 24 hours. For NCS PM data only one day of history data is available. For RMON managed PM data, seven days of history data are available. |
| • 1-HR      | Performance parameter accumulation interval length is every 1 hour. This is only applicable to RMON managed PM data. There are 24 hours of history data available.                                   |
| • 1-MIN     | Performance parameter accumulation interval length is every 1 minute. This is only applicable to RMON managed PM data. There are 60 minutes of history available.                                    |
| • 15-MIN    | Performance parameter accumulation interval length is every 15 minutes. There are 32 15-MIN buckets of history data available for this accumulation interval length.                                 |
| • RAW-DATA  | Performance parameter accumulation interval starts from the last time the counters were cleared. This is only applicable to RMON managed PMs.                                                        |

## 23.153 RTRV-TH-ALL

The Retrieve Threshold All (RTRV-TH-ALL) command retrieves the threshold level of all monitored parameters on the NE.

**Usage Guidelines**

- After the MS-SPRing switches, the working path is switched out, the traffic goes through the protection path, and the threshold can be retrieved from the protection VC path.
- If there is a VC PCA on the protection path, the PCA path is preemptive during the MS-SPRing switch. If you send this command on the protection path after the MS-SPRing switch, the command returns the PMs from the protection path, not from the PCA path.
- Multiple RTRV completion codes will be seen after the execution of this command according to Telcordia GR-1831-CORE for bulk retrievals. The final completion code after the multiple RTRV codes is COMPLD.
- Some monitored types are not available for some cards or cross-connect types. In that case, a 0 value will appear for the monitored type. This will happen only in the scenario where a user requests the thresholds of a specific monitored parameter on the NE and the monitored type does not apply to that card or cross-connect type. When the user does not filter by monitored type, the applicable thresholds will be retrieved.
- If the user requests the thresholds of a particular monitored type and the monitored type is not applicable to some of the entities, DENY is not returned.

**Category**

Performance

**Security**

Retrieve

**Input Format**

RTRV-TH-ALL:[&lt;TID&gt;]::&lt;CTAG&gt;::[&lt;MONTYPE&gt;],[&lt;LOCATION&gt;],[&lt;TMPER&gt;][::];

**Input Example**

RTRV-TH-ALL:CHARGERS6::123::CVL,NEND,15-MIN;

**Table 23-166** Input Parameter Support

| Parameter | Description                                                                                                                   |
|-----------|-------------------------------------------------------------------------------------------------------------------------------|
| <MONTYPE> | (Optional) Monitored type. A null value defaults to ALL. The parameter type is ALL_MONTYPE, which is the monitored type list. |
| • AISSP   | Alarm Indication Signal Seconds—Path                                                                                          |
| • ALL     | All possible values                                                                                                           |
| • BBEP    | NCS Background Block Errors Path                                                                                              |
| • BBE-PM  | OTN—Background Block Errors—Path Monitor Point                                                                                |
| • BBER    | NCS Background Block Error Ratio                                                                                              |
| • BBER-PM | OTN—Background Block Error Ratio—Path Monitor Point expressed in tenths of a percentage                                       |
| • BBER-SM | OTN—Background Block Error Ratio—Section Monitor Point expressed in tenths of a percentage                                    |
| • BBE-SM  | OTN—Background Block Errors—Section Monitor Point                                                                             |
| • BIEC    | FEC—Bit Errors Corrected                                                                                                      |
| • BIT-EC  | The number of bit errors corrected by the FEC algorithm                                                                       |

**Table 23-166**    *Input Parameter Support*

| Parameter                      | Description                                                                                                                              |
|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| • CGV                          | 8B10B—Code Group Violations                                                                                                              |
| • CVCPP                        | Coding Violations—CP-Bit Path                                                                                                            |
| • CVL                          | Coding Violations—Line                                                                                                                   |
| • CVP                          | Coding Violations—Path                                                                                                                   |
| • CVS                          | Coding Violations—Section                                                                                                                |
| • CVV                          | Coding Violations—Section                                                                                                                |
| • DCG                          | 8B10B—Data Code Groups                                                                                                                   |
| • ESCPP                        | Errored Seconds—CP—Bit Path                                                                                                              |
| • ESL                          | Errored Seconds—Line                                                                                                                     |
| • ESP                          | Errored Seconds—Path                                                                                                                     |
| • ES-PM                        | OTN—Errored Seconds—Path Monitor Point                                                                                                   |
| • ESR                          | Errored Second—Ratio                                                                                                                     |
| • ESR-PM                       | Errored Seconds Ratio—Path monitor Point expressed in tenths of a percentage                                                             |
| • ESR-SM                       | Errored Seconds Ratio—Section monitoring point expressed in tenths of a percentage                                                       |
| • ESS                          | Errored Seconds—Section                                                                                                                  |
| • ES-SM                        | OTN—Errored Seconds—Section Monitor Point                                                                                                |
| • ESV                          | Errored Seconds—VC Path                                                                                                                  |
| • etherStatsBroadcastPkts      | The total number of good packets received that were directed to a multicast address                                                      |
| • etherStatsCollisions         | Number of transmit packets that are collisions                                                                                           |
| • etherStatsCRCAlignmentErrors | The total number of packets received that have a length (excluding framing bits, but including FCS octets) of between 64 and 1518 octets |
| • etherStatsDropEvents         | Number of received frames dropped at the port level                                                                                      |
| • etherStatsFragments          | The total number of packets received that were less than 64 octets                                                                       |
| • etherStatsJabbers            | The total number of packets received that are longer than 1518 octets                                                                    |
| • etherStatsOctets             | The total number of octets of data                                                                                                       |
| • etherStatsOversizePkts       | The total number of packets received that are longer than 1518 octets                                                                    |
| • etherStatsPkts               | The total number of packets (including bad packets, broadcast packets, and multicast packets) received                                   |
| • etherStatsUndersizePkts      | The total number of packets received that are less than 64 octets                                                                        |
| • FCP                          | Failure Count—Line                                                                                                                       |
| • FC-PM                        | OTN—Failure Count—Path Monitor Point                                                                                                     |
| • FC-SM                        | OTN—Failure Count—Section Monitor Point                                                                                                  |

**Table 23-166 Input Parameter Support**

| Parameter              | Description                                                                                            |
|------------------------|--------------------------------------------------------------------------------------------------------|
| • HP-AR                | Availability Ratio                                                                                     |
| • HP-BBE               | High-Order Path Background Block Error                                                                 |
| • HP-BBER              | High-Order Path Background Block Error Ratio                                                           |
| • HP-EB                | High-Order Path Errored Block                                                                          |
| • HP-ES                | High-Order Path Errored Second                                                                         |
| • HP-ESA               | High-Order Path Errored Seconds—A                                                                      |
| • HP-ESB               | High-Order Path Errored Seconds—B                                                                      |
| • HP-ESR               | High-Order Path Errored Second Ratio                                                                   |
| • HP-FC                | High-Order Path Failure Count                                                                          |
| • HP-NPJC-PDET         | High-Order Path Negative Pointer Justification Count-Path Detected                                     |
| • HP-NPJC-PGEN         | High-Order Path Negative Pointer Justification Count-Path Generated                                    |
| • HP-OI                | Outage Intensity                                                                                       |
| • HP-PJCDIFF           | High-Order Path Pointer Justification Count Difference                                                 |
| • HP-PJCS-PDET         | High-Order Path Pointer Justification Count Seconds-Path Detected                                      |
| • HP-PPJC-PDET         | High-Order Path Positive Pointer Justification Count-Path Detected                                     |
| • HP-PPJC-PGEN         | High-Order Path Positive Pointer Justification Count-Path Generated                                    |
| • HP-SEPI              | The number of SEP events in available time                                                             |
| • HP-SES               | High-Order Path Severely Errored Seconds                                                               |
| • HP-SESR              | High-Order Path Severely Errored Second Ratio                                                          |
| • HP-UAS               | High-Order Path Unavailable Seconds                                                                    |
| • ifInBroadcastPkts    | Number of broadcast packets received since the last counter reset                                      |
| • ifInDiscards         | The number of inbound packets                                                                          |
| • ifInErrorBytePkts    | Receive Error Byte                                                                                     |
| • ifInErrors           | The number of inbound packets (or transmission units) that contained errors                            |
| • ifInFramingErrorPkts | Receive Framing Error                                                                                  |
| • ifInJunkInterPkts    | Receive Interpacket Junk                                                                               |
| • ifInMulticastPkts    | Number of multicast packets received since the last counter reset                                      |
| • ifInOctets           | Number of bytes transmitted since the last counter reset                                               |
| • ifInUcastPkts        | Number of unicast packets received since the last counter reset                                        |
| • ifOutBroadcastPkts   | Number of broadcast packets transmitted                                                                |
| • ifOutDiscards        | The number of outbound packets                                                                         |
| • ifOutErrors          | The number of outbound packets (or transmission units) that could not be transmitted because of errors |

**Table 23-166 Input Parameter Support**

| Parameter               | Description                                              |
|-------------------------|----------------------------------------------------------|
| • ifOutMulticastPkts    | Number of multicast packets transmitted                  |
| • ifOutPayloadCrcErrors | Received payload CRC errors                              |
| • ifOutUcastPkts        | Number of unicast packets transmitted                    |
| • IOS                   | 8B10B- Idle Ordered Sets                                 |
| • IPC                   | Invalid Packet Count                                     |
| • LBCL-AVG              | Average Laser Bias Current in micro A                    |
| • LBCL-MAX              | Maximum Laser Bias Current in micro A                    |
| • LBCL-MIN              | Minimum Laser Bias Current in micro A                    |
| • LBCN                  | Normalized Laser Bias Current for STM1-8                 |
| • LBCN-HWT              | Normalized Laser Bias Current—Higher Threshold           |
| • LBCN-LWT              | Normalized Laser Bias Current—Lower Threshold            |
| • LOSSL                 | Loss of Signal Seconds—Line                              |
| • LP-BBE                | Low-Order Path Background Block Error                    |
| • LP-BBER               | Low-Order Path Background Block Error Ratio              |
| • LP-EB                 | Low-Order Path Errored Block                             |
| • LP-ES                 | Low-Order Path Errored Second                            |
| • LP-ESA                | Low-Order Path Errored Seconds—A                         |
| • LP-ESB                | Low-Order Path Errored Seconds—B                         |
| • LP-ESR                | Low-Order Path Errored Second Ratio                      |
| • LP-FC                 | Low-Order Path Failure Count                             |
| • LP-NPJC-DET           | Low-Order Negative Pointer Justification Count-Detected  |
| • LP-NPJC-GEN           | Low-Order Negative Pointer Justification Count-Generated |
| • LP-PPJC-DET           | Low-Order Positive Pointer Justification Count-Detected  |
| • LP-PPJC-GEN           | Low-Order Positive Pointer Justification Count-Generated |
| • LP-SEP                | A sequence of between 3 to 9 consecutive SES             |
| • LP-SEPI               | Low-Order Path Severely Errored Period Intensity         |
| • LP-SES                | Low-Order Path Severely Errored Seconds                  |
| • LP-UAS                | Low-Order Path Unavailable Seconds                       |
| • MS-PSC                | Protection switch count                                  |
| • MS-PSD                | Protection switch duration                               |
| • NIOS                  | 8B10B—Non Idle Ordered Sets                              |
| • NPJC-PDET             | Negative Pointer Justification Count-Path Detected       |
| • NPJC-PGEN             | Negative Pointer Justification Count-Path Generated      |
| • OPR-AVG               | Average Receive Power in tenths of a microW              |
| • OPR-MAX               | Maximum Receive Power in tenths of a microW              |

**Table 23-166** *Input Parameter Support*

| Parameter    | Description                                                                                 |
|--------------|---------------------------------------------------------------------------------------------|
| • OPR-MIN    | Minimum Receive Power in tenths of a microW                                                 |
| • OPRN       | Normalized Optical Receive Power for STM1-8                                                 |
| • OPRN-MAX   | Maximum value for OPRN                                                                      |
| • OPRN-MIN   | Minimum value for OPRN                                                                      |
| • OPT-AVG    | Average Transmit Power in tenths of a microW                                                |
| • OPT-MAX    | Maximum Transmit Power in tenths of a microW                                                |
| • OPT-MIN    | Minimum Transmit Power in tenths of a microW                                                |
| • OPTN       | Normalized value for Optical Power Transmitted for STM1-8 card                              |
| • OPTN-MAX   | Maximum value for OPTN                                                                      |
| • OPTN-MIN   | Minimum value for OPTN                                                                      |
| • OPWR-AVG   | Optical Power—Average Interval Value in tenths of a dBm                                     |
| • OPWR-MAX   | Optical Power—Maximum Interval Value in tenths of a dBm                                     |
| • OPWR-MIN   | Optical Power—Minimum Interval Value in tenths of a dBm                                     |
| • PPJC-PDET  | Positive Pointer Justification Count-Path Detected                                          |
| • PPJC-PGEN  | Positive Pointer Justification Count-Path Generated                                         |
| • PRE-FECBER | Enum to hold PRE-FECBER value                                                               |
| • PSC        | Protection Switching Count                                                                  |
| • PSC-R      | Protection Switching Count—Ring                                                             |
| • PSC-S      | Protection Switching Count—Span                                                             |
| • PSC-W      | Protection Switching Count—Working                                                          |
| • PSD        | Protection Switching Duration                                                               |
| • PSD-R      | Protection Switching Duration—Ring                                                          |
| • PSD-S      | Protection Switching Duration—Span                                                          |
| • PSD-W      | Protection Switching Duration—Working                                                       |
| • SASCPP     | Severely Errored Framing/AIS Second—CP-Bit Path                                             |
| • SASP       | Severely Errored Framing/AIS Seconds Path                                                   |
| • SEFS       | Severely Errored Framing Seconds                                                            |
| • SESCOPP    | Severely Errored Second—CP-Bit Path                                                         |
| • SESL       | Severely Errored Second—Line                                                                |
| • SESP       | Severely Errored Second—Path                                                                |
| • SES-PM     | OTN—Severely Errored Second—Path                                                            |
| • SESR       | Severely Errored Second—Ratio                                                               |
| • SESR-PM    | OTN—Severely Errored Second Ratio—Path Monitor Point expressed in tenths of a percentage    |
| • SESR-SM    | OTN—Severely Errored Second Ratio—Section Monitor Point expressed in tenths of a percentage |
| • SESS       | Severely Errored Second—Section                                                             |

**Table 23-166 Input Parameter Support**

| Parameter   | Description                                                                                                                                                                                                   |
|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| • SES-SM    | OTN—Severely Errored Second—Section Monitor Point                                                                                                                                                             |
| • SESV      | Severely Errored Second—VC Path                                                                                                                                                                               |
| • UASCPP    | Unavailable Second—CP-Bit Path                                                                                                                                                                                |
| • UASL      | Unavailable Second—Line                                                                                                                                                                                       |
| • UASP      | Unavailable Second—Path                                                                                                                                                                                       |
| • UAS-PM    | OTN—Unavailable Second—Path Monitor Point                                                                                                                                                                     |
| • UAS-SM    | OTN—Unavailable Second—Section Monitor Point                                                                                                                                                                  |
| • UASV      | Unavailable Second—VC Path                                                                                                                                                                                    |
| • UNC-WORDS | FEC—Uncorrectable Words                                                                                                                                                                                       |
| • VPC       | Valid Packet Count                                                                                                                                                                                            |
| • OSNR-MIN  | Minimum Optical Signal To Noise Ratio.                                                                                                                                                                        |
| • OSNR-MAX  | Maximum Optical Signal To Noise Ratio.                                                                                                                                                                        |
| • OSNR-AVG  | Average Optical Signal To Noise Ratio.                                                                                                                                                                        |
| • PMD-MIN   | Minimum Polarization Mode Dispersion.                                                                                                                                                                         |
| • PMD-MAX   | Maximum Polarization Mode Dispersion.                                                                                                                                                                         |
| • PMD-AVG   | Average Polarization Mode Dispersion.                                                                                                                                                                         |
| <LOCATION>  | (Optional) The location. A null value defaults to NEND. The parameter type is LOCATION, which is the location where the action is to take place.                                                              |
| • FEND      | Action occurs on the far end of the facility                                                                                                                                                                  |
| • NEND      | Action occurs on the near end of the facility                                                                                                                                                                 |
| <TMPER>     | (Optional) The accumulation time period for performance counters. A null value defaults to 15-MIN. The parameter type is TMPER, which is the accumulation time period for the performance management counter. |
| • 1-DAY     | Performance parameter accumulation interval length is every 24 hours.                                                                                                                                         |
| • 1-HR      | Performance parameter accumulation interval length is every 1 hour.                                                                                                                                           |
| • 1-MIN     | Performance parameter accumulation interval length is every 1 minute.                                                                                                                                         |
| • 15-MIN    | Performance parameter accumulation interval length is every 15 minutes.                                                                                                                                       |
| • RAW-DATA  | Performance parameter accumulation interval starts from the last time the counters were cleared. This is only applicable to RMON-managed PMs.                                                                 |

**Output Format**

```

SID DATE TIME
M CTAG COMPLD
 "<AID>,<AIDTYPE>:<MONTYPE>,<LOCATION>,<THLEV>,<TMPER>"
;

```

**Output Example**

```
TID-000 1998-06-20 14:30:00
M 001 COMPLD
 "FAC-1-1,E3:CVL,NEND,,1,15-MIN"
;
```

**Table 23-167**    *Output Parameter Support*

| Parameter | Description                                                                                                                                                                       |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <AID>     | Access identifier from the <a href="#">“27.2 AidUnionId”</a> section on page 27-7.                                                                                                |
| <AIDTYPE> | Specifies the type of facility, link, or other addressable entity targeted by the message. The parameter type is MOD2B, which is the alarm type for certain generic TL1 commands. |
| • 100GIGE | 100 Gigabit Ethernet.                                                                                                                                                             |
| • 10GIGE  | 10 Gigabit Ethernet.                                                                                                                                                              |
| • 1GFC    | 1-Gigabit Fibre Channel payload                                                                                                                                                   |
| • 1GFICON | 1-Gigabit fiber connectivity payload                                                                                                                                              |
| • 2GFC    | 2-Gigabit Fibre Channel payload                                                                                                                                                   |
| • 10GFC   | 10-Gigabit Fibre Channel payload                                                                                                                                                  |
| • 2GFICON | 2-Gigabit fiber connectivity payload                                                                                                                                              |
| • 3GVIDEO | 3G-SDI video payload.                                                                                                                                                             |
| • 4GFC    | 4-Gigabit Fibre Channel payload                                                                                                                                                   |
| • 4GFICON | 4-Gigabit fiber connectivity payload                                                                                                                                              |
| • 40GIGE  | 40-Gigabit Ethernet                                                                                                                                                               |
| • CHGRP   | Channel group                                                                                                                                                                     |
| • CLNT    | Client facility for MXP/TXP cards                                                                                                                                                 |
| • DS3I    | DS3i-N-12 facility                                                                                                                                                                |
| • DVBASI  | Digital Video Broadband Asynchronous Serial Interface (DVBASI) payload                                                                                                            |
| • E1      | E1 facility                                                                                                                                                                       |
| • E3      | E3 facility                                                                                                                                                                       |
| • E100    | E100 facility                                                                                                                                                                     |
| • E1000   | E1000 facility                                                                                                                                                                    |
| • E4      | E4 facility                                                                                                                                                                       |
| • ENV     | ENV facility                                                                                                                                                                      |
| • ETH     | ETH facility                                                                                                                                                                      |
| • EQPT    | EQPT facility                                                                                                                                                                     |
| • FSTE    | Fast Ethernet port facility                                                                                                                                                       |
| • G1000   | G1000 facility                                                                                                                                                                    |
| • GIGE    | Gigabit Ethernet port facility                                                                                                                                                    |
| • HDLC    | High-level data link control (HDLC) frame mode.                                                                                                                                   |
| • HDSDI   | 1.5G HD-SDI video payload                                                                                                                                                         |
| • ISC1    | InterSystem Channel, a protocol defined by IBM (ISC1) payload                                                                                                                     |



**Table 23-167**     **Output Parameter Support**

| Parameter    | Description                                              |
|--------------|----------------------------------------------------------|
| • ISC3PEER1G | 1-Gbps ISC3 peer                                         |
| • ISC3PEER2G | 2-Gbps ISC3 peer                                         |
| • ISC3PEER2R | 1-Gbps or 2-Gbps ISC3 peer used in transparent (2R) mode |
| • ISC3STP1G  | ISC-3 STP 1G video payload.                              |
| • ISC3STP2G  | ISC-3 STP 2G video payload.                              |
| • ISCCOMPAT  | 1-Gbps ISC1, ISC2, and ISC3 compatibility                |
| • MSISC      | MSISC                                                    |
| • OCH        | Optical channel                                          |
| • ODU0       | Optical Data Unit Level 0                                |
| • OMS        | Optical Multiplex Section                                |
| • OTS        | Optical Transport Section                                |
| • OTL        | Optical Channel Transport Lane.                          |
| • OTU1       | Optical Transport Unit Level 1                           |
| • OTU2       | Optical Transport Unit Level 2                           |
| • OTU3       | Optical Transport Unit Level 3                           |
| • OTU4       | Optical Transport Unit Level 4                           |
| • POS        | POS port facility                                        |
| • REP        | Resilient Ethernet Protocol                              |
| • SDSDI      | 270M SDI video payload                                   |
| • STM1       | STM1 facility                                            |
| • STM1E      | STM1E facility                                           |
| • STM4       | STM4 facility                                            |
| • STM16      | STM16 facility                                           |
| • STM64      | STM64 facility                                           |
| • VC11       | VC11 path                                                |
| • VC12       | VC12 path                                                |
| • VC3        | VC3 path                                                 |
| • VC44C      | VC44C path                                               |
| • VC38C      | VC38C path                                               |
| • VC464C     | VC464C path                                              |
| • VC48C      | VC48C path                                               |
| • VC4        | VC4 path                                                 |
| • VC416C     | VC416C path                                              |
| • VC42C      | VC42C path                                               |
| • VC43C      | VC43C path                                               |

**Table 23-167 Output Parameter Support**

| Parameter                      | Description                                                                                                                              |
|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| <MONTYPE>                      | Monitored type. A null value defaults to ALL. The parameter type is ALL_MONTYPE, which is the monitored type list.                       |
| • AISSP                        | Alarm Indication Signal Seconds—Path                                                                                                     |
| • ALL                          | All possible values                                                                                                                      |
| • BBEP                         | NCS Background Block Errors Path                                                                                                         |
| • BBE-PM                       | OTN—Background Block Errors—Path Monitor Point                                                                                           |
| • BBER                         | NCS Background Block Error Ratio                                                                                                         |
| • BBER-PM                      | OTN—Background Block Error Ratio—Path Monitor Point expressed in tenths of a percentage                                                  |
| • BBER-SM                      | OTN—Background Block Error Ratio—Section Monitor Point expressed in tenths of a percentage                                               |
| • BBE-SM                       | OTN—Background Block Errors—Section Monitor Point                                                                                        |
| • BIEC                         | FEC—Bit Errors Corrected                                                                                                                 |
| • BIT-EC                       | The number of bit errors corrected by the FEC algorithm                                                                                  |
| • CGV                          | 8B10B—Code Group Violations                                                                                                              |
| • CVCPP                        | Coding Violations—CP-Bit Path                                                                                                            |
| • CVL                          | Coding Violations—Line                                                                                                                   |
| • CVP                          | Coding Violations—Path                                                                                                                   |
| • CVS                          | Coding Violations—Section                                                                                                                |
| • CVV                          | Coding Violations—Section                                                                                                                |
| • DCG                          | 8B10B—Data Code Groups                                                                                                                   |
| • ESCPP                        | Errored Seconds—CP—Bit Path                                                                                                              |
| • ESL                          | Errored Seconds—Line                                                                                                                     |
| • ESP                          | Errored Seconds—Path                                                                                                                     |
| • ES-PM                        | OTN—Errored Seconds—Path Monitor Point                                                                                                   |
| • ESR                          | Errored Second—Ratio                                                                                                                     |
| • ESR-PM                       | Errored Seconds Ratio—Path monitor Point expressed in tenths of a percentage                                                             |
| • ESR-SM                       | Errored Seconds Ratio—Section monitor Point expressed in tenths of a percentage                                                          |
| • ESS                          | Errored Seconds—Section                                                                                                                  |
| • ES-SM                        | OTN—Errored Seconds—Section Monitor Point                                                                                                |
| • ESV                          | Errored Seconds—VC Path                                                                                                                  |
| • etherStatsBroadca<br>stPkts  | The total number of good packets received that were directed to a multicast address                                                      |
| • etherStatsCollisio<br>ns     | Number of transmit packets that are collisions                                                                                           |
| • etherStatsCRCAlig<br>nErrors | The total number of packets received that have a length (excluding framing bits, but including FCS octets) of between 64 and 1518 octets |
| • etherStatsDropEv<br>ents     | Number of received frames dropped at the port level                                                                                      |

**Table 23-167 Output Parameter Support**

| Parameter                 | Description                                                                                            |
|---------------------------|--------------------------------------------------------------------------------------------------------|
| • etherStatsFragments     | The total number of packets received that were less than 64 octets                                     |
| • etherStatsJabbers       | The total number of packets received that are longer than 1518 octets                                  |
| • etherStatsOctets        | The total number of octets of data                                                                     |
| • etherStatsOversizePkts  | The total number of packets received that are longer than 1518 octets                                  |
| • etherStatsPkts          | The total number of packets (including bad packets, broadcast packets, and multicast packets) received |
| • etherStatsUndersizePkts | The total number of packets received that are less than 64 octets                                      |
| • FCP                     | Failure Count—Line                                                                                     |
| • FC-PM                   | OTN—Failure Count—Path Monitor Point                                                                   |
| • FC-SM                   | OTN—Failure Count—Section Monitor Point                                                                |
| • HP-AR                   | Availability Ratio                                                                                     |
| • HP-BBE                  | High-Order Path Background Block Error                                                                 |
| • HP-BBER                 | High-Order Path Background Block Error Ratio                                                           |
| • HP-EB                   | High-Order Path Errored Block                                                                          |
| • HP-ES                   | High-Order Path Errored Second                                                                         |
| • HP-ESA                  | High-Order Path Errored Seconds—A                                                                      |
| • HP-ESB                  | High-Order Path Errored Seconds—B                                                                      |
| • HP-ESR                  | High-Order Path Errored Second Ratio                                                                   |
| • HP-FC                   | High-Order Path Failure Count                                                                          |
| • HP-NPJC-PDET            | High-Order Path Negative Pointer Justification Count-Path Detected                                     |
| • HP-NPJC-PGEN            | High-Order Path Negative Pointer Justification Count-Path Generated                                    |
| • HP-OI                   | Outage Intensity                                                                                       |
| • HP-PJCDIFF              | High-Order Path Pointer Justification Count Difference                                                 |
| • HP-PJCS-PDET            | High-Order Path Pointer Justification Count Seconds-Path Detected                                      |
| • HP-PPJC-PDET            | High-Order Path Positive Pointer Justification Count-Path Detected                                     |
| • HP-PPJC-PGEN            | High-Order Path Positive Pointer Justification Count-Path Generated                                    |
| • HP-SEPI                 | The number of SEP events in available time                                                             |
| • HP-SES                  | High-Order Path Severely Errored Seconds                                                               |
| • HP-SESR                 | High-Order Path Severely Errored Second Ratio                                                          |
| • HP-UAS                  | High-Order Path Unavailable Seconds                                                                    |
| • ifInBroadcastPkts       | Number of broadcast packets received since the last counter reset                                      |
| • ifInDiscards            | The number of inbound packets                                                                          |
| • ifInErrorBytePkts       | Receive Error Byte                                                                                     |

**Table 23-167 Output Parameter Support**

| Parameter               | Description                                                                                            |
|-------------------------|--------------------------------------------------------------------------------------------------------|
| • ifInErrors            | The number of inbound packets (or transmission units) that contained errors                            |
| • ifInFramingErrorPkts  | Receive Framing Error                                                                                  |
| • ifInJunkInterPkts     | Receive Interpacket Junk                                                                               |
| • ifInMulticastPkts     | Number of multicast packets received since the last counter reset                                      |
| • ifInOctets            | Number of bytes transmitted since the last counter reset                                               |
| • ifInUcastPkts         | Number of unicast packets received since the last counter reset                                        |
| • ifOutBroadcastPkts    | Number of broadcast packets transmitted                                                                |
| • ifOutDiscards         | The number of outbound packets                                                                         |
| • ifOutErrors           | The number of outbound packets (or transmission units) that could not be transmitted because of errors |
| • ifOutMulticastPkts    | Number of multicast packets transmitted                                                                |
| • ifOutPayloadCrcErrors | Received payload CRC errors                                                                            |
| • ifOutUcastPkts        | Number of unicast packets transmitted                                                                  |
| • IOS                   | 8B10B—Idle Ordered Sets                                                                                |
| • IPC                   | Invalid Packet Count                                                                                   |
| • LBCL-AVG              | Average Laser Bias Current in microA                                                                   |
| • LBCL-MAX              | Maximum Laser Bias Current in microA                                                                   |
| • LBCL-MIN              | Minimum Laser Bias Current in microA                                                                   |
| • LBCN                  | Normalized Laser Bias Current for STM1-8                                                               |
| • LBCN-HWT              | Normalized Laser Bias Current—Higher Threshold                                                         |
| • LBCN-LWT              | Normalized Laser Bias Current—Lower Threshold                                                          |
| • LOSSL                 | Loss of Signal Seconds—Line                                                                            |
| • LP-BBE                | Low-Order Path Background Block Error                                                                  |
| • LP-BBER               | Low-Order Path Background Block Error Ratio                                                            |
| • LP-EB                 | Low-Order Path Errored Block                                                                           |
| • LP-ES                 | Low-Order Path Errored Second                                                                          |
| • LP-ESA                | Low-Order Path Errored Seconds—A                                                                       |
| • LP-ESB                | Low-Order Path Errored Seconds—B                                                                       |
| • LP-ESR                | Low-Order Path Errored Second Ratio                                                                    |
| • LP-FC                 | Low-Order Path Failure Count                                                                           |
| • LP-NPJC-DET           | Low-Order Negative Pointer Justification Count-Detected                                                |
| • LP-NPJC-GEN           | Low-Order Negative Pointer Justification Count-Generated                                               |
| • LP-PPJC-DET           | Low-Order Positive Pointer Justification Count-Detected                                                |

**Table 23-167**     **Output Parameter Support**

| Parameter     | Description                                                    |
|---------------|----------------------------------------------------------------|
| • LP-PPJC-GEN | Low-Order Positive Pointer Justification Count-Generated       |
| • LP-SEP      | A sequence of between 3 to 9 consecutive SES                   |
| • LP-SEPI     | Low-Order Path Severely Errored Period Intensity               |
| • LP-SES      | Low-Order Path Severely Errored Seconds                        |
| • LP-UAS      | Low-Order Path Unavailable Seconds                             |
| • MS-PSC      | Multiplex Section-Protection switch count                      |
| • MS-PSD      | Multiplex Section-Protection switch duration                   |
| • NIOS        | 8B10B—Non Idle Ordered Sets                                    |
| • NPJC-PDET   | Negative Pointer Justification Count-Path Detected             |
| • NPJC-PGEN   | Negative Pointer Justification Count-Path Generated            |
| • OPR-AVG     | Average Receive Power in tenths of a microW                    |
| • OPR-MAX     | Maximum Receive Power in tenths of a microW                    |
| • OPR-MIN     | Minimum Receive Power in tenths of a microW                    |
| • OPRN        | Normalized Optical Receive Power for STM1-8                    |
| • OPRN-MAX    | Maximum value for OPRN                                         |
| • OPRN-MIN    | Minimum value for OPRN                                         |
| • OPT-AVG     | Average Transmit Power in tenths of a microW                   |
| • OPT-MAX     | Maximum Transmit Power in tenths of a microW                   |
| • OPT-MIN     | Minimum Transmit Power in tenths of a microW                   |
| • OPTN        | Normalized value for Optical Power Transmitted for STM1-8 card |
| • OPTN-MAX    | Maximum value for OPTN                                         |
| • OPTN-MIN    | Minimum value for OPTN                                         |
| • OPWR-AVG    | Optical Power—Average Interval Value in tenths of a dBm        |
| • OPWR-MAX    | Optical Power—Maximum Interval Value in tenths of a dBm        |
| • OPWR-MIN    | Optical Power—Minimum Interval Value in tenths of a dBm        |
| • PPJC-PDET   | Positive Pointer Justification Count-Path Detected             |
| • PPJC-PGEN   | Positive Pointer Justification Count-Path Generated            |
| • PRE-FECBER  | Enum to hold PRE-FECBER value                                  |
| • PSC         | Protection Switching Count                                     |
| • PSC-R       | Protection Switching Count—Ring                                |
| • PSC-S       | Protection Switching Count—Span                                |
| • PSC-W       | Protection Switching Count—Working                             |
| • PSD         | Protection Switching Duration                                  |
| • PSD-R       | Protection Switching Duration—Ring                             |
| • PSD-S       | Protection Switching Duration—Span                             |
| • PSD-W       | Protection Switching Duration—Working                          |

**Table 23-167 Output Parameter Support**

| Parameter   | Description                                                                                                                                                                                        |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| • SASCPP    | Severely Errored Framing/AIS Second—CP-Bit Path                                                                                                                                                    |
| • SASP      | Severely Errored Framing/AIS Seconds Path                                                                                                                                                          |
| • SEFS      | Severely Errored Framing Seconds                                                                                                                                                                   |
| • SESCPP    | Severely Errored Second—CP-Bit Path                                                                                                                                                                |
| • SESL      | Severely Errored Second—Line                                                                                                                                                                       |
| • SESP      | Severely Errored Second—Path                                                                                                                                                                       |
| • SES-PM    | OTN—Severely Errored Second—Path                                                                                                                                                                   |
| • SESR      | Severely Errored Second—Ratio                                                                                                                                                                      |
| • SESR-PM   | OTN—Severely Errored Second Ratio—Path Monitor Point expressed in tenths of a percentage                                                                                                           |
| • SESR-SM   | OTN—Severely Errored Second Ratio—Section Monitor Point expressed in tenths of a percentage                                                                                                        |
| • SESS      | Severely Errored Second—Section                                                                                                                                                                    |
| • SES-SM    | OTN—Severely Errored Second—Section Monitor Point                                                                                                                                                  |
| • SESV      | Severely Errored Second—VC Path                                                                                                                                                                    |
| • UASCPP    | Unavailable Second—CP-Bit Path                                                                                                                                                                     |
| • UASL      | Unavailable Second—Line                                                                                                                                                                            |
| • UASP      | Unavailable Second—Path                                                                                                                                                                            |
| • UAS-PM    | OTN—Unavailable Second—Path Monitor Point                                                                                                                                                          |
| • UAS-SM    | OTN—Unavailable Second—Section Monitor Point                                                                                                                                                       |
| • UASV      | Unavailable Second—VC Path                                                                                                                                                                         |
| • UNC-WORDS | FEC—Uncorrectable Words                                                                                                                                                                            |
| • VPC       | Valid Packet Count                                                                                                                                                                                 |
| • OSNR-MIN  | Minimum Optical Signal To Noise Ratio.                                                                                                                                                             |
| • OSNR-MAX  | Maximum Optical Signal To Noise Ratio.                                                                                                                                                             |
| • OSNR-AVG  | Average Optical Signal To Noise Ratio.                                                                                                                                                             |
| • PMD-MIN   | Minimum Polarization Mode Dispersion.                                                                                                                                                              |
| • PMD-MAX   | Maximum Polarization Mode Dispersion.                                                                                                                                                              |
| • PMD-AVG   | Average Polarization Mode Dispersion.                                                                                                                                                              |
| <LOCATION>  | The location. A null value defaults to NEND. The parameter type is LOCATION, which is the location where the action is to take place.                                                              |
| • FEND      | Action occurs on the far end of the facility.                                                                                                                                                      |
| • NEND      | Action occurs on the near end of the facility.                                                                                                                                                     |
| <THLEV>     | Threshold level. Indicates the threshold value. THLEV is a float.                                                                                                                                  |
| <TMPER>     | The accumulation time period for performance counters. A null value defaults to 15-MIN. The parameter type is TMPER, which is the accumulation time period for the performance management counter. |
| • 1-DAY     | Performance parameter accumulation interval length is every 24 hours.                                                                                                                              |

**Table 23-167 Output Parameter Support**

| Parameter  | Description                                                                                                                                   |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| • 1-HR     | Performance parameter accumulation interval length is every 1 hour.                                                                           |
| • 1-MIN    | Performance parameter accumulation interval length is every 1 minute.                                                                         |
| • 15-MIN   | Performance parameter accumulation interval length is every 15 minutes.                                                                       |
| • RAW-DATA | Performance parameter accumulation interval starts from the last time the counters were cleared. This is only applicable to RMON-managed PMs. |

## 23.154 RTRV-TOD

The Retrieve Time of Day (RTRV-TOD) command retrieves the system date and time at the instant when the command was executed. The time returned is in Coordinated Universal Time (UTC).

**Usage Guidelines** None

**Category** System

**Security** Retrieve

**Input Format** RTRV-TOD:[<TID>]::<CTAG>;

**Input Example** RTRV-TOD:CAZADERO::230;

**Input Parameters** None

**Output Format**

```

SID DATE TIME
M CTAG COMPLD
"<YEAR>,<MONTH>,<DAY>,<HOUR>,<MINUTE>,<SECOND>,<DIFFERENCE>:<TMTYPE>"
;
```

**Output Example**

```

TID-000 1998-06-20 14:30:00
M 001 COMPLD
"2002,05,08,17,01,33,840:LINT"
;
```

**Table 23-168**     **Output Parameter Support**

| Parameter    | Description                                                                                              |
|--------------|----------------------------------------------------------------------------------------------------------|
| <YEAR>       | The current calendar year. YEAR is a string.                                                             |
| <MONTH>      | The month of the year. Ranges from 01 to 12. MONTH is a string.                                          |
| <DAY>        | The day of the month. Ranges from 01 to 31. DAY is a string.                                             |
| <HOUR>       | The hour of the day. Ranges from 00 to 23. HOUR is a string.                                             |
| <MINUTE>     | The minute of the hour. Ranges from 00 to 59. MINUTE is a string.                                        |
| <SECOND>     | The second of the minute. Ranges from 00 to 59. SECOND is a string.                                      |
| <DIFFERENCE> | The number of minutes off UTC. The parameter type is DIFFERENCE, which is the number of minutes off UTC. |
| • -120       | 2 hours before UTC                                                                                       |
| • -180       | 3 hours before UTC                                                                                       |
| • -210       | 3.5 hours before UTC                                                                                     |
| • -240       | 4 hours before UTC                                                                                       |
| • -300       | 5 hours before UTC                                                                                       |
| • -360       | 6 hours before UTC                                                                                       |
| • -420       | 7 hours before UTC                                                                                       |
| • -480       | 8 hours before UTC                                                                                       |
| • -540       | 9 hours before UTC                                                                                       |
| • -60        | 1 hour before UTC                                                                                        |
| • -600       | 10 hours before UTC                                                                                      |
| • -660       | 11 hours before UTC                                                                                      |
| • 0          | UTC                                                                                                      |
| • 120        | 2 hours after UTC                                                                                        |
| • 180        | 3 hours after UTC                                                                                        |
| • 210        | 3.5 hours after UTC                                                                                      |
| • 240        | 4 hours after UTC                                                                                        |
| • 270        | 4.5 hours after UTC                                                                                      |
| • 300        | 5 hours after UTC                                                                                        |
| • 330        | 5.5 hours after UTC                                                                                      |
| • 345        | 5.75 hours after UTC                                                                                     |
| • 360        | 6 hours after UTC                                                                                        |
| • 390        | 6.5 hours after UTC                                                                                      |
| • 420        | 7 hours after UTC                                                                                        |
| • 480        | 8 hours after UTC                                                                                        |
| • 540        | 9 hours after UTC                                                                                        |
| • 570        | 9.5 hours after UTC                                                                                      |
| • 60         | 1 hour after UTC                                                                                         |



**Table 23-168** Output Parameter Support

| Parameter | Description                                    |
|-----------|------------------------------------------------|
| • 600     | 10 hours after UTC                             |
| • 630     | 10.5 hours after UTC                           |
| • 660     | 11 hours after UTC                             |
| • 690     | 11.5 hours after UTC                           |
| • 720     | 12 hours after UTC                             |
| • 765     | 12.75 hours after UTC                          |
| • 780     | 13 hours after UTC                             |
| • 840     | 14 hours after UTC                             |
| <TMTPYPE> | Identifies the time zone. TMTPYPE is a string. |

## 23.155 RTRV-TRAPTABLE

The Retrieve Trap Table (RTRV-TRAPTABLE) command retrieves a trap destination entry identified by a specific trap destination address.

**Usage Guidelines** None

**Category** System

**Security** Retrieve

**Input Format** RTRV-TRAPTABLE:[<TID>]:[<AID>]:<CTAG>;

**Input Examples**

1. RTRV-TRAPTABLE::1.2.3.4:1;
2. RTRV-TRAPTABLE:: "[3ffe:0501:0008:0000:0260:97ff:fe40:efab]";

**Input Parameters**

|       |                                                                                                                                                                                                        |
|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <AID> | Access identifier from the <a href="#">“27.17 IPADDR”</a> section on page 27-26. IP address identifying the trap destination. Only a numeric IP address is allowed. A null value is equivalent to ALL. |
|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Output Format**

```

SID DATE TIME
M CTAG COMPLD
“<DEST>,<TRAPPORT>,<COMMUNITY>,<SNMPVERSION>”
;
```

**Output Examples**

1. TID-000 1998-06-20 14:30:00  
M 001 COMPLD  
"1.2.3.4,162,\"PRIVATE\",SNMPV1"  
;
2. TID-000 1998-06-20 14:30:00  
M 001 COMPLD  
"3ffe:0501:0008:0000:0260:97ff:fe40:efab,162,\"PRIVATE\",SNMPV1"  
;

**Table 23-169 Output Parameter Support**

| Parameter     | Description                                                                                             |
|---------------|---------------------------------------------------------------------------------------------------------|
| <DEST>        | Access identifier from the <a href="#">“27.17 IPADDR”</a> section on page 27-26.                        |
| <TRAPPORT>    | UDP port number associated with the trap destination. Defaults to 162. TRAPPORT is an integer.          |
| <COMMUNITY>   | Community name associated to the trap destination. Maximum of 32 characters. COMMUNITY is a string.     |
| <SNMPVERSION> | SNMP version number. Defaults to SNMPv1. The parameter type is SNMP_VERSION, which is the SNMP version. |
| • SNMPV1      | SNMP version 1 (default)                                                                                |
| • SNMPV2      | SNMP version 2                                                                                          |

## 23.156 RTRV-TRC-<STM\_MSSPR>

The Retrieve Trace Client for STM4, STM64, or STM16 (RTRV-TRC-<STM\_MSSPR>) command retrieves the valid J1 expected trace string, retrieved trace string, trace mode, C2 byte, and VC bandwidth of the STM port only if the port has a MS-SPRing. See [Table 29-1 on page 29-1](#) for supported modifiers by platform.

**Usage Guidelines**

- This command only applies to STM-16 AS and STM-64 cards.
- Sending this command over unsupported MS-SPRing path trace cards or unequipped cards will result in a J1 Trace Not Supported On This Card (IIAC) error.

**Category**

MS-SPRing

**Security**

Retrieve

**Input Format**

RTRV-TRC-&lt;STM\_MSSPR&gt;:[&lt;TID&gt;]:&lt;AID&gt;:&lt;CTAG&gt;;

**Input Example**

RTRV-TRC-STM16:CISCO:FAC-6-1:238;

|                         |                                                                                                                                                                            |
|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Input Parameters</b> | <AID>      Access identifier from the <a href="#">“27.15 FACILITY”</a> section on page 27-23.                                                                              |
| <b>Output Format</b>    | <pre> SID DATE TIME M CTAG COMPLD “&lt;AID&gt;::[LEVEL=&lt;LEVEL&gt;],[EXPTRC=&lt;EXPTRC&gt;],[INCTRC=&lt;INCTRC&gt;], [TRCMODE=&lt;TRCMODE&gt;],[C2=&lt;C2&gt;]” ; </pre> |
| <b>Output Example</b>   | <pre> TID-000 1998-06-20 14:30:00 M 001 COMPLD “VC4-6-1-25::LEVEL=VC4,EXPTRC=“EXPTRCSTRING”,INCTRC=“INCTRCSTRING”, TRCMODE=AUTO,C2=0X04” ; </pre>                          |

**Table 23-170      Output Parameter Support**

| Parameter     | Description                                                                                                                                                                                        |
|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <AID>         | Access identifier from the <a href="#">“27.32 VC”</a> section on page 27-35.                                                                                                                       |
| <LEVEL>       | (Optional) The rate of the cross-connect. The parameter type is VC_PATH, which is the modifier for some VC commands.                                                                               |
| • VC3         | VC3 level                                                                                                                                                                                          |
| • VC44C       | VC4-4C level                                                                                                                                                                                       |
| • VC464C      | VC4-64C level                                                                                                                                                                                      |
| • VC48C       | VC4-8C level                                                                                                                                                                                       |
| • VC4         | VC4 level                                                                                                                                                                                          |
| • VC416C      | VC4-16C level                                                                                                                                                                                      |
| • VC42C       | VC4-2C level                                                                                                                                                                                       |
| • VC43C       | VC4-3C level                                                                                                                                                                                       |
| <EXPTRC>      | (Optional) Expected path trace content. Indicates the expected path trace message (J1) contents. EXPTRC is any 64-character ASCII string, including the terminating CR and LF. EXPTRC is a string. |
| <INCTRC>      | (Optional) The incoming path trace message contents. INCTRC is any combination of 64 characters including CR and LF. INCTRC is a string.                                                           |
| <TRCMODE>     | (Optional) Trace mode. The parameter type is TRCMODE (trace mode).                                                                                                                                 |
| • AUTO        | Use the previously received path trace string as the expected string. Not applicable to MXP/TXP cards.                                                                                             |
| • AUTO-NO-AIS | Use the previously received path trace string as the expected string and do not turn on AIS and RDI if TIMP is detected.                                                                           |
| • MAN         | Use the provisioned expected string as the expected string.                                                                                                                                        |
| • MAN-NO-AIS  | Use the provisioned expected string as the expected string and do not turn on AIS and RDI if TIMP is detected.                                                                                     |
| • OFF         | Turn off path trace capability. Nothing will be reported.                                                                                                                                          |

**Table 23-170**     **Output Parameter Support**

| Parameter | Description                                                                                                                                    |
|-----------|------------------------------------------------------------------------------------------------------------------------------------------------|
| <C2>      | (Optional) The C2 byte hex code. Applicable only to VC-level paths in NCS (VCn). The parameter type is C2_BYTE, which is the C2 byte hex code. |
| • 0X00    | Unequipped                                                                                                                                     |
| • 0X01    | Equipped-Non Specific Payload                                                                                                                  |
| • 0X02    | VT-Structured VC-1 SPE                                                                                                                         |
| • 0X03    | Locked VT mode                                                                                                                                 |
| • 0X04    | Asynchronous Mapping for DS3                                                                                                                   |
| • 0X12    | Asynchronous Mapping for DS4NA                                                                                                                 |
| • 0X13    | Mapping for ATM                                                                                                                                |
| • 0X14    | Mapping for DQDB                                                                                                                               |
| • 0X15    | Asynchronous Mapping for FDDI                                                                                                                  |
| • 0X16    | HDLC-over-NCS Mapping                                                                                                                          |
| • 0XE1    | VT-structured VC4-1 SPE with 1VTx payload defect                                                                                               |
| • 0XE2    | VT-structured VC4-1 SPE with 2VTx payload defects                                                                                              |
| • 0XE3    | VT-structured VC4-1 SPE with 3VTx payload defects                                                                                              |
| • 0XE4    | VT-structured VC4-1 SPE with 4VTx payload defects                                                                                              |
| • 0XE5    | VT-structured VC4-1 SPE with 5VTx payload defects                                                                                              |
| • 0XE6    | VT-structured VC4-1 SPE with 6VTx payload defects                                                                                              |
| • 0XE7    | VT-structured VC4-1 SPE with 7VTx payload defects                                                                                              |
| • 0XE8    | VT-structured VC4-1 SPE with 8VTx payload defects                                                                                              |
| • 0XE9    | VT-structured VC4-1 SPE with 9VTx payload defects                                                                                              |
| • 0XEA    | VT-structured VC4-1 SPE with 10VTx payload defects                                                                                             |
| • 0XEB    | VT-structured VC4-1 SPE with 11VTx payload defects                                                                                             |
| • 0XEC    | VT-structured VC4-1 SPE with 12VTx payload defects                                                                                             |
| • 0XED    | VT-structured VC4-1 SPE with 13VTx payload defects                                                                                             |
| • 0XEE    | VT-structured VC4-1 SPE with 14VTx payload defects                                                                                             |
| • 0XEF    | VT-structured VC4-1 SPE with 15VTx payload defects                                                                                             |
| • 0XF0    | VT-structured VC4-1 SPE with 16VTx payload defects                                                                                             |
| • 0XF1    | VT-structured VC4-1 SPE with 17VTx payload defects                                                                                             |
| • 0XF2    | VT-structured VC4-1 SPE with 18VTx payload defects                                                                                             |
| • 0XF3    | VT-structured VC4-1 SPE with 19VTx payload defects                                                                                             |
| • 0XF4    | VT-structured VC4-1 SPE with 20VTx payload defects                                                                                             |
| • 0XF5    | VT-structured VC4-1 SPE with 21VTx payload defects                                                                                             |
| • 0XF6    | VT-structured VC4-1 SPE with 22VTx payload defects                                                                                             |
| • 0XF7    | VT-structured VC4-1 SPE with 23VTx payload defects                                                                                             |
| • 0XF8    | VT-structured VC4-1 SPE with 24VTx payload defects                                                                                             |

**Table 23-170**     **Output Parameter Support**

| Parameter | Description                                                                                               |
|-----------|-----------------------------------------------------------------------------------------------------------|
| • 0XF9    | VT-structured VC4-1 SPE with 25VTx payload defects                                                        |
| • 0XFA    | VT-structured VC4-1 SPE with 26VTx payload defects                                                        |
| • 0XFB    | VT-structured VC4-1 SPE with 27VTx payload defects                                                        |
| • 0XFC    | VT-structured VC4-1 SPE with 28VTx payload defects                                                        |
| • 0XFE    | O.181 Test Signal (TSS1 to TSS3) Mapping                                                                  |
| • 0XFF    | Reserved, however, C2 is 0XFF if AIS-L is being generated by an optical card or cross-connect downstream. |

## 23.157 RTRV-TRC-<OCN\_BLSR>

The Retrieve Trace Client for OC12, OC192, OC48, or OC768 (RTRV-TRC-<OCN\_BLSR>) command retrieves the valid J1 expected trace string, retrieved trace string, trace mode, C2 byte, and STS bandwidth of the OC-N port only if the port has a BLSR.

### Usage Guidelines

- See [Table 29-1 on page 29-1](#) for supported modifiers by platform.
- This command only applies to OC48AS and OC192 cards.
- Sending this command over unsupported BLSR path trace cards, or unequipped cards will result in a J1 Trace Not Supported On This Card (IIAC) error.

### Category

BLSR

### Security

Retrieve

### Input Format

RTRV-TRC-&lt;OCN\_BLSR&gt;[:&lt;TID&gt;]:&lt;AID&gt;:&lt;CTAG&gt;[:];

### Input Example

RTRV-TRC-OC48:CISCO:FAC-6-1:238;

### Input Parameters

|       |                                                                                    |
|-------|------------------------------------------------------------------------------------|
| <AID> | Access identifier from the <a href="#">“27.15 FACILITY”</a> section on page 27-23. |
|-------|------------------------------------------------------------------------------------|

### Output Format

```

SID DATE TIME
M CTAG COMPLD
“<AID>::[LEVEL=<LEVEL>],[EXPTRC=<EXPTRC>],[INCTRC=<INCTRC>],
[TRCMODE=<TRCMODE>],[C2=<C2>]”
;
```

**Output Example**

```

TID-000 1998-06-20 14:30:00
M 001 COMPLD
 "STS-6-1-25::LEVEL=STS1,EXPTRC="EXPTRCSTRING",INCTRC="INCTRCSTRING",
 TRCMODE=AUTO,C2=0X04"
;

```

**Output Parameters**

|               |                                                                                                                                                                                                                                  |
|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <AID>         | Access identifier from the <a href="#">“27.32 VC” section on page 27-35</a> .                                                                                                                                                    |
| <LEVEL>       | (Optional) The rate of the cross-connect. The parameter type is STS_PATH, which is the modifier for some STS commands.                                                                                                           |
| • STS1        | Synchronous Transport Signal level 1 (51 Mbps)                                                                                                                                                                                   |
| • STS12C      | Synchronous Transport Signal level 12 Concatenated (622 Mbps)                                                                                                                                                                    |
| • STS18C      | Synchronous Transport Signal level 18 Concatenated (933 Mbps)                                                                                                                                                                    |
| • STS192C     | Synchronous Transport Signal level 192 (9952 Mbps)                                                                                                                                                                               |
| • STS24C      | Synchronous Transport Signal level 24 Concatenated (1240 Mbps)                                                                                                                                                                   |
| • STS36C      | Synchronous Transport Signal level 36 Concatenated (1866 Mbps)                                                                                                                                                                   |
| • STS3C       | Synchronous Transport Signal level 3 Concatenated (155 Mbps)                                                                                                                                                                     |
| • STS48C      | Synchronous Transport Signal level 48 Concatenated (2488 Mbps)                                                                                                                                                                   |
| • STS6C       | Synchronous Transport Signal level 3 Concatenated (310 Mbps)                                                                                                                                                                     |
| • STS9C       | Synchronous Transport Signal level 9 Concatenated (465 Mbps)                                                                                                                                                                     |
| <EXPTRC>      | (Optional) Expected path trace content. Indicates the expected path trace message (J1) contents. EXPTRC is any 64-character ASCII string, including the terminating CR (carriage return) and LF (line feed). EXPTRC is a string. |
| <INCTRC>      | (Optional) The incoming path trace message contents. INCTRC is any combination of 64 characters including CR and LF. INCTRC is a string.                                                                                         |
| <TRCMODE>     | (Optional) Trace mode. The parameter type is TRCMODE (trace mode).                                                                                                                                                               |
| • AUTO        | Use the previously received path trace string as the expected string. Not applicable to MXP/TXP cards.                                                                                                                           |
| • AUTO-NO-AIS | Use the previously received path trace string as the expected string and do not turn on AIS and RDI if TIM-P is detected.                                                                                                        |
| • MAN         | Use the provisioned expected string as the expected string                                                                                                                                                                       |
| • MAN-NO-AIS  | Use the provisioned expected string as the expected string and do not turn on AIS and RDI if TIM-P is detected.                                                                                                                  |
| • OFF         | Turn off path trace capability. Nothing will be reported                                                                                                                                                                         |
| <C2>          | (Optional) The C2 byte hex code. Applicable only to STS-level paths in SONET (STS <sub>n</sub> ). The parameter type is C2_BYTE, which is the C2 byte hex code.                                                                  |
| • 0X00        | Unequipped                                                                                                                                                                                                                       |
| • 0X01        | Equipped-Non Specific payload                                                                                                                                                                                                    |
| • 0X02        | VT-Structured STS-1 SPE                                                                                                                                                                                                          |
| • 0X03        | Locked VT Mode                                                                                                                                                                                                                   |
| • 0X04        | Asynchronous Mapping for DS3                                                                                                                                                                                                     |

|        |                                                                                                           |
|--------|-----------------------------------------------------------------------------------------------------------|
| • 0X12 | Asynchronous Mapping for DS4NA                                                                            |
| • 0X13 | Mapping for ATM                                                                                           |
| • 0X14 | Mapping for DQDB                                                                                          |
| • 0X15 | Asynchronous Mapping for FDDI                                                                             |
| • 0X16 | HDLC-Over-SONET Mapping                                                                                   |
| • 0XE1 | VT-structured STS-1 SPE with 1VTx payload defect                                                          |
| • 0XE2 | VT-structured STS-1 SPE with 2VTx payload defects                                                         |
| • 0XE3 | VT-structured STS-1 SPE with 3VTx payload defects                                                         |
| • 0XE4 | VT-structured STS-1 SPE with 4VTx payload defects                                                         |
| • 0XE5 | VT-structured STS-1 SPE with 5VTx payload defects                                                         |
| • 0XE6 | VT-structured STS-1 SPE with 6VTx payload defects                                                         |
| • 0XE7 | VT-structured STS-1 SPE with 7VTx payload defects                                                         |
| • 0XE8 | VT-structured STS-1 SPE with 8VTx payload defects                                                         |
| • 0XE9 | VT-structured STS-1 SPE with 9VTx payload defects                                                         |
| • 0XEA | VT-structured STS-1 SPE with 10VTx payload defects                                                        |
| • 0XEB | VT-structured STS-1 SPE with 11VTx payload defects                                                        |
| • 0XEC | VT-structured STS-1 SPE with 12VTx payload defects                                                        |
| • 0XED | VT-structured STS-1 SPE with 13VTx payload defects                                                        |
| • 0XEE | VT-structured STS-1 SPE with 14VTx payload defects                                                        |
| • 0XEF | VT-structured STS-1 SPE with 15VTx payload defects                                                        |
| • 0XF0 | VT-structured STS-1 SPE with 16VTx payload defects                                                        |
| • 0XF1 | VT-structured STS-1 SPE with 17VTx payload defects                                                        |
| • 0XF2 | VT-structured STS-1 SPE with 18VTx payload defects                                                        |
| • 0XF3 | VT-structured STS-1 SPE with 19VTx payload defects                                                        |
| • 0XF4 | VT-structured STS-1 SPE with 20VTx payload defects                                                        |
| • 0XF5 | VT-structured STS-1 SPE with 21VTx payload defects                                                        |
| • 0XF6 | VT-structured STS-1 SPE with 22VTx payload defects                                                        |
| • 0XF7 | VT-structured STS-1 SPE with 23VTx payload defects                                                        |
| • 0XF8 | VT-structured STS-1 SPE with 24VTx payload defects                                                        |
| • 0XF9 | VT-structured STS-1 SPE with 25VTx payload defects                                                        |
| • 0XFA | VT-structured STS-1 SPE with 26VTx payload defects                                                        |
| • 0XFB | VT-structured STS-1 SPE with 27VTx payload defects                                                        |
| • 0XFC | VT-structured STS-1 SPE with 28VTx payload defects                                                        |
| • 0XFE | O.181 Test Signal (TSS1 to TSS3) Mapping                                                                  |
| • 0XFF | Reserved, however, C2 is 0XFF if AIS-L is being generated by an optical card or cross-connect downstream. |

## 23.158 RTRV-TRC-OCH

The Retrieve Trace Optical Channel (RTRV-TRC-OCH) command retrieves the sent trace string, expected trace string, received trace string, trace mode, and the trace level for the NCS J0 section and the TTI PATH and SECTION monitoring levels of the NCS facility.

**Usage Guidelines**

- On the client port:
  - Only the J0 section trace applies.
  - The J0 section trace applies only if the card termination mode is not transparent and the payload is NCS.
- On the NCS port:
  - The J0 section trace and the TTI path and section trace monitoring point traces are allowed.
  - The J0 section trace is allowed only if the payload for the card is set to NCS.
  - The J0 section trace is allowed only if the card termination mode is not transparent. The TTI path and section trace is allowed only if ITU-T G.709 (DWRAP) is enabled.
- Depending on the settings, the following filtering applies:
  - If no TRCLEVEL is provided, all TRCLEVELs are reported as applicable.
  - If TRCLEVEL is provided and no MSGTYPE is provided, all applicable MSGTYPEs for the given level are displayed.
  - If no MSGTYPE is provided, all MSGTYPEs are reported as applicable.
  - If an MSGTYPE is provided with out a TRCLEVEL, then the given MSGTYPE for all TRCLEVELs are displayed.

**Category**

NCS

**Security**

Retrieve

**Input Format**

RTRV-TRC-OCH:[&lt;TID&gt;]:&lt;SRC&gt;:&lt;CTAG&gt;::[&lt;MSGTYPE&gt;],[&lt;TRCLEVEL&gt;][:];

**Input Example**

RTRV-TRC-OCH:CISCO:CHAN-2-2:100::EXPTRC,TTI-PM;

**Table 23-171 Input Parameter Support**

| Parameter  | Description                                                                                                                                       |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| <SRC>      | Access identifier from the <a href="#">“27.7 CHANNEL”</a> section on page 27-12.                                                                  |
| <MSGTYPE>  | Type of autonomous message to be retrieved. A null value is equivalent to ALL. The parameter type is MSGTYPE, which is the type of trace message. |
| • EXPTRC   | Expected incoming path trace message                                                                                                              |
| • INCTRC   | Incoming path trace message                                                                                                                       |
| • TRC      | Outgoing path trace message                                                                                                                       |
| <TRCLEVEL> | The trace level to be managed. A null value is equivalent to ALL. The parameter type is TRCLEVEL, which is the trace mode options.                |
| • J0       | Identifies the NCS J0 section trace level.                                                                                                        |
| • TTI-PM   | Identifies the TTI path monitoring point.                                                                                                         |
| • TTI-SM   | Identifies the TTI section monitoring point.                                                                                                      |



**Output Format**

```

SID DATE TIME
M CTAG COMPLD
"<CHANNEL>,<MOD>::[TRCLEVEL=<TRCLEVEL>],[EXPTRC=<EXPTRC>],
[TRC=<TRC>],[INCTRC=<INCTRC>],[TRCMODE=<TRCMODE>],
[TRCFORMAT=<TRCFORMAT>]"
;

```

**Output Example**

```

TID-000 1998-06-20 14:30:00
M 001 COMPLD
"CHAN-2-2,OCH::TRCLEVEL=TTI-PM,EXPTRC=\“AAA\”,TRC=\“AAA\”,
INCTRC=\“AAA\”,TRCMODE=MAN,TRCFORMAT=64-BYTE"
;

```

**Table 23-172 Output Parameter Support**

| Parameter  | Description                                                                                        |
|------------|----------------------------------------------------------------------------------------------------|
| <CHANNEL>  | Access identifier from the <a href="#">“27.7 CHANNEL” section on page 27-12</a> .                  |
| <MOD>      | Indicates an OCH AID type. The parameter type is MOD2, which is the line/path modifier.            |
| • 10GFC    | 10-Gigabit Fibre Channel payload                                                                   |
| • 10GFICON | 10-Gigabit fiber connectivity payload                                                              |
| • 1GFC     | 1-Gigabit Fibre Channel payload                                                                    |
| • 1GFICON  | 1-Gigabit fiber connectivity payload                                                               |
| • 1GISC3   | 1-Gigabit ISC3 compatible                                                                          |
| • 2GFC     | 2-Gigabit Fibre Channel payload                                                                    |
| • 2GFICON  | 2-Gigabit fiber connectivity payload                                                               |
| • 2GISC3   | 2-Gigabit ISC3 compatible                                                                          |
| • 3GVIDEO  | 3G-SDI video payload.                                                                              |
| • 4GFC     | 4-Gigabit Fibre Channel payload                                                                    |
| • 4GFICON  | 4-Gigabit fiber connectivity payload                                                               |
| • 40GIGE   | 40-Gigabit Ethernet                                                                                |
| • 100GIGE  | 100-Gigabit Ethernet                                                                               |
| • 5GIB     | 5Gbps InfiniBand (IB_5G) payload                                                                   |
| • 8GFC     | 8-Gigabit Fibre Channel payload                                                                    |
| • CHGRP    | Channel group                                                                                      |
| • D1VIDEO  | D1 video                                                                                           |
| • DS3I     | DS3i-N-12 line                                                                                     |
| • DVBASI   | Digital Video Broadband Asynchronous Serial Interface (DVBASI) payload                             |
| • E1       | E1                                                                                                 |
| • E3       | E3                                                                                                 |
| • E4       | E4 frame. Only applicable to STM1E Ports 9 through 12 when it is in E4-FRAMED or E4-UNFRAMED mode. |
| • ESCON    | ESCON                                                                                              |

**Table 23-172**     **Output Parameter Support**

| Parameter    | Description                                                                                           |
|--------------|-------------------------------------------------------------------------------------------------------|
| • ETRCLO     | ETRCLO                                                                                                |
| • FSTE       | FSTE facility                                                                                         |
| • G1000      | G1000 facility                                                                                        |
| • GFPOS      | GFP over POS, virtual ports partitioned using GFP's multiplexing capability                           |
| • GIGE       | Gigabit Ethernet                                                                                      |
| • HDLC       | High-level data link control (HDLC) frame mode.                                                       |
| • HDSDI      | 1.5G HD-SDI video payload.                                                                            |
| • HDTV       | HDTV                                                                                                  |
| • ISC3PEER1G | 1-Gbps ISC3 peer                                                                                      |
| • ISC3PEER2G | 2-Gbps ISC3 peer                                                                                      |
| • ISC3PEER2R | 1-Gbps or 2-Gbps ISC3 peer used in transparent (2R) mode                                              |
| • ISC3STP1G  | ISC-3 STP 1G video payload.                                                                           |
| • ISC3STP2G  | ISC-3 STP 2G video payload.                                                                           |
| • ISCCOMPAT  | 1-Gbps ISC1, ISC2, and ISC3 compatibility                                                             |
| • MSISC      | MSISC                                                                                                 |
| • OCH        | Optical Channel                                                                                       |
| • OCHCC      | OCH client connection                                                                                 |
| • OCHNC      | OCH network connection                                                                                |
| • OCHTERM    | OCH termination                                                                                       |
| • OMS        | Optical Multiplex Section                                                                             |
| • OTS        | Optical Transport Section                                                                             |
| • OTU1       | Optical Transport Unit Level 1                                                                        |
| • OTU3       | Optical Transport Unit Level 3                                                                        |
| • OTU4       | Optical Transport Unit Level 4                                                                        |
| • POS        | POS port                                                                                              |
| • REP        | Resilient Ethernet Protocol                                                                           |
| • RAMAN      | Raman Pump Amplifier                                                                                  |
| • SDSDI      | 270M SDI video payload.                                                                               |
| • STM1       | STM1 facility                                                                                         |
| • STM1E      | STM1E facility, only applicable to the STM1E facility (when it is in STM1E mode) of NCS STM1E-12 card |
| • STM4       | STM4 facility                                                                                         |
| • STM16      | STM16 facility                                                                                        |
| • STM64      | STM64 facility                                                                                        |
| • VC3        | VC3 path                                                                                              |
| • VC44C      | VC4-4C path                                                                                           |

**Table 23-172**     **Output Parameter Support**

| Parameter     | Description                                                                                                                                                                                                                                                 |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| • VC38C       | VC3-8C path                                                                                                                                                                                                                                                 |
| • VC464C      | VC4-64C path                                                                                                                                                                                                                                                |
| • VC48C       | VC4-8C path                                                                                                                                                                                                                                                 |
| • VC4         | VC4 path                                                                                                                                                                                                                                                    |
| • VC416C      | VC4-16C path                                                                                                                                                                                                                                                |
| • VC42C       | VC4-2C path                                                                                                                                                                                                                                                 |
| • VC43C       | VC4-3C path                                                                                                                                                                                                                                                 |
| • VC11        | VC11 path                                                                                                                                                                                                                                                   |
| • VC12        | VC12 path                                                                                                                                                                                                                                                   |
| <TRCLEVEL>    | (Optional) The trace level to be managed. The parameter type is TRCLEVEL, which is the trace mode options.                                                                                                                                                  |
| • J0          | Identifies the NCS J0 section trace level.                                                                                                                                                                                                                  |
| • TTI-PM      | Identifies the TTI path monitoring point.                                                                                                                                                                                                                   |
| • TTI-SM      | Identifies the TTI section monitoring point.                                                                                                                                                                                                                |
| <EXPTRC>      | (Optional) Expected path trace content. A 64 character ASCII string.                                                                                                                                                                                        |
| <TRC>         | (Optional) The path trace message to be transmitted. The trace byte continuously transmits a 64 byte, fixed length ASCII string, one byte at a time. A null value defaults to the NE transmitting 62 null characters (hex 00), CR, and LF. TRC is a string. |
| <INCTRC>      | (Optional) The incoming path trace message contents. INCTRC is a string.                                                                                                                                                                                    |
| <TRCMODE>     | (Optional) Trace mode. The parameter type is TRCMODE (trace mode).                                                                                                                                                                                          |
| • AUTO        | Use the previously received path trace string as the expected string. Not applicable to MXP/TXP cards.                                                                                                                                                      |
| • AUTO-NO-AIS | Use the previously received path trace string as the expected string and do not turn on AIS and RDI if TIMP is detected.                                                                                                                                    |
| • MAN         | Use the provisioned expected string as the expected string.                                                                                                                                                                                                 |
| • MAN-NO-AIS  | Use the provisioned expected string as the expected string and do not turn on AIS and RDI if TIMP is detected.                                                                                                                                              |
| • OFF         | Turn off path trace capability. Nothing will be reported.                                                                                                                                                                                                   |
| <TRCFORMAT>   | (Optional) The size of the trace message. If in NCS mode, only 1 or 16 bytes is applicable for the J0 section trace. The TTI level trace is only 64 bytes. The parameter type is TRCFORMAT, which is the trace format.                                      |
| • 1-BYTE      | 1-byte trace message                                                                                                                                                                                                                                        |
| • 16-BYTE     | 16-byte trace message                                                                                                                                                                                                                                       |
| • 64-BYTE     | 64-byte trace message                                                                                                                                                                                                                                       |

# 23.159 RTRV-TRC-OTU

The Retrieve Trace Optical Transport Unit Level (RTRV-TRC-OTU) command retrieves the sent trace string, expected trace string, received trace string, trace mode, and the trace level for the NCS J0 section and the TTI PATH and SECTION monitoring levels of the NCS facility.

**Usage Guidelines**

- On the client port:
  - Only the J0 section trace applies.
  - The J0 section trace applies only if the card termination mode is not transparent and the payload is NCS.
- On the NCS port:
  - The J0 section trace and the TTI path and section trace monitoring point traces are allowed.
  - The J0 section trace is allowed only if the payload for the card is set to NCS.
  - The J0 section trace is allowed only if the card termination mode is not transparent. The TTI path and section trace is allowed only if ITU-T G.709 (DWRAP) is enabled.
- Depending on the settings, the following filtering applies:
  - If no TRCLEVEL is provided, all TRCLEVELs are reported as applicable.
  - If TRCLEVEL is provided and no MSGTYPE is provided, all applicable MSGTYPEs for the given level are displayed.
  - If no MSGTYPE is provided, all MSGTYPEs are reported as applicable.
  - If an MSGTYPE is provided with out a TRCLEVEL, then the given MSGTYPE for all TRCLEVELs are displayed.

**Category** NCS

**Security** Retrieve

**Input Format** RTRV-TRC-OTU:[<TID>]:<SRC>:<CTAG>::[<MSGTYPE>],[<TRCLEVEL>][::];

**Input Example** RTRV-TRC-OTU1:CISCO:VFAC-2-2-1:100::EXPTRC,TTI-PM;

| Input Parameters | Parameter | Description                                                                                                                                       |
|------------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------|
|                  | <SRC>     | The AR-MXP, AR-XP, and AR-XPE cards use the VFAC Access Identifier.                                                                               |
|                  | <MSGTYPE> | Type of autonomous message to be retrieved. A null value is equivalent to ALL. The parameter type is MSGTYPE, which is the type of trace message. |
|                  | • EXPTRC  | Expected incoming path trace message                                                                                                              |

|            |                                                                                                                                    |
|------------|------------------------------------------------------------------------------------------------------------------------------------|
| • INCTRC   | Incoming path trace message                                                                                                        |
| • TRC      | Outgoing path trace message                                                                                                        |
| <TRCLEVEL> | The trace level to be managed. A null value is equivalent to ALL. The parameter type is TRCLEVEL, which is the trace mode options. |
| • J0       | Identifies the NCS J0 section trace level.                                                                                         |
| • TTI-PM   | Identifies the TTI path monitoring point.                                                                                          |
| • TTI-SM   | Identifies the TTI section monitoring point.                                                                                       |

**Output Format**

SID DATE TIME

M CTAG COMPLD

```
"<CHANNEL>,<MOD>::[TRCLEVEL=<TRCLEVEL>],[EXPTRC=<EXPTRC>],
[TRC=<TRC>],[INCTRC=<INCTRC>],[TRCMODE=<TRCMODE>],
[TRCFORMAT=<TRCFORMAT>]"
;
```

**Output Example**

TID-000 1998-06-20 14:30:00

M 001 COMPLD

```
"VFAC-2-2-1,OTU1::TRCLEVEL=TTI-PM,EXPTRC=\"AAA\",TRC=\"AAA\",
INCTRC=\"AAA\",TRCMODE=MAN,TRCFORMAT=64-BYTE"
;
```

**Output Parameters****Table 23-173 Output Parameter Support**

| Parameter  | Description                                                                                                |
|------------|------------------------------------------------------------------------------------------------------------|
| <CHANNEL>  | Access identifier from the <a href="#">“27.7 CHANNEL”</a> section on page 27-12.                           |
| <MOD>      | Indicates an OTU AID type. The parameter type is MOD2, which is the line/path modifier.                    |
| • OTU1     | Optical Transport Unit Level 1                                                                             |
| • OTU2     | Optical Transport Unit Level 2                                                                             |
| • OTU3     | Optical Transport Unit Level 3                                                                             |
| • OTU4     | Optical Transport Unit Level 4                                                                             |
| <TRCLEVEL> | (Optional) The trace level to be managed. The parameter type is TRCLEVEL, which is the trace mode options. |
| • J0       | Identifies the NCS J0 section trace level.                                                                 |
| • TTI-PM   | Identifies the TTI path monitoring point.                                                                  |
| • TTI-SM   | Identifies the TTI section monitoring point.                                                               |
| <EXPTRC>   | (Optional) Expected path trace content. A 64 character ASCII string.                                       |

**Table 23-173**     **Output Parameter Support**

| Parameter     | Description                                                                                                                                                                                                                                                 |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <TRC>         | (Optional) The path trace message to be transmitted. The trace byte continuously transmits a 64 byte, fixed length ASCII string, one byte at a time. A null value defaults to the NE transmitting 62 null characters (hex 00), CR, and LF. TRC is a string. |
| <INCTRC>      | (Optional) The incoming path trace message contents. INCTRC is a string.                                                                                                                                                                                    |
| <TRCMODE>     | (Optional) Trace mode. The parameter type is TRCMODE (trace mode).                                                                                                                                                                                          |
| • AUTO        | Use the previously received path trace string as the expected string. Not applicable to MXP/TXP cards.                                                                                                                                                      |
| • AUTO-NO-AIS | Use the previously received path trace string as the expected string and do not turn on AIS and RDI if TIMP is detected.                                                                                                                                    |
| • MAN         | Use the provisioned expected string as the expected string.                                                                                                                                                                                                 |
| • MAN-NO-AIS  | Use the provisioned expected string as the expected string and do not turn on AIS and RDI if TIMP is detected.                                                                                                                                              |
| • OFF         | Turn off path trace capability. Nothing will be reported.                                                                                                                                                                                                   |
| <TRCFORMAT>   | (Optional) The size of the trace message. If in NCS mode, only 1 or 16 bytes is applicable for the J0 section trace. The TTI level trace is only 64 bytes. The parameter type is TRCFORMAT, which is the trace format.                                      |
| • 1-BYTE      | 1-byte trace message                                                                                                                                                                                                                                        |
| • 16-BYTE     | 16-byte trace message                                                                                                                                                                                                                                       |
| • 64-BYTE     | 64-byte trace message                                                                                                                                                                                                                                       |

## 23.160 RTRV-TUNNEL-FIREWALL

The Retrieve Tunnel Firewall (RTRV-TUNNEL-FIREWALL) command retrieves the contents of the firewall tunnel table.

**Usage Guidelines**     None

**Category**     System

**Security**     Retrieve

**Input Format**     RTRV-TUNNEL-FIREWALL:[<TID>]::<CTAG>;

**Input Example** RTRV-TUNNEL-FIREWALL:TID::CTAG;

**Input Parameters** None

**Output Format** SID DATE TIME  
M CTAG COMPLD  
“[SRC ADDR=<SRCADDR>],[SRC MASK=<SRCMASK>],[DEST ADDR=<DESTADDR>],  
[DEST MASK=<DESTMASK>]”  
;

**Output Example** TID-000 1998-06-20 14:30:00  
M 001 COMPLD  
“SRC ADDR=64.101.150.10,SRC MASK=255.255.255.0,DEST ADDR=64.101.144.7,  
DEST MASK=255.255.255.0”  
;

**Table 23-174** Output Parameter Support

| Parameter  | Description                                              |
|------------|----------------------------------------------------------|
| <SRCADDR>  | (Optional) Source IP address. SRCADDR is a string.       |
| <SRCMASK>  | (Optional) Source mask. SRCMASK is a string.             |
| <DESTADDR> | (Optional) Destination IP address. DESTADDR is a string. |
| <DESTMASK> | (Optional) Destination mask. DESTMASK is a string.       |

## 23.161 RTRV-TUNNEL-PROXY

The Retrieve Tunnel Proxy (RTRV-TUNNEL-PROXY) command retrieves the contents of the proxy tunnel table.

**Usage Guidelines** None

**Category** System

**Security** Retrieve

**Input Format** RTRV-TUNNEL-PROXY:[<TID>]::<CTAG>;

**Input Example** RTRV-TUNNEL-PROXY:TID::100;

|                         |                                                                                                                                                        |
|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Input Parameters</b> | None                                                                                                                                                   |
| <b>Output Format</b>    | SID DATE TIME<br>M CTAG COMPLD<br>“[SRC ADDR=<SRCADDR>],[SRC MASK=<SRCMASK>],[DEST ADDR=<DESTADDR>],<br>[DEST MASK=<DESTMASK>]”<br>;                   |
| <b>Output Example</b>   | TID-000 1998-06-20 14:30:00<br>M 001 COMPLD<br>“SRC ADDR=64.101.150.10,SRC MASK=255.255.255.0,DEST ADDR=64.101.144.7,<br>DEST MASK=255.255.255.0”<br>; |

**Table 23-175** Output Parameter Support

| Parameter  | Description                                              |
|------------|----------------------------------------------------------|
| <SRCADDR>  | (Optional) Source IP address. SRCADDR is a string.       |
| <SRCMASK>  | (Optional) Source mask. SRCMASK is a string.             |
| <DESTADDR> | (Optional) Destination IP address. DESTADDR is a string. |
| <DESTMASK> | (Optional) Destination mask. DESTMASK is a string.       |

## 23.162 RTRV-UNICFG

The Retrieve User Network Interface Configuration (RTRV-UNICFG) command retrieves the attributes and service parameters of the UNI configuration created.

|                         |                                                                                                                                                               |
|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Usage Guidelines</b> | <ul style="list-style-type: none"> <li>With the VALMODE parameter value as NONE, the VALZONE parameter is not applicable, and hence not displayed.</li> </ul> |
| <b>Category</b>         | NCS                                                                                                                                                           |
| <b>Security</b>         | Provisioning                                                                                                                                                  |
| <b>Input Format</b>     | RTRV-UNICFG:[<TID>]:<src>:<CTAG>::[:];                                                                                                                        |
| <b>Input Example</b>    | RTRV-UNICFG::LINE-2-3:1;                                                                                                                                      |



**Table 23-176 Input Parameter Support**

| Parameter | Description                                          |
|-----------|------------------------------------------------------|
| <SRC>     | Source AID from the “27.1 ALL” section on page 27-1. |

**Output Format**

SID DATE TIME  
M CTAG COMPLD

“<SRC>:<RVRSID>,<RSYSIP>,<RIFCIP>,<MSTPIP>,<COMMIP>,<VALMODE>,<VALZONE>,<DESCR>,<ADMINSTATE>,<RESTTYPE>,<CKTLABEL>,<UPSTRMPWR>,<DNSTRMPWR>”  
;

**Output Example**

TID-000 1998-06-20 14:30:00  
M 001 COMPLD

“LINE-2-1:LINE-4-3,10.11.12.13,14.15.16.17,18.19.20.21,22.23.24.25,VALMODE=FULL,VALZONE=GREEN,DESCR=CISCO,USPWROFS=0.0,DSPWROFS=2.0”  
;

**Table 23-177 Output Parameter Support**

| Parameter    | Description                                                            |
|--------------|------------------------------------------------------------------------|
| <SRC>        | Source AID from the “27.1 ALL” section on page 27-1.                   |
| <RVRSID>     | Destination AID from the “27.1 ALL” section on page 27-1.              |
| <RSYSIP>     | Remote system IP.                                                      |
| <RIFCIP>     | Remote interface IP.                                                   |
| <MSTPIP>     | MSTP interface IP.                                                     |
| <COMMIP>     | Communication IP.                                                      |
| <VALMODE>    | Identifies the validation mode.                                        |
| • NONE       | No optical validation is performed.                                    |
| • FULL       | The optical validation is performed as indicated in VALZONE parameter. |
| <VALZONE>    | Identifies the validation operate zone.                                |
| • UNKNOWN    | Not evaluated.                                                         |
| • GREEN      | Margin > 3 sigma.                                                      |
| • YELLOW     | 1 < margin < 3 sigma.                                                  |
| • ORANGE     | 0 < margin < 1 sigma.                                                  |
| • RED        | -3 < margin < 0 sigma.                                                 |
| • OUT        | Margin < -3 sigma.                                                     |
| <ADMINSTATE> | Identifies the adminstate is UP or DOWN.                               |
| • UP         | Indicates Adminstate is UP and UNI Services can be activated.          |
| • DOWN       | Indicates Adminstate is DOWN and UNI Services cannot be activated.     |
| <RESTTYPE>   | Identifies the restoration type on UNI configuration.                  |

|              |                                                                        |
|--------------|------------------------------------------------------------------------|
| <RIFCIP>     | Remote interface IP.                                                   |
| <MSTPIP>     | MSTP interface IP.                                                     |
| <COMMIP>     | Communication IP.                                                      |
| <VALMODE>    | Identifies the validation mode.                                        |
| • NONE       | No optical validation is performed.                                    |
| • FULL       | The optical validation is performed as indicated in VALZONE parameter. |
| <VALZONE>    | Identifies the validation operate zone.                                |
| • UNKNOWN    | Not evaluated.                                                         |
| • GREEN      | Margin > 3 sigma.                                                      |
| • YELLOW     | 1 < margin < 3 sigma.                                                  |
| • ORANGE     | 0 < margin < 1 sigma.                                                  |
| • RED        | -3 < margin < 0 sigma.                                                 |
| • OUT        | Margin < -3 sigma.                                                     |
| <ADMINSTATE> | Identifies the adminstate is UP or DOWN.                               |
| • UP         | Indicates Adminstate is UP and UNI Services can be activated.          |
| • -DOWN      | Indicates Adminstate is DOWN and UNI Services cannot be activated.     |
| <RESTTYPE>   | Identifies the restoration type on UNI configuration.                  |

## 23.163 RTRV-USER-SECU

The Retrieve User Security (RTRV-USER-SECU) command retrieves the security information of a specified user or list of users. The keyword ALL can be used to obtain a list of all users. For security reasons, the password cannot be retrieved.

### Usage Guidelines

- A Superuser can retrieve any user's security information. A user with MAINT, PROV, or RTRV privileges can only retrieve their own information.
- When using the keyword ALL, all users created for the system are displayed. This includes users created outside of the TL1 environment as well. Users displayed through the RTRV-USER-SECU command, these users shall also be able to log into the TL1 environment.

**Category** Security

**Security** Retrieve



**Note**

Maintenance, Provisioning, and Retrieve users can retrieve their own information only.

**Input Format** RTRV-USER-SECU:[<TID>]:<UID>:<CTAG>;

**Input Example** RTRV-USER-SECU::CISCO15:1;

**Input Parameters**

|       |                                                                                                                                                        |
|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| <UID> | User identifier. The user ID or the keyword ALL. If you are not a Superuser, you can only specify your own user ID. Must not be null. UID is a string. |
|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------|

**Output Format**

```

SID DATE TIME
M CTAG COMPLD
"<UID>:,<PRIVILEGE>:LOGGEDIN=<LOGGEDIN>,[NUMSESSIONS=<NUMSESS>],
[LOCKEDOUT=<LOCKEDOUT>],[DISABLED=<DISABLED>]"
;
```

**Output Example**

```

TID-000 1998-06-20 14:30:00
M 001 COMPLD
"CISCO15:.,SUPER:LOGGEDIN=YES,NUMSESSIONS=1,LOCKEDOUT=NO,DISABLED=NO"
;
```

**Table 23-178** Output Parameter Support

| Parameter   | Description                                                                                                                                                                                                      |
|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <UID>       | User identifier. The user ID that was retrieved. UID is a string.                                                                                                                                                |
| <PRIVILEGE> | The privilege level of the user. The parameter type is PRIVILEGE, which is the security level.                                                                                                                   |
| • MAINT     | Maintenance security level. 60 minutes of idle time.                                                                                                                                                             |
| • PROV      | Provision security level. 30 minutes of idle time.                                                                                                                                                               |
| • RTRV      | Retrieve security level. Unlimited idle time.                                                                                                                                                                    |
| • SUPER     | Superuser security level. 15 minutes of idle time.                                                                                                                                                               |
| • ROOT_USER | Root user.                                                                                                                                                                                                       |
| • SEC_SUPER | Security super user.                                                                                                                                                                                             |
| • SEC_USER  | Security user.                                                                                                                                                                                                   |
| <LOGGEDIN>  | Indicates if the user is logged in to the NE. The parameter type is YES_NO, which indicates whether the user's password is about to expire, the user is logged into the NE, or the user is locked out of the NE. |

**Table 23-178 Output Parameter Support**

| Parameter   | Description                                                                                                                                                                                                                  |
|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| • NO        | No                                                                                                                                                                                                                           |
| • YES       | Yes                                                                                                                                                                                                                          |
| <NUMSESS>   | (Optional) The number of times the user is logged into the NE. NUMSESS is an integer.                                                                                                                                        |
| <LOCKEDOUT> | (Optional) Indicates if the user is locked out of the NE. The parameter type is YES_NO, which indicates whether the user's password is about to expire, the user is logged into the NE, or the user is locked out of the NE. |
| • NO        | No                                                                                                                                                                                                                           |
| • YES       | Yes                                                                                                                                                                                                                          |
| <DISABLED>  | (Optional) Indicates if the user is disabled. The parameter type is YES_NO, which indicates whether the user's password is about to expire, the user is logged into the NE, or the user is locked out of the NE.             |
| • NO        | No                                                                                                                                                                                                                           |
| • YES       | Yes                                                                                                                                                                                                                          |

## 23.164 RTRV-VCG

The Retrieve Virtual Concatenated Group (RTRV-VCG) command retrieves all the attributes provisioned for a VCG.

**Usage Guidelines** None

**Category** VCAT

**Security** Retrieve

**Input Format** RTRV-VCG:[<TID>]:<SRC>:<CTAG>[:];

**Input Example** RTRV-VCG:NODE1:VFAC-1-1:1234;

**Input Parameters**

|       |                                                                                                                                                                               |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <SRC> | Source access identifier from the “ <a href="#">27.15 FACILITY</a> ” section on page 27-23. ML1000-2 and ML100T-12 cards use the VFAC AID. The FC_MR-4 card uses the FAC AID. |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Output Format**

```

SID DATE TIME
M CTAG COMPLD
"<SRC>::TYPE=<TYPE>,TXCOUNT=<TXCOUNT>,CCT=<CCT>,[LCAS=<LCAS>],
[BUFFERS=<BUFFERS>],[NAME=<NAME>]:<PST>"
;

```

**Output Example**

```

TID-000 1998-06-20 14:30:00
M 001 COMPLD
"VFAC-1-1::TYPE=VC3,TXCOUNT=8,CCT=2WAY,LCAS=LCAS,BUFFERS=DEFAULT,
NAME="VCG2":UNLOCKED"
;

```

**Table 23-179 Output Parameter Support**

| Parameter | Description                                                                                                                                                                                                                                                                                                         |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <SRC>     | Source access identifier from the <a href="#">“27.15 FACILITY”</a> section on page 27-23. ML1000-2 and ML100T-12 cards use the VFAC AID. The FC_MR-4 card uses the FAC AID.                                                                                                                                         |
| <TYPE>    | The type of the entity being provisioned. Null indicates not applicable. TYPE can be a CLEI code or another value. The type of member cross-connect. ML1000-2 and ML100T-12 cards support VC3, VC4C, and VC44C. The FC_MR-4 card supports VC4C only. The parameter type is MOD_PATH, which is the VC path modifier. |
| • VC3     | VC3 Path                                                                                                                                                                                                                                                                                                            |
| • VC44C   | VC4-4C Path                                                                                                                                                                                                                                                                                                         |
| • VC38C   | VC3-8C Path                                                                                                                                                                                                                                                                                                         |
| • VC464C  | VC4-64C Path                                                                                                                                                                                                                                                                                                        |
| • VC48C   | VC4-8C Path                                                                                                                                                                                                                                                                                                         |
| • VC4     | VC4 Path                                                                                                                                                                                                                                                                                                            |
| • VC416C  | VC4-16C Path                                                                                                                                                                                                                                                                                                        |
| • VC42C   | VC4-2C Path                                                                                                                                                                                                                                                                                                         |
| • VC43C   | VC4-3C Path                                                                                                                                                                                                                                                                                                         |
| • VC11    | VC11 Path                                                                                                                                                                                                                                                                                                           |
| • VC12    | VC12 Path                                                                                                                                                                                                                                                                                                           |
| <TXCOUNT> | Number of VCG members in the transmit direction. For ML1000-2 and ML100T-12 cards, the only valid value is 2. For the FC_MR-4 card, the only valid value is 8. TXCOUNT is an integer.                                                                                                                               |
| <CCT>     | Type of connection: one-way or two-way. Cross-connect type for the VCG member cross-connects. The parameter type is CCT, which is the type of cross-connect to be created.                                                                                                                                          |
| • 1WAY    | A unidirectional connection from a source tributary to a destination tributary.                                                                                                                                                                                                                                     |
| • 1WAYDC  | SNCP multicast drop (1-way continue)                                                                                                                                                                                                                                                                                |
| • 1WAYEN  | SNCP multicast end node (1-way continue)                                                                                                                                                                                                                                                                            |
| • 1WAYMON | A bidirectional connection between the two tributaries<br><br><b>Note</b> 1WAYMON is not supported with TL1. However, it is still supported from CTC. Using CTC, you can create 1WAYMON cross-connects that can be retrieved through TL1.                                                                           |

**Table 23-179 Output Parameter Support**

| Parameter  | Description                                                                                                                                                                                                                                |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| • 1WAYPCA  | A unidirectional connection from a source tributary to a destination tributary on the protection path/fiber                                                                                                                                |
| • 2WAY     | A bidirectional connection between the two tributaries                                                                                                                                                                                     |
| • 2WAYDC   | A bidirectional drop and continue connection applicable only to SNCP traditional and integrated DRIs                                                                                                                                       |
| • 2WAYPCA  | A bidirectional connection between the two tributaries on the extra protection path/fiber                                                                                                                                                  |
| • DIAG     | Diagnostics cross-connect. Supports BERT (MS-SPRing PCA diagnostics cross-connect).                                                                                                                                                        |
| <LCAS>     | (Optional) Link capacity adjustment scheme. The parameter type is LCAS, which is the link capacity adjustment scheme mode for the VCG created.                                                                                             |
| • LCAS     | LCAS is enabled.                                                                                                                                                                                                                           |
| • NONE     | No LCAS.                                                                                                                                                                                                                                   |
| • SW-LCAS  | Supports the temporary removal of a VCG member during the member failure. Only supported by the ML1000-2 and ML100T-12 cards.                                                                                                              |
| <BUFFERS>  | (Optional) Buffer type. The default value is DEFAULT. The FC_MR-4 card supports DEFAULT and EXPANDED buffers. Other data cards support DEFAULT buffers only. The parameter type is BUFFER_TYPE, which is the buffer type used in the VCAT. |
| • DEFAULT  | Default buffer value                                                                                                                                                                                                                       |
| • EXPANDED | Expanded buffer value                                                                                                                                                                                                                      |
| <NAME>     | (Optional) Name of the VCAT group. NAME is a string.                                                                                                                                                                                       |
| <PST>      | Primary state. The parameter type is PST, which indicates the current overall service condition of an entity.                                                                                                                              |
| • Unlocked | In service                                                                                                                                                                                                                                 |
| • Locked   | Out of service                                                                                                                                                                                                                             |

## 23.165 RTRV-VLAN

The Retrieve Virtual LAN (RTRV-VLAN) command retrieves a virtual LAN entry from the VLAN database. The VLAN database is a collection of VLANs used in an NE.

### Usage Guidelines

If the AID is invalid, an IIAC (Invalid AID) error message is returned.

### Category

Ethernet

### Security

Retrieve

### Input Format

RTRV-VLAN:[<TID>]:<AID>:<CTAG>[:];

**Input Example**

```
RTRV-VLAN:ROCKS:VLAN-4096:1;
```

**Input Parameters**

|                 |                                                                        |
|-----------------|------------------------------------------------------------------------|
| <AID>           | The AID is used to access the VLAN.                                    |
| • VLAN-{0-4096} | The AID for a single VLAN. The value 0 is reserved for untagged VLANs. |

**Output Format**

```
SID DATE TIME
M CTAG COMPLD
"<AID>::[NAME=<NAME>],[PROTN=<PROTN>][MACLEARNING=<MACLEARNING>],[IGMP
ENABLE=<IGMPENABLE>],[IGMPFASTLEAVE=<IGMPFASTLEAVE>],[IGMPSUPP=<IGMPSU
PP>][:]"
;
```

**Output Example**

```
TID-000 1998-06-20 14:30:00
M 001 COMPLD
"VLAN-4096::NAME="MYVLAN",PROTN=Y,MACLEARNING=Y,
IGMPENABLE=Y,IGMPFASTLEAVE=Y,IGMPSUPP=Y"
;
```

**Table 23-180 Output Parameter Support**

| Parameter       | Description                                                                                                                                                           |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <AID>           | The AID is used to access the VLAN.                                                                                                                                   |
| • VLAN-{0-4096} | The AID for a single VLAN. The value 0 is reserved for untagged VLANs.                                                                                                |
| <NAME>          | Indicates the VLAN name.                                                                                                                                              |
| <PROTN>         | Indicates the VLAN protection (enabled or disabled).                                                                                                                  |
| • Y             | VLAN protection is enabled.                                                                                                                                           |
| • N             | (Default) VLAN protection is disabled.                                                                                                                                |
| <MACLEARNING>   | MAC Address Learning Mode. This activates the MAC address learning on interface to avoid packet broadcasting. Default value is - "N"                                  |
| • Y             | Activate the MAC learning.                                                                                                                                            |
| • N             | Disable MAC learning.                                                                                                                                                 |
| <IGMPENABLE>    | Internet Group Management Protocol status.                                                                                                                            |
| • Y             | Enabled                                                                                                                                                               |
| • N             | Disabled                                                                                                                                                              |
| <IGMPFASTLEAVE> | Internet Group Management Protocol FastLeave status. When enabled, decreases the delay between receiving a Leave Group packet and disabling forwarding of multicast   |
| • Y             | Enabled                                                                                                                                                               |
| • N             | Disabled                                                                                                                                                              |
| <IGMPSUPP>      | IGMP Report suppression. Indicates multicast registered client hiding. When enabled (default) it prevents duplicate reports from being sent to the multicast devices. |

**Table 23-180 Output Parameter Support**

| Parameter | Description |
|-----------|-------------|
| • Y       | Enabled     |
| • N       | Disabled    |

## 23.166 RTRV-VLAN-ETH

The VLAN attributes on a L2 ethernet port command retrieves the VLAN Profile associated to the L2 Ethernet port - VLAN.

It also retrieves the alarm status of a VLAN associated to a L2 ethernet port and the Multicast MAC address list.

### Usage Guidelines

This command accept the ALL AID.

### Category

ETHERNET

### Security

Retrieve

### Input Format

RTRV-VLAN-ETH[:<TID>]:<AID>:<CTAG>[:<VLAN\_ID>],[<VLAN\_TYPE>][:];

### Input Example

RTRV-VLAN-ETH:TID:ETH-1-1-1:CTAG::110;

### Input Parameters

**Table 23-181 Parameter Support**

| Parameter                           | Description                                                                                                   |
|-------------------------------------|---------------------------------------------------------------------------------------------------------------|
| <AID>                               | Ethernet aids used to access L2 Ethernet ports.                                                               |
| • ALL                               | The ALL aid is applicable for RTRV-only commands, basically the RTRV-rr type of commands.                     |
| • ETH[-{1-50}]-{1-5,12-16}-{1-22}-1 | Facility aid for GE-XP card.                                                                                  |
| • ETH[-{1-50}]-{1-6,12-17}-{1-4}-1  | Facility aid for 10GE-XP card.                                                                                |
| <VLAN_ID>                           | The VLAN identifier. A VLAN ID is a number in the range 1..4096. The value of 0 is reserved to UNTAGged VLAN. |
| VLAN_TYPE                           | Specifies the type of VLAN.                                                                                   |



**Table 23-181 Parameter Support**

| Parameter | Description            |
|-----------|------------------------|
| • SVLAN   | Service provider VLAN. |
| • CVLAN   | Customer VLAN.         |

**Output Format**

```

SID DATE TIME
M CTAG COMPLD
"<AID>:<VLANID>,<VLANTYPE>:[<ALM>],[<ALMDAT>],[<ALMTM>],[<BWP>],[<IGMPIP>]:
"
;

```

**Output Example**

```

TID-000 1998-06-20 14:30:00
M 001 COMPLD
"ETH-1-1-1:110:ALM=VLAN-AIS,ALMDAT=08-07,ALMTM=16-38-57,BWP=23:";
;

```

**Output Parameters****Table 23-182 Parameter Support**

| Parameter                         | Description                                                                                                           |
|-----------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| <AID>                             | Ethernet aids used to access L2 Ethernet ports.                                                                       |
| ALL                               | The ALL aid is applicable for RTRV-only commands, basically the RTRV-rr type of commands.                             |
| • ETH[-{1-50}]{1-5,12-16}{1-22}-1 | Facility aid for GE-XP card.]                                                                                         |
| • ETH[-{1-50}]{1-6,12-17}{1-4}-1  | Facility aid for 10GE-XP card.                                                                                        |
| <VLANID>                          | This is the VLAN identifier. A VLAN ID is a number in the range 1..4096. The value of 0 is reserved to UNTAGged VLAN. |
| VLAN_TYPE                         | Specifies the type of VLAN.                                                                                           |
| • SVLAN                           | Service provider VLAN.                                                                                                |
| • CVLAN                           | Customer VLAN.                                                                                                        |
| <ALM>                             | This is used to represent the Vlan alarm status                                                                       |
| • VLAN-AIS                        | Alarm condition indicating Vlan is lost                                                                               |
| <ALMDAT>                          | Identifies the date. Date is a String. Default value is - "current date"                                              |
| <ALMTM>                           | Identifies the time. Time is a String. Default value is - "current time"                                              |

**Table 23-182 Parameter Support**

| Parameter | Description                                                                                                                                                                      |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <BWP>     | This is the BWP identifier. A BWP ID is a number in the range 0..10000. The value of 0 is reserved for the default profile that cannot be edited or delete. - Default value is 0 |
| <IGMPIP>  | IGMP IP address. This is the Multicast IP address indicating the IGMP group activated on a L2 Ethernet port to provide multicast stream through a specific S-Vlan.               |

## 23.167 RTRV-VLB-REP

The Retrieve VLAN Load Balancing Resilient Ethernet Protocol (RTRV-VLB-REP) command retrieves the VLAN Load Balancing (VLB) for REP Segment on the ethernet ports.

### Usage Guidelines

- REP must be configured on the ethernet port.
- This command is applicable only to GE\_XP and 10GE\_XP cards.

### Category

Ethernet

### Security

Retrieve

### Input Format

RTRV-VLB-REP:[<TID>]:<AID>:<CTAG>[:::];

### Input Example

RTRV-VLB-REP:CISCO:ETH-16-2-1:1;

### Input Parameters

| Input Parameters | Description                                                                         |
|------------------|-------------------------------------------------------------------------------------|
| <AID>            | Access identifier from the <a href="#">“27.15 FACILITY” section on page 27-23</a> . |

### Output Format

SID DATE TIME  
M CTAG COMPLD  
“<AID>::[VLBENABLED=<VLBENABLED>],[VLANRANGE=<VLANRANGE>],  
[REPPORTID=<REPPORTID>],[PREFERRED=<PREFERRED>]”  
;

**Output Example**

```
SID DATE TIME
M CTAG COMPLD
"ETH-16-2-1::VLBENABLED=Y,VLANRANGE=1010-1024&1010-1025,
REPPORTID=0X0134A543456785A8,PREFERRED=N"
;
```

**Output Parameters**

| Input Parameters | Description                                                                                             |
|------------------|---------------------------------------------------------------------------------------------------------|
| <AID>            | Access identifier from the <a href="#">“27.15 FACILITY” section on page 27-23</a> .                     |
| <VLBENABLED>     | Enables or disables the segment topology notification on ethernet entity for REP.                       |
| • Y              | Enables STCN on the ethernet port.                                                                      |
| • N              | Disables STCN on the ethernet port.                                                                     |
| <VLBOPERATION>   | Adds or removes the range for STCN notification.                                                        |
| • ADD            | Adds the range to a list of segment ranges for STCN notification.                                       |
| • REMOVE         | Removes the range from a list of segment ranges for STCN notification.                                  |
| <VLANRANGESTART> | Indicates the VLAN range start value for VLB on REP. The valid range is 0 to 1024.                      |
| <VLANRANGEEND>   | Indicates the VLAN range end value for VLB on REP. The valid range is from 0 to 1024.                   |
| <PREFERRED>      | Indicates that the port is the preferred alternate port. Or the preferred port for VLAN load balancing. |
| • Y              | Yes                                                                                                     |
| • N              | No                                                                                                      |
| <REPPORTID>      | Determines the REP port to trigger VLB.                                                                 |

## 23.168 RTRV-WDMANS

The Retrieve Wavelength Division Multiplexing Automatic Node Setup (RTRV-WDMANS) command retrieves the automatic optical node setup application attributes.

**Usage Guidelines**

None

**Category**

NCS

**Security**

Maintenance

**Input Format**

RTRV-WDMANS:[&lt;TID&gt;]:&lt;AID&gt;:&lt;CTAG&gt;:[&lt;WLEN&gt;];;

**Input Example** RTRV-WDMANS::LINE-1-13-2-TX:77::1530.33;

**Input Parameters**

|           |                                                                                              |
|-----------|----------------------------------------------------------------------------------------------|
| <AID>     | The AID is used to access the WDM node or a single port of the NCS node.                     |
| • WDMNODE | Indicates the WDM node of an MSTP and accesses the NTWTYPE and DITHERWDMANS node parameters. |
| • LINE    | The optical transport section port.                                                          |
| • BAND    | The optical multiplex section port.                                                          |
| • CHAN    | The optical channel port.                                                                    |
| <WLEN>    | (Optional) The parameter type is OPTICAL_WLEN, which indicates the optical wavelength.       |
| • 1310    | Wavelength 1310                                                                              |
| • 1470    | Wavelength 1470                                                                              |
| • 1490    | Wavelength 1490                                                                              |
| • 1510    | Wavelength 1510                                                                              |
| • 1528.77 | Wavelength 1528.77                                                                           |
| • 1529.16 | Wavelength 1529.16                                                                           |
| • 1529.55 | Wavelength 1529.55                                                                           |
| • 1529.94 | Wavelength 1529.94                                                                           |
| • 1530    | Wavelength 1530                                                                              |
| • 1530.33 | Wavelength 1530.33                                                                           |
| • 1530.73 | Wavelength 1530.73                                                                           |
| • 1531.12 | Wavelength 1531.12                                                                           |
| • 1531.51 | Wavelength 1531.51                                                                           |
| • 1531.90 | Wavelength 1531.90                                                                           |
| • 1532.29 | Wavelength 1532.29                                                                           |
| • 1532.68 | Wavelength 1532.68                                                                           |
| • 1533.07 | Wavelength 1533.07                                                                           |
| • 1533.47 | Wavelength 1533.47                                                                           |
| • 1533.86 | Wavelength 1533.86                                                                           |
| • 1534.25 | Wavelength 1534.25                                                                           |
| • 1534.64 | Wavelength 1534.64                                                                           |
| • 1535.04 | Wavelength 1535.04                                                                           |
| • 1535.43 | Wavelength 1535.43                                                                           |
| • 1535.82 | Wavelength 1535.82                                                                           |
| • 1536.22 | Wavelength 1536.22                                                                           |
| • 1536.61 | Wavelength 1536.61                                                                           |
| • 1537    | Wavelength 1537                                                                              |
| • 1537.40 | Wavelength 1537.40                                                                           |
| • 1537.79 | Wavelength 1537.79                                                                           |
| • 1538.19 | Wavelength 1538.19                                                                           |

|           |                    |
|-----------|--------------------|
| • 1538.58 | Wavelength 1538.58 |
| • 1538.98 | Wavelength 1538.98 |
| • 1539.37 | Wavelength 1539.37 |
| • 1539.77 | Wavelength 1539.77 |
| • 1540.16 | Wavelength 1540.16 |
| • 1540.56 | Wavelength 1540.56 |
| • 1540.95 | Wavelength 1540.95 |
| • 1541.35 | Wavelength 1541.35 |
| • 1541.75 | Wavelength 1541.75 |
| • 1542.14 | Wavelength 1542.14 |
| • 1542.35 | Wavelength 1542.35 |
| • 1542.54 | Wavelength 1542.54 |
| • 1542.94 | Wavelength 1542.94 |
| • 1543.33 | Wavelength 1543.33 |
| • 1543.73 | Wavelength 1543.73 |
| • 1544.13 | Wavelength 1544.13 |
| • 1544.53 | Wavelength 1544.53 |
| • 1544.92 | Wavelength 1544.92 |
| • 1545.32 | Wavelength 1545.32 |
| • 1545.72 | Wavelength 1545.72 |
| • 1546.12 | Wavelength 1546.12 |
| • 1546.52 | Wavelength 1546.52 |
| • 1546.92 | Wavelength 1546.92 |
| • 1547.32 | Wavelength 1547.32 |
| • 1547.72 | Wavelength 1547.72 |
| • 1548.12 | Wavelength 1548.12 |
| • 1548.51 | Wavelength 1548.51 |
| • 1548.92 | Wavelength 1548.92 |
| • 1549.32 | Wavelength 1549.32 |
| • 1549.71 | Wavelength 1549.71 |
| • 1550    | Wavelength 1500    |
| • 1550.12 | Wavelength 1550.12 |
| • 1550.52 | Wavelength 1550.52 |
| • 1550.92 | Wavelength 1550.92 |
| • 1551.32 | Wavelength 1551.32 |
| • 1551.72 | Wavelength 1551.72 |
| • 1552.12 | Wavelength 1552.12 |
| • 1552.52 | Wavelength 1552.52 |
| • 1552.93 | Wavelength 1552.93 |
| • 1553.33 | Wavelength 1553.33 |
| • 1553.73 | Wavelength 1553.73 |

|           |                    |
|-----------|--------------------|
| • 1554.13 | Wavelength 1554.13 |
| • 1554.13 | Wavelength 1554.13 |
| • 1554.94 | Wavelength 1554.94 |
| • 1555.34 | Wavelength 1555.34 |
| • 1555.75 | Wavelength 1555.75 |
| • 1556.15 | Wavelength 1556.15 |
| • 1556.55 | Wavelength 1556.55 |
| • 1556.96 | Wavelength 1556.96 |
| • 1557.36 | Wavelength 1557.36 |
| • 1557.77 | Wavelength 1557.77 |
| • 1558.17 | Wavelength 1558.17 |
| • 1558.58 | Wavelength 1558.58 |
| • 1558.98 | Wavelength 1558.98 |
| • 1559.39 | Wavelength 1559.39 |
| • 1559.79 | Wavelength 1559.79 |
| • 1560.20 | Wavelength 1560.20 |
| • 1560.61 | Wavelength 1560.61 |
| • 1561.01 | Wavelength 1561.01 |
| • 1561.42 | Wavelength 1561.42 |
| • 1561.83 | Wavelength 1561.83 |
| • 1562.23 | Wavelength 1562.23 |
| • 1562.64 | Wavelength 1562.64 |
| • 1563.05 | Wavelength 1563.05 |
| • 1563.45 | Wavelength 1563.45 |
| • 1563.86 | Wavelength 1563.86 |
| • 1564.27 | Wavelength 1564.27 |
| • 1564.68 | Wavelength 1564.68 |
| • 1565.09 | Wavelength 1565.09 |
| • 1565.50 | Wavelength 1565.50 |
| • 1565.90 | Wavelength 1565.90 |
| • 1566.31 | Wavelength 1566.31 |
| • 1566.72 | Wavelength 1566.72 |
| • 1570    | Wavelength 1570    |
| • 1570.83 | Wavelength 1570.83 |
| • 1571.24 | Wavelength 1571.24 |
| • 1571.65 | Wavelength 1571.65 |
| • 1572.06 | Wavelength 1572.06 |
| • 1572.48 | Wavelength 1572.48 |
| • 1572.89 | Wavelength 1572.89 |
| • 1573.30 | Wavelength 1573.30 |
| • 1573.71 | Wavelength 1573.71 |

|           |                    |
|-----------|--------------------|
| • 1574.13 | Wavelength 1574.13 |
| • 1574.54 | Wavelength 1574.54 |
| • 1574.95 | Wavelength 1574.95 |
| • 1575.37 | Wavelength 1575.37 |
| • 1575.78 | Wavelength 1575.78 |
| • 1576.20 | Wavelength 1576.20 |
| • 1576.61 | Wavelength 1576.61 |
| • 1577.03 | Wavelength 1577.03 |
| • 1577.44 | Wavelength 1577.44 |
| • 1577.86 | Wavelength 1577.86 |
| • 1578.27 | Wavelength 1578.27 |
| • 1578.69 | Wavelength 1578.69 |
| • 1579.10 | Wavelength 1579.10 |
| • 1579.52 | Wavelength 1579.52 |
| • 1579.93 | Wavelength 1579.93 |
| • 1580.35 | Wavelength 1580.35 |
| • 1580.77 | Wavelength 1580.77 |
| • 1581.18 | Wavelength 1581.18 |
| • 1581.60 | Wavelength 1581.60 |
| • 1582.02 | Wavelength 1582.02 |
| • 1582.44 | Wavelength 1582.44 |
| • 1582.85 | Wavelength 1582.85 |
| • 1583.27 | Wavelength 1583.27 |
| • 1583.69 | Wavelength 1583.69 |
| • 1584.11 | Wavelength 1584.11 |
| • 1584.53 | Wavelength 1584.53 |
| • 1584.95 | Wavelength 1584.95 |
| • 1585.36 | Wavelength 1585.36 |
| • 1585.78 | Wavelength 1585.78 |
| • 1586.20 | Wavelength 1586.20 |
| • 1586.62 | Wavelength 1586.62 |
| • 1587.04 | Wavelength 1587.04 |
| • 1587.46 | Wavelength 1587.46 |
| • 1587.88 | Wavelength 1587.88 |
| • 1588.30 | Wavelength 1588.30 |
| • 1588.73 | Wavelength 1588.73 |
| • 1589.15 | Wavelength 1589.15 |
| • 1589.57 | Wavelength 1589.57 |
| • 1589.99 | Wavelength 1589.99 |
| • 1590    | Wavelength 1590    |
| • 1590.41 | Wavelength 1590.41 |

|           |                    |
|-----------|--------------------|
| • 1590.83 | Wavelength 1590.83 |
| • 1591.26 | Wavelength 1591.26 |
| • 1591.68 | Wavelength 1591.68 |
| • 1592.10 | Wavelength 1592.10 |
| • 1592.52 | Wavelength 1592.52 |
| • 1592.95 | Wavelength 1592.95 |
| • 1593.37 | Wavelength 1593.37 |
| • 1593.79 | Wavelength 1593.79 |
| • 1594.22 | Wavelength 1594.22 |
| • 1594.64 | Wavelength 1594.64 |
| • 1595.06 | Wavelength 1595.06 |
| • 1595.49 | Wavelength 1595.49 |
| • 1596.34 | Wavelength 1596.34 |
| • 1596.76 | Wavelength 1596.76 |
| • 1597.19 | Wavelength 1597.19 |
| • 1597.62 | Wavelength 1597.62 |
| • 1598.04 | Wavelength 1598.04 |
| • 1598.47 | Wavelength 1598.47 |
| • 1598.89 | Wavelength 1598.89 |
| • 1599.32 | Wavelength 1599.32 |
| • 1599.75 | Wavelength 1599.75 |
| • 1600.06 | Wavelength 1600.06 |
| • 1601.03 | Wavelength 1601.03 |
| • 1601.46 | Wavelength 1601.46 |
| • 1601.88 | Wavelength 1601.88 |
| • 1602.31 | Wavelength 1602.31 |
| • 1602.74 | Wavelength 1602.74 |
| • 1603.17 | Wavelength 1603.17 |
| • 1603.60 | Wavelength 1603.60 |
| • 1604.03 | Wavelength 1604.03 |
| • 1610    | Wavelength 1610    |

**Output Format**

(For legacy package)

SID DATE TIME

M CTAG COMPLD

```

"<AID>:[<WLEN>]:[VOAATTN=<VOAATTN>],[VOAATTNFLG=<VOAATTNFLG>],[POWEROSC=<POWEROSC>],[POWEROSCFLG=<POWEROSCFLG>],[NTWTYPE=<NTWTYPE>],[NTWTYPEFLG=<NTWTYPEFLG>],[CHLOSS=<CHLOSS>],[CHLOSSFLG=<CHLOSSFLG>],[GAIN=<GAIN>],[GAINFLG=<GAINFLG>],[TILT=<TILT>],[TILTFLG=<TILTFLG>],[CHPWR=<CHPWR>],[CHPWRFLG=<CHPWRFLG>],[AMPLMODE=<AMPLMODE>],[AMPLMODEFLG=<AMPLMODEFLG>],[RATIO=<RATIO>],[RATIOFLG=<RATIOFLG>],[OSCLOSS=<OSCLOSS>],[OSCLOSSFLG=<OSCLOSSFLG>],[OPTICALNODETYPE=<OPTICALNODETYPE>],[DITHER=<DITHER>],[DITHERFLG=<DITHERFLG>],[TOTALPWR=<TOTALPWR>],[TOTALPWRFLG=<TOTALPWRFLG>]

```



```
>],[HIGHSLVEXP=<HIGHSLVEXP>],[HIGHSLVEXPFLG=<HIGHSLVEXPFLG>],[LOWSLVEXP=
<LOWSLVEXP>],[LOWSLVEXPFLG=<LOWSLVEXPFLG>],[TOTALPWRDBM=<TOTALPWRDB
M>],[LASTRUNDAT=<LASTRUNDAT>],[LASTRUNTM=<LASTRUNTM>][:]";
```

(For flex package)

SID DATE TIME

M CTAG COMPLD

```
"<AID>:[<WLEN>]:[VOAATTN=<VOAATTN>],[VOAATTNFLG=<VOAATTNFLG>],[POWEROS
C=<POWEROSC>],[POWEROSCFLG=<POWEROSCFLG>],[NTWTYPE=<NTWTYPE>],[NTWTY
PEFLG=<NTWTYPEFLG>],[CHLOSS=<CHLOSS>],[CHLOSSFLG=<CHLOSSFLG>],[GAIN=<GA
IN>],[GAINFLG=<GAINFLG>],[TILT=<TILT>],[TILTFLG=<TILTFLG>],[CHPWR=<CHPWR>],[C
HPWRFLG=<CHPWRFLG>],[AMPLMODE=<AMPLMODE>],[AMPLMODEFLG=<AMPLMODEFL
G>],[RATIO=<RATIO>],[RATIOFLG=<RATIOFLG>],[OSCLOSS=<OSCLOSS>],[OSCLOSSFLG
=<OSCLOSSFLG>],[OPTICALNODETYPE=<OPTICALNODETYPE>],[DITHER=<DITHER>],[DI
THERFLG=<DITHERFLG>],[TOTALPWR=<TOTALPWR>],[TOTALPWRFLG=<TOTALPWRFLG
>],[HIGHSLVEXP=<HIGHSLVEXP>],[HIGHSLVEXPFLG=<HIGHSLVEXPFLG>],[LOWSLVEXP=
<LOWSLVEXP>],[LOWSLVEXPFLG=<LOWSLVEXPFLG>],[TOTALPWRDBM=<TOTALPWRDB
M>],[CHPWROFFSET],[CHPWROFFSETFLG],[ENABLELOGO],[ENABLELOGOFLG
],[LASTRUNDAT=<LASTRUNDAT>],[LASTRUNTM=<LASTRUNTM>][:]";
```

### Output Example

TID-000 1998-06-20 14:30:00

M 001 COMPLD

CHAN-1-13-1-TX::CHPWR=-14.1,CHPWRFLG=PROV,

"WDMNODE::NTWTYPE=METRO-CORE,NTWTYPEFLG=DFLT,OPTICALNODETYPE=OADM,  
LASTRUNDAT=2009-09-03,LASTRUNTM=11-52-18,:"

### Output Parameters

|           |                                                                                               |
|-----------|-----------------------------------------------------------------------------------------------|
| <AID>     | The AID is used to access the WDM node or a single port of the NCS node.                      |
| • WDMNODE | Indicates the WDM node of an MSTP and accesses the NTWTYPE and DITHER WDMANS node parameters. |
| • LINE    | The optical transport section port.                                                           |
| • BAND    | The optical multiplex section port.                                                           |
| • CHAN    | The optical channel port.                                                                     |
| <WLEN>    | (Optional) The parameter type is OPTICAL_WLEN, which indicates the optical wavelength.        |
| • 1310    | Wavelength 1310                                                                               |
| • 1470    | Wavelength 1470                                                                               |
| • 1490    | Wavelength 1490                                                                               |
| • 1510    | Wavelength 1510                                                                               |
| • 1528.77 | Wavelength 1528.77                                                                            |
| • 1529.16 | Wavelength 1529.16                                                                            |
| • 1529.55 | Wavelength 1529.55                                                                            |
| • 1529.94 | Wavelength 1529.94                                                                            |
| • 1530    | Wavelength 1530                                                                               |

|           |                    |
|-----------|--------------------|
| • 1530.33 | Wavelength 1530.33 |
| • 1530.73 | Wavelength 1530.73 |
| • 1531.12 | Wavelength 1531.12 |
| • 1531.51 | Wavelength 1531.51 |
| • 1531.90 | Wavelength 1531.90 |
| • 1532.29 | Wavelength 1532.29 |
| • 1532.68 | Wavelength 1532.68 |
| • 1533.07 | Wavelength 1533.07 |
| • 1533.47 | Wavelength 1533.47 |
| • 1533.86 | Wavelength 1533.86 |
| • 1534.25 | Wavelength 1534.25 |
| • 1534.64 | Wavelength 1534.64 |
| • 1535.04 | Wavelength 1535.04 |
| • 1535.43 | Wavelength 1535.43 |
| • 1535.82 | Wavelength 1535.82 |
| • 1536.22 | Wavelength 1536.22 |
| • 1536.61 | Wavelength 1536.61 |
| • 1537    | Wavelength 1537    |
| • 1537.40 | Wavelength 1537.40 |
| • 1537.79 | Wavelength 1537.79 |
| • 1538.19 | Wavelength 1538.19 |
| • 1538.58 | Wavelength 1538.58 |
| • 1538.98 | Wavelength 1538.98 |
| • 1539.37 | Wavelength 1539.37 |
| • 1539.77 | Wavelength 1539.77 |
| • 1540.16 | Wavelength 1540.16 |
| • 1540.56 | Wavelength 1540.56 |
| • 1540.95 | Wavelength 1540.95 |
| • 1541.35 | Wavelength 1541.35 |
| • 1541.75 | Wavelength 1541.75 |
| • 1542.14 | Wavelength 1542.14 |
| • 1542.35 | Wavelength 1542.35 |
| • 1542.54 | Wavelength 1542.54 |
| • 1542.94 | Wavelength 1542.94 |
| • 1543.33 | Wavelength 1543.33 |
| • 1543.73 | Wavelength 1543.73 |
| • 1544.13 | Wavelength 1544.13 |
| • 1544.53 | Wavelength 1544.53 |
| • 1544.92 | Wavelength 1544.92 |
| • 1545.32 | Wavelength 1545.32 |
| • 1545.72 | Wavelength 1545.72 |

|           |                    |
|-----------|--------------------|
| • 1546.12 | Wavelength 1546.12 |
| • 1546.52 | Wavelength 1546.52 |
| • 1546.92 | Wavelength 1546.92 |
| • 1547.32 | Wavelength 1547.32 |
| • 1547.72 | Wavelength 1547.72 |
| • 1548.12 | Wavelength 1548.12 |
| • 1548.51 | Wavelength 1548.51 |
| • 1548.92 | Wavelength 1548.92 |
| • 1549.32 | Wavelength 1549.32 |
| • 1549.71 | Wavelength 1549.71 |
| • 1550    | Wavelength 1500    |
| • 1550.12 | Wavelength 1550.12 |
| • 1550.52 | Wavelength 1550.52 |
| • 1550.92 | Wavelength 1550.92 |
| • 1551.32 | Wavelength 1551.32 |
| • 1551.72 | Wavelength 1551.72 |
| • 1552.12 | Wavelength 1552.12 |
| • 1552.52 | Wavelength 1552.52 |
| • 1552.93 | Wavelength 1552.93 |
| • 1553.33 | Wavelength 1553.33 |
| • 1553.73 | Wavelength 1553.73 |
| • 1554.13 | Wavelength 1554.13 |
| • 1554.13 | Wavelength 1554.13 |
| • 1554.94 | Wavelength 1554.94 |
| • 1555.34 | Wavelength 1555.34 |
| • 1555.75 | Wavelength 1555.75 |
| • 1556.15 | Wavelength 1556.15 |
| • 1556.55 | Wavelength 1556.55 |
| • 1556.96 | Wavelength 1556.96 |
| • 1557.36 | Wavelength 1557.36 |
| • 1557.77 | Wavelength 1557.77 |
| • 1558.17 | Wavelength 1558.17 |
| • 1558.58 | Wavelength 1558.58 |
| • 1558.98 | Wavelength 1558.98 |
| • 1559.39 | Wavelength 1559.39 |
| • 1559.79 | Wavelength 1559.79 |
| • 1560.20 | Wavelength 1560.20 |
| • 1560.61 | Wavelength 1560.61 |
| • 1561.01 | Wavelength 1561.01 |
| • 1561.42 | Wavelength 1561.42 |
| • 1561.83 | Wavelength 1561.83 |

|           |                    |
|-----------|--------------------|
| • 1570    | Wavelength 1570    |
| • 1570.83 | Wavelength 1570.83 |
| • 1571.24 | Wavelength 1571.24 |
| • 1571.65 | Wavelength 1571.65 |
| • 1572.06 | Wavelength 1572.06 |
| • 1572.48 | Wavelength 1572.48 |
| • 1572.89 | Wavelength 1572.89 |
| • 1573.30 | Wavelength 1573.30 |
| • 1573.71 | Wavelength 1573.71 |
| • 1574.13 | Wavelength 1574.13 |
| • 1574.54 | Wavelength 1574.54 |
| • 1574.95 | Wavelength 1574.95 |
| • 1575.37 | Wavelength 1575.37 |
| • 1575.78 | Wavelength 1575.78 |
| • 1576.20 | Wavelength 1576.20 |
| • 1576.61 | Wavelength 1576.61 |
| • 1577.03 | Wavelength 1577.03 |
| • 1577.44 | Wavelength 1577.44 |
| • 1577.86 | Wavelength 1577.86 |
| • 1578.27 | Wavelength 1578.27 |
| • 1578.69 | Wavelength 1578.69 |
| • 1579.10 | Wavelength 1579.10 |
| • 1579.52 | Wavelength 1579.52 |
| • 1579.93 | Wavelength 1579.93 |
| • 1580.35 | Wavelength 1580.35 |
| • 1580.77 | Wavelength 1580.77 |
| • 1581.18 | Wavelength 1581.18 |
| • 1581.60 | Wavelength 1581.60 |
| • 1582.02 | Wavelength 1582.02 |
| • 1582.44 | Wavelength 1582.44 |
| • 1582.85 | Wavelength 1582.85 |
| • 1583.27 | Wavelength 1583.27 |
| • 1583.69 | Wavelength 1583.69 |
| • 1584.11 | Wavelength 1584.11 |
| • 1584.53 | Wavelength 1584.53 |
| • 1584.95 | Wavelength 1584.95 |
| • 1585.36 | Wavelength 1585.36 |
| • 1585.78 | Wavelength 1585.78 |
| • 1586.20 | Wavelength 1586.20 |
| • 1586.62 | Wavelength 1586.62 |
| • 1587.04 | Wavelength 1587.04 |

|           |                                                                                                                  |
|-----------|------------------------------------------------------------------------------------------------------------------|
| • 1587.46 | Wavelength 1587.46                                                                                               |
| • 1587.88 | Wavelength 1587.88                                                                                               |
| • 1588.30 | Wavelength 1588.30                                                                                               |
| • 1588.73 | Wavelength 1588.73                                                                                               |
| • 1589.15 | Wavelength 1589.15                                                                                               |
| • 1589.57 | Wavelength 1589.57                                                                                               |
| • 1589.99 | Wavelength 1589.99                                                                                               |
| • 1590    | Wavelength 1590                                                                                                  |
| • 1590.41 | Wavelength 1590.41                                                                                               |
| • 1590.83 | Wavelength 1590.83                                                                                               |
| • 1591.26 | Wavelength 1591.26                                                                                               |
| • 1591.68 | Wavelength 1591.68                                                                                               |
| • 1592.10 | Wavelength 1592.10                                                                                               |
| • 1592.52 | Wavelength 1592.52                                                                                               |
| • 1592.95 | Wavelength 1592.95                                                                                               |
| • 1593.37 | Wavelength 1593.37                                                                                               |
| • 1593.79 | Wavelength 1593.79                                                                                               |
| • 1594.22 | Wavelength 1594.22                                                                                               |
| • 1594.64 | Wavelength 1594.64                                                                                               |
| • 1595.06 | Wavelength 1595.06                                                                                               |
| • 1595.49 | Wavelength 1595.49                                                                                               |
| • 1596.34 | Wavelength 1596.34                                                                                               |
| • 1596.76 | Wavelength 1596.76                                                                                               |
| • 1597.19 | Wavelength 1597.19                                                                                               |
| • 1597.62 | Wavelength 1597.62                                                                                               |
| • 1598.04 | Wavelength 1598.04                                                                                               |
| • 1598.47 | Wavelength 1598.47                                                                                               |
| • 1598.89 | Wavelength 1598.89                                                                                               |
| • 1599.32 | Wavelength 1599.32                                                                                               |
| • 1599.75 | Wavelength 1599.75                                                                                               |
| • 1600.06 | Wavelength 1600.06                                                                                               |
| • 1601.03 | Wavelength 1601.03                                                                                               |
| • 1601.46 | Wavelength 1601.46                                                                                               |
| • 1601.88 | Wavelength 1601.88                                                                                               |
| • 1602.31 | Wavelength 1602.31                                                                                               |
| • 1602.74 | Wavelength 1602.74                                                                                               |
| • 1603.17 | Wavelength 1603.17                                                                                               |
| • 1603.60 | Wavelength 1603.60                                                                                               |
| • 1604.03 | Wavelength 1604.03                                                                                               |
| • 1610    | Wavelength 1610                                                                                                  |
| <VOAATTN> | The value of calibrated attenuation for the VOA expressed in dBm. The range is 0.0 to +30.0. VOAATTN is a float. |

|                   |                                                                                                                                                                                              |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <VOAATTNFLG>      | Status flag indicating the state of the WDMANS parameter.                                                                                                                                    |
| <POWEROSC>        | WDM-ANS OSC power parameter.                                                                                                                                                                 |
| <POWEROSCFLG>     | Status flag indicating the state of the WDMANS parameter.                                                                                                                                    |
| <NTWTYPE>         | WDM-ANS network type parameter.                                                                                                                                                              |
| <NTWTYPEFLG>      | Status flag indicating the state of the WDMANS parameter.                                                                                                                                    |
| <CHLOSS>          | WDM-ANS channel loss parameter.                                                                                                                                                              |
| <CHLOSSFLG>       | Status flag indicating the state of the WDMANS parameter.                                                                                                                                    |
| <GAIN>            | WDM-ANS amplifier gain parameter.                                                                                                                                                            |
| <GAINFLG>         | Status flag indicating the state of the WDMANS parameter.                                                                                                                                    |
| <TILT>            | WDM-ANS amplifier tilt parameter.                                                                                                                                                            |
| <TILTFLG>         | Status flag indicating the state of the WDMANS parameter.                                                                                                                                    |
| <CHPWR>           | WDM-ANS channel power parameter.                                                                                                                                                             |
| <CHPWRFLG>        | Status flag indicating the state of the WDMANS parameter.                                                                                                                                    |
| <AMPLMODE         | (Optional) The optical amplification control mode. The parameter type is AMPL_MODE, which defines amplifier control mode.                                                                    |
| • GAIN            | The amplifier always maintain a fixed gain.                                                                                                                                                  |
| • POWER           | The amplifier maintains the output power to a fixed value.                                                                                                                                   |
| <AMPLMODEFLG>     | Status flag indicating the state of the WDMANS parameter.                                                                                                                                    |
| <RATIO>           | WDM-ANS Raman amplifier pump ratio parameter.                                                                                                                                                |
| <RATIOFLG>        | .Status flag indicating the state of the WDMANS parameter.                                                                                                                                   |
| <OSCLOSS>         | WDM-ANS OSC channel loss parameter.                                                                                                                                                          |
| <OSCLOSSFLG>      | Status flag indicating the state of the WDMANS parameter.                                                                                                                                    |
| <OPTICALNODETYPE> | (Optional) The optical configuration type for the NE. The parameter type is OPTICAL_NODE_TYPE, which is the optical configuration types for NEs.                                             |
| <DITHER>          | WDM-ANS WXC dithering parameter.                                                                                                                                                             |
| <DITHERFLG>       | Status flag indicating the state of the WDMANS parameter.                                                                                                                                    |
| <TOTALPWR>        | WDM-ANS Raman amplifier total power in mW.                                                                                                                                                   |
| <TOTALPWRFLG>     | Status flag indicating the state of the WDMANS parameter.                                                                                                                                    |
| <HIGHSLVEXP>      | Span loss verification—high value.                                                                                                                                                           |
| <HIGHSLVEXPFLG>   | Status flag indicating the state of the WDMANS parameter.                                                                                                                                    |
| <LOWSLVEXP>       | Span loss verification—low value.                                                                                                                                                            |
| <LOWSLVEXPFLG>    | Status flag indicating the state of the WDMANS parameter.                                                                                                                                    |
| <TOTALPWRDBM>     | Optical power setting in dBm.                                                                                                                                                                |
| <CHPWROFFSETFLG>  | Status flag indicating the status of the optical channel power setting.                                                                                                                      |
| <ENABLELOGO>      | Enable logo.                                                                                                                                                                                 |
| <ENABLELOGOFLG>   | Status flag indicating the status of enable log.                                                                                                                                             |
| <LASTRUNDAT>      | (Optional) The last date when the WDMANS application calculated the parameters. The format is MM-DD, where MM (month of year) ranges from 1 to 12 and DD (day of month) ranges from 1 to 31. |

|              |                                                                                                                                                                                                             |
|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <LASTRUNTM>  | (Optional) The last time when the WDMANS application calculated the parameters. The format is HH-MM, where HH (hour of day) ranges from 1 to 23 and MM (minute of hour) ranges from 0 to 59.                |
| <LASTCALSTM> | (Optional) The last time when the WDMANS application was run automatically or by user request. The format is HH-MM, where HH (hour of day) ranges from 1 to 23 and MM (minute of hour) ranges from 0 to 59. |

## 23.169 RTRV-WDMSIDE

The Retrieve Wavelength Division Multiplexing Side (RTRV-WDMSIDE) command retrieves the WDM side and defines its attributes.

**Usage Guidelines** None

**Category** NCS

**Security** Maintenance

**Input Format** RTRV-WDMSIDE:[<TID>]:<AID>:<CTAG>[:];

**Input Example** RTRV-WDMSIDE:PENNGROVE:WDMSIDE-A:114;

|                         |                              |                                                                                                                     |
|-------------------------|------------------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Input Parameters</b> | <AID>                        | The AID is used to access the WDM side of an NCS node. This is applicable to WDMANS and APC applications of the NE. |
|                         | • WDMSIDE-{ A,B,C,D,E,F,G,H} | NCS side identifier.                                                                                                |

**Output Format**

```

SID DATE TIME
M CTAG COMPLD
"<AID>::[ROLE=<ROLE>],LINEIN=<LINEIN>,LINEOUT=<LINEOUT>,[OCS=<OSC>][:]"
;
```

**Output Example**

```

TID-000 1998-06-20 14:30:00
M 001 COMPLD
"WDMSIDE-A::LINEIN=LINE-1-3-RX,LINEOUT=LINE-1-3-TX,OSC=FAC-8-1"
;
```

**Output Parameters**

|                                              |                                                                                                                                                                                 |
|----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <AID>                                        | The AID is used to access the WDM side of an NCS node. This is applicable to WDMANS and APC applications of the NE.                                                             |
| • WDMSIDE-{A,B,C,D,E,F,G,H}                  | NCS side identifier.                                                                                                                                                            |
| <ROLE>                                       | The role the unit is playing in the protection group.                                                                                                                           |
| • PROT                                       | The entity is the protection unit in the protection group.                                                                                                                      |
| • WORK                                       | The entity is the working unit in the protection group.                                                                                                                         |
| <LINEIN>                                     | Used to access the OTS layer of optical network units.                                                                                                                          |
| • ALL                                        | Indicates all the OTSs of the NE. The ALL AID is applicable only for retrieve commands.                                                                                         |
| • LINE[-{1-8}]-{1-6,12-17}-{1-3}<br>-ALL     | All the lines (COM=1, OSC=2, LINE=3) in OPT-BST, OPT-BST-E, OPT-BST-L, OPT-AMP-17-C, and OPT-AMP-23-C cards where the format is LINE-[SHELF]-[SLOT]-[PORT]-ALL.                 |
| • LINE[-{1-8}]-{1-6,12-17}-{1-3}<br>-{RX,TX} | The receive/transmit lines (COM=1, OSC=2, LINE=3) in OPT-BST, OPT-BST-E, OPT-BST-L, OPT-AMP-17-C, and OPT-AMP-23-C cards where the format is LINE-[SHELF]-[SLOT]-[PORT]-[DIRN]. |
| <LINEOUT>                                    | Used to access the OTS layer of optical network units.                                                                                                                          |
| • ALL                                        | Indicates all the OTSs of the NE. The ALL AID is applicable for retrieve-only commands.                                                                                         |
| • LINE[-{1-8}]-{1-6,12-17}-{1-3}<br>-ALL     | All the lines (COM=1, OSC=2, LINE=3) in OPT-BST, OPT-BST-E, OPT-BST-L, OPT-AMP-17-C, and OPT-AMP-23-C cards where the format is LINE-[SHELF]-[SLOT]-[PORT]-ALL.                 |
| • LINE[-{1-8}]-{1-6,12-17}-{1-3}<br>-{RX,TX} | The receive/transmit lines (COM=1, OSC=2, LINE=3) in OPT-BST, OPT-BST-E, OPT-BST-L, OPT-AMP-17-C, and OPT-AMP-23-C cards where the format is LINE-[SHELF]-[SLOT]-[PORT]-[DIRN]. |
| <OSC>                                        | (Optional) Facility AID from the <a href="#">“27.15 FACILITY”</a> section on <a href="#">page 27-23</a> .                                                                       |

## 23.170 RTRV-WLEN

The Retrieve Wavelength (RTRV-WLEN) command retrieves the wavelength provisioning information.

**Usage Guidelines**

None

**Category**

NCS

**Security**

Retrieve



**Input Format**

RTRV-WLEN:[&lt;TID&gt;]:&lt;AID&gt;:&lt;CTAG&gt;;

**Input Example**

RTRV-WLEN:PENNGROVE:WLEN-A-ADD-1530.33:114;

**Input Parameters**

|       |                                                                |
|-------|----------------------------------------------------------------|
| <AID> | Access identifier from the “27.34 WLEN” section on page 27-37. |
|-------|----------------------------------------------------------------|

**Output Format**

(For legacy package)

SID DATE TIME

M CTAG COMPLD

“<AID>:<CCT>:[SIZE=<SIZE>],[CKTID=<CKTID>],[TOSIDE=<TOSIDE>],[SRC=<SRC>],  
[DST=<DST>]:<PST\_PSTQ>,<SSTQ>”  
;

(For flex package)

SID DATE TIME

M CTAG COMPLD

“<AID>:<CCT>:[SIZE=<SIZE>],[CKTID=<CKTID>],[TOSIDE=<TOSIDE>],[FREQ],[WIDTH],[SR  
C=<SRC>],[DST=<DST>]:<PST\_PSTQ>,<SSTQ>”

**Output Example**

TID-000 1998-06-20 14:30:00

M 001 COMPLD

“WLEN-A-ADD-1530.33:1WAY:SIZE=MULTI-RATE,CKTID=CKTID,SRC=CHAN-4-1-RX,  
DST=LINEWL-1-3-TX-1530.33:OOS-AU,AINS”  
;

**Output Parameters**

|                               |                                                                                                                                                                                        |
|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <AID>                         | Access identifier from the “27.34 WLEN” section on page 27-37.                                                                                                                         |
| <CCT>                         | Identifies the wavelength connection types.                                                                                                                                            |
| • 1WAY                        | A unidirectional wavelength connection for one specified ring direction.                                                                                                               |
| • 2WAY                        | A bidirectional wavelength connection for both the ring directions                                                                                                                     |
| <SIZE>                        | Identifies the NCS circuit size used on a wavelength.                                                                                                                                  |
| <CKTID>                       | (Optional) Circuit identification parameter that contains the a common language ID or other alias of the circuit being provisioned. It cannot contain blank spaces. CKTID is a string. |
| <TOSIDE>                      | The AID is used to access the WDM side of a NCS node.                                                                                                                                  |
| • WDMSIDE-{ A,B,C,D,E,F,G,H } | NCS side identifier.                                                                                                                                                                   |
| <FREQ>                        | Optical wavelength.                                                                                                                                                                    |

|                            |                                                                                                                                                                                |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <WIDTH>                    | Width.                                                                                                                                                                         |
| <SRC>                      | Source access identifier from the “27.19 LINEWL” section on page 27-29.                                                                                                        |
| <DST>                      | Destination AID of the cross-connection from the “27.19 LINEWL” section on page 27-29.                                                                                         |
| <PST_PSTQ>                 | Primary state of the entity. The parameter type is PST_PSTQ, which is the service state of the entity described by the primary state (PST) and primary state qualifier (PSTQ). |
| • Unlocked-Enabled         | In service and normal                                                                                                                                                          |
| • Unlocked-Disabled        | Out of service and autonomous                                                                                                                                                  |
| • Locked-Disabled          | Out of service, autonomous and management                                                                                                                                      |
| • Locked-Enabled           | Out of service and management                                                                                                                                                  |
| <SSTQ>                     | (Optional) Secondary state of the entity. The parameter type is secondary state (SST), which provides additional information pertaining to PST and PSTQ.                       |
| • AutomaticInService       | Automatic in service                                                                                                                                                           |
| • Disabled                 | Disabled                                                                                                                                                                       |
| • Loopback                 | Loopback                                                                                                                                                                       |
| • MismatchofEquipmentAlarm | Mismatch of equipment and attributes                                                                                                                                           |
| • Maintenance              | Maintenance mode                                                                                                                                                               |
| • OutOfGroup               | Out of group                                                                                                                                                                   |
| • SoftwareDownload         | Software downloading                                                                                                                                                           |
| • Unassigned               | Unassigned                                                                                                                                                                     |
| • NotInstalled             | Unequipped                                                                                                                                                                     |



## SCHED Commands

This chapter provides schedule (SCHED) commands for the Cisco NCS 2002 and Cisco NCS 2006..

### 24.1 SCHED-PMREPT-<MOD2>

The Schedule Performance Monitoring Report for 10GFC, 10GIGE, 40GIGE, 100GIGE, 1GFC, 1GFICON, 2GFC, 2GFICON, 4GFC, 4GFICON, 5GIB, 8GFC, VC412C, T1, T3, VC432C, VC46C, OTU2, PASSTHRU, ILK, CHGRP, CLNT, D1VIDEO, DS3I, DV6000, DVBA5I, E1, E3, E4, ESCON, ETRCLO, ETH, FSTE, G1000, GFPOS, GIGE, HDLC, HDTV, ISC1, ISCCOMPAT, ISC3PEER2R, ISC3PEER1G, ISC3PEER2G, STM4, STM64, STM1, STM16, OCH, OMS, OTS, OTU3, OTU4, POS, STM1E, VC3, VC44C, VC464C, VC48C, VC4, VC416C, VC412C, VC42C, VC43C, VC12, VC3, VC11, or VC12 (SCHED-PMREPT-<MOD2>) command schedules or reschedules the network element (NE) to report the performance monitoring data for a line facility or for a VC/VT path periodically, using the automatic REPT PM message. This command can also remove the previously created schedule. See [Table 29-1 on page 29-1](#) for supported modifiers by platform.

#### Usage Guidelines

- The automatic performance monitoring reporting scheduled by this command is inhibited by default. ALW-PMREPT-ALL can be used to allow the NE to send the performance monitoring report. INH-PMREPT-ALL can be used to stop the NE from sending the performance monitoring report. The schedules created for the NE can be retrieved by RTRV-PMSCHED command.
- The deletion of the schedule for the automatic performance monitoring reporting can be done by issuing SCHED-PMREPT-<MOD2> with the NUMREPT parameter equal to zero.
- The current maximum number of schedules allowed to be created for a NE is 1000. If this number of schedules has been created for the NE, an error message “Reach Limits Of MAX Schedules Allowed. Can Not Add More” will be returned if another schedule creation is attempted on the NE. Frequent use of automatic performance monitoring reporting will significantly degrade the performance of the NE.
- A schedule cannot be created if the card associated with the schedule is not provisioned, or if the cross-connect associated with the schedule has not been created. However, a schedule is allowed to be deleted even if a card is not provisioned, or if the cross-connect has not been created.
- The number of outstanding performance monitoring reports counter (NUMREPT) will not be decremented, and the scheduled automatic performance monitoring reporting will not start if the card associated with the schedule is not physically plugged into the slot.
- An expired schedule would not be automatically removed. The SCHED-PMREPT command has to be issued with the NUMREPT parameter equal to zero in order to delete the expired schedule.

- Identical schedules for an NE are not allowed. Two schedules are considered identical if they have the same AID, MOD2 type, performance monitor type, performance monitor level, location, direction and time period.

The “Duplicate Schedule” error message is returned if you try to create a schedule that is a duplicate of a existing schedule. However, if the existing schedule expires (with the NUMINVL parameter equal to zero when retrieved by the RTRV-PMSCHED command, that is, no more performance monitoring reporting sent) the new schedule with the identical parameter will replace the existing schedule.

- When a electrical or optical card is unprovisioned by the DLT-EQPT command, or a cross-connect is deleted by the DLT-CRS command, the schedules associated with that card or that cross-connect will be removed silently by the NE. This removal prevents another type of card or cross-connect with the same AID to be provisioned on the NE, and prevents the NE from trying to send automatic performance monitoring reports based on the existing schedules.

The card or cross-connect can be unprovisioned or deleted through Cisco Transport Controller (CTC). The schedules associated with that card or cross-connect will also be removed silently by the NE.

- VC11 level schedules cannot be created on optical ports because the VT level PMs are monitored only on the path terminating ports.
- A PM schedule cannot be created on the Electrical Protect card.

---

**Category**

Performance

---

**Security**

Retrieve

---

**Input Format**

SCHED-PMREPT-<MOD2>:[<TID>]:<SRC>:<CTAG>::[<REPTINVL>],[<REPTSTATM>],[<NUMREPT>],[<MONLEV>],[<LOCN>],[<TMPER>],[<TMOFST>];

---

**Input Example**

SCHED-PMREPT-STM1:NE-NAME:FAC-3-1:123::60-MIN,  
15-30,100,,1-UP,NEND,,15-MIN,0-0-15;

Table 24-1 Parameter Support

| Parameter   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <SRC>       | Access identifier from the “27.1 ALL” section on page 27-1. Must not be null.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <REPTINVL>  | <p>(Optional) Reporting interval. How often a report is to generated and sent to the appropriate operating system. Specifies how often a performance monitoring report is generated. The format is VAL-UN, where valid values for VAL (value) are 1 to 31 if UN (units of time) is DAY, VAL is 1 to 24 if UN is HR, or VAL is 1 to 1440 if UN is MIN. Examples are: 10-DAY, 12-HR, and 100-MIN. A null value for the input defaults to 15-MIN. REPTINVL is a string</p> <p><b>Note</b> Processing of PM schedules is performed every 5 minutes, therefore specifying a REPTINVL of 5-MIN or less would be processed at the earliest every 5 minutes.</p> |
| <REPTSTATM> | (Optional) The starting time for the performance monitoring report. The format is HOD-MOH, where HOD (hour of day) ranges from 0 to 23, and MOH (minute of hour) ranges from 0 to 59. If the input value of the starting time is smaller than the current time, for example, the input value is 5-30 (5:30 in the morning), and the current time is 10:30, the reporting will be scheduled to start at 5:30 the next day. A null value defaults to the current time of day. REPTSTATM is a string.                                                                                                                                                       |
| <NUMREPT>   | (Optional) The number of reports that the schedule is expected to produce. A value of 0 is used to delete a existing identical schedule. If NUMREPT is null, the schedule will be kept in effect until it is deleted. The value of NUMREPT will continue to be decremented even though the automatic performance monitoring reporting is inhibited. NUMREPT is an integer.                                                                                                                                                                                                                                                                               |
| <MONLEV>    | (Optional) The discriminating level of the requested monitored parameter. It applies to all MONTYPES of the scheduled performance monitoring report. The format is LEV-DIRN, where valid values for LEV are decimal numbers, and valid values for DIRN are as follows: UP monitored parameter with values equal to or greater than the value of LEV will be reported. DN monitored parameter with values equal to or less than the value of LEV will be reported. The null input defaults to 1-UP. MONLEV is a string.                                                                                                                                   |
| <LOCN>      | (Optional) Location associated with a particular command. Identifies the location from which the PM mode is to be retrieved. A null input defaults to NEND. FEND is not supported by all MOD2 types. The parameter type is LOCATION, which is the location where the action is to take place.                                                                                                                                                                                                                                                                                                                                                            |
| • FEND      | Action occurs on the far end of the facility.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| • NEND      | Action occurs on the near end of the facility.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <TMPER>     | (Optional) Accumulation time period for performance counters. Defaults to 15-MIN. The parameter type is TMPER, which is the accumulation time period for the performance management center.                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

**Table 24-1**      **Parameter Support**

| Parameter                                                  | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>1-DAY</li> </ul>    | Performance parameter accumulation interval length is every 24 hours. For NCS PM data, only one day of history data is available. For RMON managed PM data, seven days of history data are available.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <ul style="list-style-type: none"> <li>1-HR</li> </ul>     | Performance parameter accumulation interval length is every 1 hour. This is only applicable to remote monitoring (RMON) managed PM data. There are 24 hours of history data available.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <ul style="list-style-type: none"> <li>1-MIN</li> </ul>    | Performance parameter accumulation interval length is every 1 minute. This is only applicable to RMON managed PM data. There are 60 minutes of history available.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <ul style="list-style-type: none"> <li>15-MIN</li> </ul>   | Performance parameter accumulation interval length is every 15 minutes. There are 32 15-MIN buckets of history data available for this accumulation interval length.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <ul style="list-style-type: none"> <li>RAW-DATA</li> </ul> | Performance parameter accumulation interval length starts from the last time the counters were cleared. This is only applicable to RMON managed PMs.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <TMOFST>                                                   | <p>(Optional) Time offset between reporting/diagnostics/exercises; from the end of the last complete accumulation time period to the beginning of the accumulation time period specified by TPER. The format is DAY-HR-MIN where DAYS (days) ranges from 0 to 99, HR (hours) ranges from 0 to 23, and MIN (minutes) ranges from 1 to 59. A null value defaults to 0-0-0. Grouping of this parameter is not supported.</p> <p>If the value specified is larger than the maximum length of PM history the system is saving, there will be no PM report for the PM schedule generated. For example, if a PM schedule for STM16 is created with TMOFST of 2-1-0 (format: day-hour-minute), no report will be generated because the system can only hold two days worth of PM history. For setting 15-MIN schedules, the system can only hold 32 15-MIN buckets which totals eight hours therefore a schedule greater than 0-8-0 will not result in PM schedules being generated. TMOFST is a string.</p> |



## SET Commands

This chapter provides set (SET) commands for the Cisco NCS 2002 and Cisco NCS 2006.

### 25.1 SET-ALMTH-<MOD2>

The Set Alarm Threshold for 10GFC, 10GIGE, 40GIGE, 100GIGE, 1GFC, 1GFICON, 2GFC, 4GFC, 2GFICON, 5GIB, 8GFC, CLNT, D1VIDEO, DV6000, DVBASI, ESCON, ETRCLO, ETH, FSTE, GIGE, HDTV, ISC1, ISCCOMPAT, ISC3PEER2R, ISC3PEER1G, ISC3PEER2G, STM4, STM64, STM1, STM16, OCH, OMS, OTS, OTU3, OTU4, STM1E, OTL, OTU1, OTU2, SDSDI, HDSDI, 3GVIDEO, ISC3STP1G, or ISC3STP2G (SET-ALMTH-<MOD2>) command sets the alarm thresholds on the following cards/ports/channels: MXP\_2.5G\_10G, TXP\_MR\_10G, optical service channel, optical amplifier, dispersion compensation units, multiplex/demultiplex, and OADM.

This command is used to set the alarm thresholds on a facilities, ports, channels, for example. Not all MOD2 types are supported.

#### Usage Guidelines

- This command is used to set the alarm thresholds on a facilities, ports, channels, for example. Not all MOD2 types are supported.
- This command supports the modifier OTU1, SDSDI, HDSDI, 3GVIDEO, ISC3STP1G, ISC3STP2G.
- Tx alarm thresholds is blocked on Rx Video pluggables and vice-versa.
- Tx alarm thresholds is not applicable on ESCON payload.
- The SET-ALMTH-OTL is denied on backplane virtual ports of 100G-LC-C.
- The SET-ALMTH-OTL is denied on sublanes of CFP-LC but sets the alarms thresholds on first sublane of 100G-LC-C card.
- SET-ALMTH-<MOD2> on 100G-LC-C, 10x10G-LC, and CFP-LC cards use MOD2, and the following AID:
  - OCH modifier (CHAN AID) for non-OTU payloads on 100G-LC-C and 10x10G-LC fixed trunk ports.
  - MOD2 modifier on the OTU payloads of 10x10G-LC card on the VFAC AID.
  - OCH modifier (ACHAN AID) on the non-OTU payloads of the 100G-LC-C aggregate port.
  - MOD2 modifier (VLIN AID) on the first sublane of the 100G-LC-C card.
  - OCH modifier (CHAN AID) on the CFP-LC ports.

- Alarm threshold cannot be set on the sublanes (VLINE) of the CFP-LC cards.

**Category** Fault

**Security** Provisioning

**Input Format** SET-ALMTH-<MOD2>[:<TID>]:<AID>:<CTAG>::<CONDTYPE>,<THLEV>[,,,];

**Input Example** SET-ALMTH-OTL:100G-LC-C:VLINE-3-1-1-2:1::OPT-LOW,-9;

**Table 25-1** Parameter Support

| Parameter    | Description                                                                                                                                                                                                                                                                   |
|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <AID>        | Access identifier from the “27.1 ALL” section on page 27-1. Must not be null. The AR-MXP, AR-XP, and AR-XPE cards use the VFAC Access Identifier.                                                                                                                             |
| <CONDTYPE>   | Condition type for an alarm or a reported event. The parameter type is ALM_THR, which is the alarm threshold list for MXP_2.5G_10G, TXP_MR_10G, OSCM, OSC-CSM, OPT-PRE, OPT-BST, 4MD-xx.x, 32MUX, 32DMX, AD-1C-xx.x, AD-2C-xx.x, AD-4C-xx.x, AD-1B-xx.x, and AD-4B-xx.x cards |
| • ADD-HDEG   | ADD Power - High Degrade                                                                                                                                                                                                                                                      |
| • ADD-HFAIL  | ADD Power - High Failure                                                                                                                                                                                                                                                      |
| • ADD-LDEG   | ADD Power - Low Degrade                                                                                                                                                                                                                                                       |
| • ADD-LFAIL  | ADD Power - Low Failure                                                                                                                                                                                                                                                       |
| • BATV-EHIGH | Battery Voltage—Extremely High                                                                                                                                                                                                                                                |
| • BATV-ELow  | Battery Voltage—Extremely Low                                                                                                                                                                                                                                                 |
| • BATV-HIGH  | Battery Voltage—High                                                                                                                                                                                                                                                          |
| • BATV-LOW   | Battery Voltage—Low                                                                                                                                                                                                                                                           |
| • CD-LOW     | Low Threshold value for Chromatic Dispersion. Measured value -70000dBm to +70000dBm.                                                                                                                                                                                          |
| • CD-HIGH    | High Threshold value for Chromatic Dispersion. Measured value -70000dBm to +70000dBm.                                                                                                                                                                                         |
| • GAIN-HDEG  | Gain not reached—High Degrade Threshold                                                                                                                                                                                                                                       |
| • GAIN-HFAIL | Gain not reached—High Failure Threshold                                                                                                                                                                                                                                       |
| • GAIN-LDEG  | Gain not reached—Low Degrade Threshold                                                                                                                                                                                                                                        |
| • GAIN-LFAIL | Gain not reached—Low Failure Threshold                                                                                                                                                                                                                                        |
| • LBCL-HIGH  | Laser Bias current in microA as a tenth of a percent of the High Warning Threshold, Low Warning Threshold. Measured value: 0.0%, 100.0%.                                                                                                                                      |
| • OPR-HIGH   | Receive power in tenths of a microW. Measured value: -40.0 dBm, +30.0 dBm.                                                                                                                                                                                                    |
| • OPR-LOW    | Receive power in tenths of a microW. Measured value: -40.0 dBm, +30.0 dBm                                                                                                                                                                                                     |
| • OPT-HIGH   | Transmit power in tenths of a microW. Measured value: -40.0 dBm, +30.0 dBm.                                                                                                                                                                                                   |
| • OPT-LOW    | Transmit power in tenths of a microW. Measured value: -40.0 dBm,+ 30.0 dBm.                                                                                                                                                                                                   |



**Table 25-1**      **Parameter Support**

| Parameter    | Description                                                                              |
|--------------|------------------------------------------------------------------------------------------|
| • OPWR-HDEG  | Optical Power—High Degrade Threshold                                                     |
| • OPWR-HFAIL | Optical Power—High Failure Threshold                                                     |
| • OPWR-LDEG  | Optical Power—Low Degrade Threshold                                                      |
| • OPWR-LFAIL | Optical Power—Low Failure Threshold                                                      |
| • OSNR-LOW   | Low Threshold value for Optical Signal to Noise Ratio. Measured value +40dBm to +80dBm.  |
| • OSNR-HIGH  | High Threshold value for Optical Signal to Noise Ratio. Measured value +40dBm to +80dBm. |
| • PMD-LOW    | Low Threshold value for Polarization Mode for Dispersion. Measured value +0 to +100dBm.  |
| • PMD-HIGH   | High Threshold value for Polarization Mode for Dispersion. Measured value +0 to +100dBm. |
| • VOA-HDEG   | VOA Attenuation—High Degrade Threshold                                                   |
| • VOA-HFAIL  | VOA Attenuation—High Failure Threshold                                                   |
| • VOA-LDEG   | VOA Attenuation—Low Degrade Threshold                                                    |
| • VOA-LFAIL  | VOA Attenuation—Low Failure Threshold                                                    |
| <THLEVEL>    | Threshold level. THLEVEL is a float.                                                     |

## 25.2 SET-ALMTH-EQPT

The Set Alarm Equipment (SET-ALMTH-EQPT) command sets the alarm thresholds to manage the power level monitoring on an NE.

**Usage Guidelines**      None

**Category**      Equipment

**Security**      Provisioning

**Input Format**      SET-ALMTH-EQPT:[<TID>]:[<AID>]:<CTAG>::<CONDTYPE>,<THLEV>[,,,];

**Input Examples**      SET-ALMTH-EQPT::SHELF-2:1::BATV-HIGH,-53.5;  
SET-ALMTH-EQPT:::1::BATV-HIGH,-53.5;

**Table 25-2**      **Parameter Support**

| Parameter    | Description                                                                                                                                                                                                                                    |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <AID>        | The node or shelf access identifier from the “ <a href="#">27.26 SHELF</a> ” section on page 27-33. If omitted, it addresses the node or first shelf of the node. Must not be null.                                                            |
| <CONDTYPE>   | Alarm threshold type. The parameter type is ALM_THR, which is the alarm threshold list for MXP_2.5G_10G, TXP_MR_10G, OSCM, OSC-CSM, OPT-PRE, OPT-BST, 4MD, 32MUX, 32DMX, AD-1C-xx.x, AD-2C-xx.x, AD-4C-xx.x, AD-1B-xx.x, and AD-4B-xx.x cards. |
| • BATV-EHIGH | Battery Voltage—Extremely High                                                                                                                                                                                                                 |
| • BATV-ELow  | Battery Voltage—Extremely Low                                                                                                                                                                                                                  |
| • BATV-HIGH  | Battery Voltage—High                                                                                                                                                                                                                           |
| • BATV-LOW   | Battery Voltage—Low                                                                                                                                                                                                                            |
| • CD-LOW     | Low Threshold value for Chromatic Dispersion. Measured value -70000dBm to +70000dBm.                                                                                                                                                           |
| • CD-HIGH    | High Threshold value for Chromatic Dispersion. Measured value -70000dBm to +70000dBm.                                                                                                                                                          |
| • GAIN-HDEG  | Gain not reached—High Degrade Threshold                                                                                                                                                                                                        |
| • GAIN-HFAIL | Gain not reached—High Failure Threshold                                                                                                                                                                                                        |
| • GAIN-LDEG  | Gain not reached—Low Degrade Threshold                                                                                                                                                                                                         |
| • GAIN-LFAIL | Gain not reached—Low Failure Threshold                                                                                                                                                                                                         |
| • LBCL-HIGH  | Laser Bias current in microA as a tenth of a percent of the High Warning Threshold, Low Warning Threshold. Measured value: 0.0%, 100.0%.                                                                                                       |
| • OPR-HIGH   | Receive power in tenths of a microW. Measured value: -40.0 dBm, +30.0 dBm.                                                                                                                                                                     |
| • OPR-LOW    | Receive power in tenths of a microW. Measured value: -40.0 dBm, +30.0 dBm.                                                                                                                                                                     |
| • OPT-HIGH   | Transmit power in tenths of a microW. Measured value: -40.0 dBm, +30.0 dBm.                                                                                                                                                                    |
| • OPT-LOW    | Transmit power in tenths of a microW. Measured value: -40.0 dBm, + 30.0 dBm.                                                                                                                                                                   |
| • OPWR-HDEG  | Optical Power—High Degrade Threshold                                                                                                                                                                                                           |
| • OPWR-HFAIL | Optical Power—High Failure Threshold                                                                                                                                                                                                           |
| • OPWR-LDEG  | Optical Power—Low Degrade Threshold                                                                                                                                                                                                            |
| • OPWR-LFAIL | Optical Power—Low Failure Threshold                                                                                                                                                                                                            |
| • OSNR-LOW   | Low Threshold value for Optical Signal to Noise Ratio. Measured value +40dBm to +80dBm.                                                                                                                                                        |
| • OSNR-HIGH  | High Threshold value for Optical Signal to Noise Ratio. Measured value +40dBm to +80dBm.                                                                                                                                                       |
| • PMD-LOW    | Low Threshold value for Polarization Mode for Dispersion. Measured value +0 to +100dBm.                                                                                                                                                        |
| • PMD-HIGH   | High Threshold value for Polarization Mode for Dispersion. Measured value +0 to +100dBm.                                                                                                                                                       |
| • VOA-HDEG   | VOA Attenuation—High Degrade Threshold                                                                                                                                                                                                         |
| • VOA-HFAIL  | VOA Attenuation—High Failure Threshold                                                                                                                                                                                                         |
| • VOA-LDEG   | VOA Attenuation—Low Degrade Threshold                                                                                                                                                                                                          |
| • VOA-LFAIL  | VOA Attenuation—Low Failure Threshold                                                                                                                                                                                                          |
| <THLEVEL>    | Threshold level. THLEVEL is a float.                                                                                                                                                                                                           |

## 25.3 SET-ATTR-CONT

The Set Attribute Control (SET-ATTR-CONT) command sets the attributes associated with an external control. The attributes are used when an external control is operated or released. To send the attributes, use the RTRV-ATTR-CONT command.

### Usage Guidelines

- If the CONTTYPE parameter is not specified, the control specified by AID is unprovisioned.
- A control should be unprovisioned before it is reprovisioned to another type of control.

### Category

Environment

### Security

Provisioning

### Input Format

SET-ATTR-CONT:[<TID>]:<AID>:<CTAG>[:<CONTTYPE>];

### Input Example

SET-ATTR-CONT:CISCO:ENV-OUT-1:123::AIRCOND;

**Table 25-3**      *Parameter Support*

| Parameter  | Description                                                                                                                                              |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| <AID>      | Access identifier from the <a href="#">“27.12 ENV” section on page 27-20</a> . Identifies the external control for which attributes are being retrieved. |
| <CONTTYPE> | Environmental control type. A null value is equivalent to ALL. The parameter type is CONTTYPE, which is the environmental control type.                  |
| • AIRCOND  | Air conditioning                                                                                                                                         |
| • ENGINE   | Engine                                                                                                                                                   |
| • FAN      | Fan                                                                                                                                                      |
| • GEN      | Generator                                                                                                                                                |
| • HEAT     | Heat                                                                                                                                                     |
| • LIGHT    | Light                                                                                                                                                    |
| • MISC     | Miscellaneous                                                                                                                                            |
| • SPKLR    | Sprinkler                                                                                                                                                |

## 25.4 SET-ATTR-ENV

The Set Attribute Environment (SET-ATTR-ENV) command sets the attributes associated with an environmental alarm.

**Usage Guidelines**

- If the NTFCNCDE, ALMTYPE, and ALMMSG parameters are omitted, the environmental alarm specified by AID is unprovisioned.
- An alarm should be unprovisioned and you should wait for any raised alarm to clear before reprovisioning the alarm to another alarm type.
- In NOTIF\_CODE, CL is not valid for provisioning commands. It is only valid for autonomous messages.

**Category**

Environment

**Security**

Provisioning

**Input Format**

SET-ATTR-ENV:[&lt;TID&gt;]:&lt;AID&gt;:&lt;CTAG&gt;::[&lt;NTFCNCDE&gt;],[&lt;ALMTYPE&gt;],[&lt;ALMMSG&gt;];

**Input Example**

SET-ATTR-ENV:CISCO:ENV-IN-1:123::MJ,OPENDR,\"OPEN DOOR\";

**Table 25-4**      **Parameter Support**

| Parameter   | Description                                                                                                                                                                      |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <AID>       | Access identifier from the <a href="#">“27.12 ENV” section on page 27-20</a> . Must not be null.                                                                                 |
| <NTFCNCDE>  | (Optional) Two-letter notification code. Must not be null. The parameter type is NOTIF_CODE, which is the two-character notification code associated with an autonomous message. |
| • CL        | The condition causing the alarm has cleared.                                                                                                                                     |
| • CR        | A critical alarm.                                                                                                                                                                |
| • MJ        | A major alarm.                                                                                                                                                                   |
| • MN        | A minor alarm.                                                                                                                                                                   |
| • NA        | The condition is not alarmed.                                                                                                                                                    |
| • NR        | The alarm is not reported.                                                                                                                                                       |
| <ALMTYPE>   | (Optional) The alarm type for the environmental alarm. Must not be null. The parameter type is ENV_ALM, which is the environmental alarm type.                                   |
| • AIRCOMPR  | Air compressor failure                                                                                                                                                           |
| • AIRCOND   | Air conditioning failure                                                                                                                                                         |
| • AIRDRYR   | Air dryer failure                                                                                                                                                                |
| • BATDSCHRG | Battery discharging                                                                                                                                                              |
| • BATTERY   | Battery failure                                                                                                                                                                  |
| • CLFAN     | Cooling fan failure                                                                                                                                                              |
| • CPMAJOR   | Centralized power major failure                                                                                                                                                  |
| • CPMINOR   | Centralized power minor failure                                                                                                                                                  |
| • ENGINE    | Engine failure                                                                                                                                                                   |
| • ENGOPRG   | Engine operating                                                                                                                                                                 |

**Table 25-4**      **Parameter Support**

| Parameter  | Description                                                                |
|------------|----------------------------------------------------------------------------|
| • ENGTRANS | Standby engine transfer                                                    |
| • EXPLGS   | Explosive gas                                                              |
| • FIRDETR  | Fire detector failure                                                      |
| • FIRE     | Fire                                                                       |
| • FLOOD    | Flood                                                                      |
| • FUELLEAK | Fuel leak                                                                  |
| • FUSE     | Fuse failure                                                               |
| • GASALARM | Explosive gas, toxic gas, ventilation fail, or gas monitor fail            |
| • HATCH    | Controlled Environment Vault (CEV) hatch fail                              |
| • GEN      | Generator failure                                                          |
| • HIAIR    | High airflow                                                               |
| • HIHUM    | High humidity                                                              |
| • HITEMP   | High temperature                                                           |
| • HIWTR    | High water                                                                 |
| • INTRUDER | Intrusion                                                                  |
| • LEVELCON | Level converter                                                            |
| • LVDADSL  | Secondary asymmetric digital subscriber line (ADSL) low voltage disconnect |
| • LVDBYPAS | Low voltage disconnected bypass                                            |
| • LWBATVG  | Low battery voltage                                                        |
| • LWFUEL   | Low fuel                                                                   |
| • LWHUM    | Low humidity                                                               |
| • LWPRES   | Low cable pressure                                                         |
| • LWTEMP   | Low temperature                                                            |
| • LWWTR    | Low water                                                                  |
| • MISC     | Miscellaneous                                                              |
| • OPENDR   | Open door                                                                  |
| • POWER    | Commercial power failure                                                   |
| • PUMP     | Pump failure                                                               |
| • PWR-48   | 48 V power supply failure                                                  |
| • PWR-139  | –139 V power converter                                                     |
| • PWR-190  | qP190 V power converter                                                    |
| • PWRMJ    | Power supply major                                                         |
| • PWRMN    | Power supply minor                                                         |
| • RECT     | Rectifier failure                                                          |
| • RECTHI   | Rectifier high voltage                                                     |
| • RECTLO   | Rectifier low voltage                                                      |

**Table 25-4** Parameter Support

| Parameter    | Description                                                     |
|--------------|-----------------------------------------------------------------|
| • RINGENMJ   | Ring generator major                                            |
| • RINGENMN   | Ring generator minor                                            |
| • RTACADSL   | AC or AC/rectifier power fail ADSL equipment                    |
| • RTACCRIT   | AC or AC/rectifier power fail DCL equipment critical site       |
| • RTACPWR    | AC or AC/rectifier power fail DCL equipment                     |
| • RTACPWRENG | Commercial AC fail, site equipped with standby engine           |
| • RTBAYPWR   | AC power loss distributed power RT bay                          |
| • RTRVENG    | Retrieve standby engine, commercial AC restored                 |
| • SMOKE      | Smoke                                                           |
| • TEMP       | High-low temperature                                            |
| • TOXICGAS   | Toxic gas                                                       |
| • TREPEATER  | T-repeater shelf                                                |
| • VENTN      | Ventilation system failure                                      |
| <ALMMSG>     | (Optional) Alarm message. ALMMSG is a string. Must not be null. |

## 25.5 SET-ATTR-SECUDFLT

The Set Attribute Security Default (SET-ATTR-SECUDFLT) command sets the system-wide default values associated with several security parameters.

### Usage Guidelines

- The following parameters are set on a system-wide basis for all users and all privilege levels: MXINV, DURAL, UOUT, PFRCD, POLD, PINT, and LOGIN. The PRIVLVL keyword cannot be used to set these parameters for a specific privilege level.
- The following parameters are set on a privilege-level basis: PAGE, PCND, and TMOUT. If none of these values are specified, the PRIVLVL keyword must also be present. If none of these parameters are specified, the PRIVLVL keyword cannot be used.



#### Note

Password aging can only be enabled/disabled for all privilege levels. The PRIVLVL keyword cannot be used with PAGE=0 to disable a specific user privilege level.

- When system-level and privilege-level keywords are combined in the same command, system-level parameters are still set for all privilege levels, regardless of the value specified by PRIVLVL. Privilege-level parameters are only set for the privilege level specified by PRIVLVL.



#### Note

If PAGE and PINT both have values greater than 0, PINT must be less than PAGE.

The order of keywords is not restricted. Commas are only needed to separate keywords. If no keywords are specified, all parameters are left as is.

- When PWDMINLEN parameter value is 2, then it is mandatory to set the value of PWDCHRULE parameter to ANY\_CHAR rule.
- When PWDCHRULE parameter value is set to ANY\_CHAR, then the PWDMINLEN parameter can be set to 2 or 4, or 6 or 8, or 10 or 12.

**Category**

Security

**Security**

Superuser

**Input Format**

SET-ATTR-SECUDFLT:[<TID>]::<CTAG>::[PAGE=<PAGE>],[PCND=<PCND>],[MXINV=<MXINV>],[DURAL=<DURAL>],[TMOUT=<TMOUT>],[UOUT=<UOUT>],[PFRCD=<PFRCD>],[POLD=<POLD>],[PINT=<PINT>],[LOGIN=<LOGIN>],[PRIVLVL=<UAP>],[PDIF=<PDIF>],[PWDCHRULE=<PWDCHRULE>],[PWDMINLEN=<PWDMINLEN>],[PWDMAXLEN=<PWDMAXLEN>];

**Input Example**

SET-ATTR-SECUDFLT:CISCO::123::PAGE=45,PCND=5,MXINV=5,DURAL=30, TMOUT=0,UOUT=20,PFRCD=NO,POLD=5,PINT=20,LOGIN=MULTIPLE, PRIVLVL=RTRV,PDIF=1;

SET-ATTR-SECUDFLT:::1::PWDCHRULE=ANY\_CHAR,PWDMINLEN=2,PWDMAXLEN=20;

**Table 25-5 Parameter Support**

| Parameter | Description                                                                                                                                                                                                                                                                                                                                                                       |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <PAGE>    | (Optional) Password aging interval. It is the number of days before a user is prompted to change his/her password. 0 indicates the policy is turned off and is the default. If PAGE is turned on for all privilege levels and is not specified for each privilege level, it defaults to 45 days. PAGE ranges from 20 to 90 days. PAGE is an integer.                              |
| <PCND>    | (Optional) Number of days a password can be used before a new one is mandatory (that is, the warning period). Default is 5 days. PCND ranges from 2 to 20 days. PCND is an integer.                                                                                                                                                                                               |
| <MXINV>   | (Optional) Maximum number of consecutive and invalid session setup attempts allowed to occur before an intrusion attempt is suspected (that is, a “Failed Logins Before Lockout” message is received from CTC). 0 indicates the policy is turned off. Default is 5. MXINV ranges from 0 to 10. MXINV is an integer.                                                               |
| <DURAL>   | (Optional) Time interval (in seconds) during which a user ID is locked out when an intrusion attempt is suspected (that is, “Lockout Duration”). If the user is locked out until unlocked by a Superuser, DURAL=INFINITE. Default is 30 seconds. DURAL ranges from 0 to 600 seconds. DURAL is a string.                                                                           |
| <TMOUT>   | (Optional) Interval (in minutes) after which a session is terminated if no messages are exchanged between the user and the NE. 0 indicates that the session will not timeout. TMOUT ranges from 0 minutes to 999 minutes. Defaults are 0 (no timeout) for RTRV users, 60 minutes for MAINT users, 30 minutes for PROV users, and 15 minutes for SUPER users. TMOUT is an integer. |
| <UOUT>    | (Optional) UID aging interval, expressed in days. If a userid has not been used in UOUT days, the user will be forced to change his/her password (or logout) at the next login. No other command is allowed until the password has been changed. 0 is the default and indicates that the policy is turned off. UOUT is an integer that ranges from 0 to 99 days.                  |

**Table 25-5**      **Parameter Support**

| Parameter                                       | Description                                                                                                                                                                                                                                                                                                                                                                                |
|-------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <PFRCD>                                         | (Optional) Indicates a password change is required when a new user establishes a session to the NE for the first time (that is, “Require password change on 1st login”). Default is NO. The parameter type is YES_NO, which indicates whether the user’s password is about to expire, the user is logged into the NE, or the user is locked out of the NE.                                 |
| • NO                                            | No                                                                                                                                                                                                                                                                                                                                                                                         |
| • YES                                           | Yes                                                                                                                                                                                                                                                                                                                                                                                        |
| <POLD>                                          | (Optional) Number of prior passwords that cannot be reused (that is, “Prevent reusing last X passwords”). Default is 1. POLD ranges from 1 to 10. POLD is an integer.                                                                                                                                                                                                                      |
| <PINT>                                          | (Optional) Number of days that must pass before a password can be changed. If PINT is 0, the policy is turned off. Default is off. PINT is an integer that ranges from 20 to 95 days.                                                                                                                                                                                                      |
| <LOGIN>                                         | (Optional) Number of times a user can log into an NE. LOGIN is either SINGLE or MULTIPLE. If LOGIN is SINGLE, a user can only log into an NE one time with any given user ID, regardless of the method of login (that is, CTC, TL1, etc.). The default is MULTIPLE. The parameter type is USER_LOGINS, which is the number of times a user can log into the same NE with the same user ID. |
| • MULTIPLE                                      | A user can log into the same NE many times.                                                                                                                                                                                                                                                                                                                                                |
| • SINGLE                                        | A user can log into the NE only one time (includes both CTC and TL1 sessions).                                                                                                                                                                                                                                                                                                             |
| <PRIVLVL>                                       | (Optional) User’s access privilege. The parameter type is PRIVILEGE, which is the security level.                                                                                                                                                                                                                                                                                          |
| • MAINT                                         | Maintenance security level. 60 minutes of idle time.                                                                                                                                                                                                                                                                                                                                       |
| • PROV                                          | Provision security level. 30 minutes of idle time.                                                                                                                                                                                                                                                                                                                                         |
| • RTRV                                          | Retrieve security level. Unlimited idle time.                                                                                                                                                                                                                                                                                                                                              |
| • SUPER                                         | Superuser security level. 15 minutes of idle time.                                                                                                                                                                                                                                                                                                                                         |
| • ROOT_USER                                     | Root user.                                                                                                                                                                                                                                                                                                                                                                                 |
| • SEC_SUPER                                     | Security super user.                                                                                                                                                                                                                                                                                                                                                                       |
| • SEC_USER                                      | Security user.                                                                                                                                                                                                                                                                                                                                                                             |
| <PDIF>                                          | (Optional) Indicates how many characters must differ between the old and new password. Default minimum character difference is 1. PDIF ranges from 1 to 5 characters. PDIF is an integer and is rangeable.                                                                                                                                                                                 |
| <PWDCHRULE>                                     | (Optional) Password Characters Rule. Indicates the password characters rule for the specified minimum length of the password.                                                                                                                                                                                                                                                              |
| • ONE_EACH_OF_LETTER_NUM_TL1SPECIAL             | One letter, one number, and one TL1 special character (% , # , +).                                                                                                                                                                                                                                                                                                                         |
| • ONE_EACH_OF_LETTER_NUM_SPECIAL                | One letter, one number, and one special character.                                                                                                                                                                                                                                                                                                                                         |
| • TWO_EACH_OF_TWO_OF_UPPER_LOWER_NUM_TL1SPECIAL | Two each of any of the two numbers, upper, lower, or TL1 special characters.                                                                                                                                                                                                                                                                                                               |



**Table 25-5**      **Parameter Support**

| Parameter                                                                                    | Description                                                                                                                                                      |
|----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>TWO_EACH_OF_TWO_OF_UPPER_LOWER_NUM_SPECIAL</li> </ul> | Two each of any of the two numbers, upper, lower, or special characters.                                                                                         |
| <ul style="list-style-type: none"> <li>ANY_CHAR</li> </ul>                                   | Any character.                                                                                                                                                   |
| <PWDMINLEN>                                                                                  | (Optional) Password Minimum Length. Indicates the minimum number of characters that can be set for password configuration. The values are 2, 4, 6, 8, 10 and 12. |
| <PWDMAXLEN>                                                                                  | (Optional) Password Maximum Length. Indicates the maximum number of characters that can be set for password configuration. The values are 20 or 80.              |

## 25.6 SET-HOP-CPS

The Set HOP Control Plane Service (SET-HOP-CPS) command is used to add, remove and modify an HOP route constraint of a Control Plane Service.

### Usage Guidelines

- Specify only the source port to identify the CPS.
- Specify both the source AIDs, if the CPS is of type ADD 2WAY.
- CLIENT cps type support FAC and VFAC AID type.
- TRUNK cps type support CHAN AID type.
- ADD cps type support CHAN, PCHAN, and LINEWL AID type.
- In case of 1WAY, unidirectional connection, SRC and DST are single AIDs. In case of 2WAY, bidirectional connection, SRC and DST are double AIDs. However, in case of CLIENT or TRUNK cpstype, src and dst are single AID and the connection is of type 2WAY because of bidirectional ports hence this rule is not applicable.

### Category

NCS

### Security

Provisioning

### Input Format

SET-HOP-CPS:[<TID>]:<SRC>:<CTAG>::<CIRCUITTYPE>,<ROUTETYPE>,<HOPACTION>,[<POSITION>],<HOPTYPE>,<HOPNODE>,[<HOPSIDE>][:];

### Input Example

SET-HOP-CPS::VFAC-1-5-2:8::PRIMARY,MAINROUTE,ADD,,LOOSE,10.20.33.44;

|                         |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-------------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Input Parameters</b> | <SRC>         | Source AID from the “ <a href="#">27.11 CrossConnectId1</a> ” section on page 27-16.                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                         | <CIRCUITTYPE> | Identifies the target circuit. Allowed values are PRIMARY, SECONDARY.                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|                         | <ROUTETYPE>   | Identifies the target circuit route. Allowed values are MAINROUTE and BRIDGEROUTE.                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|                         | <HOPACTION>   | Identifies the action to perform on the hop item. Allowed values are: <ul style="list-style-type: none"> <li>• ADD</li> <li>• REMOVE</li> <li>• MODIFY</li> <li>• CLEARALL</li> </ul>                                                                                                                                                                                                                                                                                                                                                     |
|                         | <POSITION>    | Identifies the position of the hop in the item list. Default value is 0. <ul style="list-style-type: none"> <li>• If action=ADD and position=0 then append at the end;</li> <li>• If action=REMOVE and position=0 then remove all matching items;</li> <li>• If action=REMOVE and position&lt;&gt;0 then hop values are ignored;</li> <li>• If action=MODIFY and position&lt;&gt;0 then replace the item in the position indicated;</li> <li>• If action=CLEARALL then clears the list ignoring position and other parameters;</li> </ul> |
|                         | <HOPTYPE>     | Type of hop constraint. Allowed values are STRICT, LOOSE, EXCLUDE                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|                         | • STRICT      | The next hop of the path must be the indicated node and side                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|                         | • LOOSE       | The path must cross the indicated node and side                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|                         | • EXCLUDE     | The path must exclude the indicated node                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|                         | <HOPNODE>     | IP address of the target node.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|                         | <HOPSIDE>     | Hop constraint target WDM side.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

## 25.7 SET-OPMOD-PTSYS

The Set Operation Mode Packet Transport System (SET-OPMOD-PTSYS) sets the operation mode for the CPT 50 panel.

### Usage Guidelines

- Sets the operation mode for the PTSYS.
- OPMODE can be set as NMS or IOS.
- RETAINDB can be set only for IOS.

### Category

Equipment

**Security** Retrieve

**Input Format** SET-OPMOD-PTSYS:[<TID>]:<AID>:<CTAG>:::<OPMODE>,[RETAINDB=<RETAINDB>];

**Input Example** SET-OPMOD-PTSYS::PTSYS-1:1:::IOS,RETAINDB=Y;

|                         |            |                                       |
|-------------------------|------------|---------------------------------------|
| <b>Input Parameters</b> | <AID>      | AID of the PTSYS.                     |
|                         | <OPMODE>   | Operation mode of the PTSYSTEM.       |
|                         | • NMS      | TCP IPC mode.                         |
|                         | • IOS      | IPC mode.                             |
|                         | <RETAINDB> | Retain the database.                  |
|                         |            | Can be updated only for the IOS mode. |
|                         | Y          | Retains the database.                 |
|                         | N          | Does not retain the database.         |

## 25.8 SET-PMMODE-<VC\_PATH>

The Set Performance Mode of PM Data Collection for VC3, VC12, VC44C, VC464C, VC48C, VC4, VC416C, VC42C, or VC43C (SET-PMMODE-<VC\_PATH>) command sets the mode and turns the PM data collection mode on or off. The Cisco NCS is capable of collecting and storing section, line, and path PM data. See [Table 29-1 on page 29-1](#) for supported modifiers by platform.

### Usage Guidelines

- The PM mode and state of an entity are retrieved by using the RTRV-PMMODE command.
- The near-end monitoring of the intermediate-path performance monitoring (IPPM) only supports STM1, STM4, STM16, and STM64 on the VC path.
- The far-end IPPM data collection is supported by the MRC-12, and ADM-10G cards.
- This release of software supports only the path (P) mode PM parameters with this command. This command is not applicable for line (L) and section (S) mode types. The PM monitoring for line and section are supported and PM data is always stored.

**Category** Performance

**Security** Provisioning

**Input Format** SET-PMMODE-<VC\_PATH>:[<TID>]:<SRC>:<CTAG>::<LOCN>,<MODETYPE>,[<PMSTATE>];

**Input Example** SET-PMMODE-VC4:CISCO:VC4-4-1-1-2:123::NEND,P,ON;

**Table 25-6** Parameter Support

| Parameter  | Description                                                                                                                                                                                                                                                   |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <SRC>      | Source access identifier from the “27.10 CrossConnectId” section on page 27-15.                                                                                                                                                                               |
| <LOCN>     | Location associated with a particular command. Identifies the location from which the PM mode is to be retrieved. Only the near-end PM data collection is supported. The parameter type is LOCATION, which is the location where the action is to take place. |
| • NEND     | Action occurs on the near end of the facility.                                                                                                                                                                                                                |
| <MODETYPE> | The type of PM parameters that the entity or the subentity is to store as a result of an attribute change. Only the path (P) PM parameter is supported. The parameter type is PM_MODE, which is the type of PM parameters.                                    |
| • P        | Transport path PM parameters                                                                                                                                                                                                                                  |
| <PMSTATE>  | (Optional) Directs the named PM mode type to turn on or off. A null value defaults to on. The parameter type is PM_STATE, which directs the named PM mode type (path [P] state).                                                                              |
| • OFF      | Disable the mode.                                                                                                                                                                                                                                             |
| • ON       | Enable the mode.                                                                                                                                                                                                                                              |

## 25.9 SET-SRVTYPE

The Set Service Type (SET-SRVTYPE) command allows you to set the service type in the TNC card to carry User Data Channel (UDC) or voice over IP (VOIP) traffic.

### Usage Guidelines

- You can configure UDC or VoIP on the two SFP ports present on the TNC card. The TNC card supports the UDC/VoIP configuration only when OSC is provisioned on the SFP ports.
- You can configure UDC or VoIP on only one SFP port at a time per TNC card. If you want to configure UDC or VoIP on the second SFP port, set NONE for the first port and then set UDC or VoIP for the second port.

### Category

Ports

**Security**

Provisioning

**Input Format**

SET-SRVTYPE:[&lt;TID&gt;]:&lt;AID&gt;:&lt;CTAG&gt;:::&lt;SRVTYPE&gt;;

**Input Example**

SET-SRVTYPE::FAC-1-1-1:1::UDC;

**Input Parameters**

|           |                                                 |
|-----------|-------------------------------------------------|
| <AID>     | FAC-<Shelf>-<Slot>-<PPM>-<Port>.                |
| <SRVTYPE> | Indicates the service type set on the TNC port. |
| • UDC     | To set the service type to UDC.                 |
| • VOIP    | To set the service type to VOIP                 |
| • NONE    | To set the service type to NONE.                |

## 25.10 SET-TH-<MOD2>

The Set Threshold for 10GFC, 10GIGE, 40GIGE, 100GIGE, 1GFC, 1GFICON, 2GFC, 2GFICON, 5GIB, 4GFC, 8GFC, CLNT, D1VIDEO, DS1, DS3I, DV6000, DVBASI, E1, E3, E4, EC1, ESCON, ETRCLO, FSTE, G1000, GFPOS, GIGE, HDTV, ISC1, ISCCOMPAT, ISC3PEER2R, ISC3PEER1G, ISC3PEER2G, STM4, STM64, STM1, STM16, OCH, OMS, OTS, OTL, OTU2, OTU3, POS, STM1E, STS1, STS12C, STS18C, STS192C, STS24C, STS36C, STS3C, STS48C, STS96C, STS6C, STS9C, T1, T3, VC11, VC12, VC3, VT1, VT2, OTU1, OTU4, SDSDI, HDSDI, 3GVIDEO, ISC3STP1G, or ISC3STP2G (SET-TH-<MOD2>) command sets the threshold for PMs and sets the alarm thresholds for the MXP\_2.5G\_10G and TXP\_MR\_10G cards. If this command is used to set the alarm thresholds on, the time period is not applicable. This command sets alarm thresholds on AR-MXP, AR-XP, and AR-XPE cards and ports, and optical add/drop multiplexing (OADM). See [Table 29-1 on page 29-1](#) for supported modifiers by platform.

**Usage Guidelines**

The command supports the modifier OTU1, SDSDI, HDSDI, 3GVIDEO, ISC3STP1G, and ISC3STP2G.

The Tx power is blocked on Rx Video pluggables and vice-versa. The Tx power is not applicable on ESCON payload.

The rules are as follows:

- The PM Thresholds have a default of NEND for the location. The Alarm Thresholds do not require or interpret the location.
- The TMPER is not applicable to alarm thresholds. The TMPER default is 15-MIN.
- The client ports only accept SONET, Laser, and alarm MONTYPES. The trunk ports accept SONET, Laser, alarm, FEC, OTN, and 8B10B MONTYPES.
- The SET-TH-OTL is denied on backplane virtual ports of 100G-LC-C for optical thresholds only.
- The SET-TH-OTL is denied on sublanes of CFP-LC. The command sets the alarms thresholds on first sublane of 100G-LC-C card.
- The SET-TH-<MOD2> on 100G-LC-C, 10x10G-LC, and CFP-LC ports use MOD2 and the following AID:

- OCH (CHAN AID for non-OTU payloads on 100G-LC-C, 10x10G-LC, and CFP-LC fixed trunk ports. ACHAN for non-OTU payloads on the 100G-LC-C card using the CXP pluggable).
- MOD2 (VFAC AID for OTU payloads on 10x10G-LC and CFP-LC ports. ACHAN for OTU payloads on the 100G-LC-C card using the CXP pluggable).
- TCA threshold cannot be set on sublanes (VLINE) of CFP-LC cards.

**Category**

Performance

**Security**

Provisioning

**Input Format**

SET-TH-&lt;MOD2&gt;:[&lt;TID&gt;]:&lt;AID&gt;:&lt;CTAG&gt;::&lt;MONTYPE&gt;,&lt;THLEV&gt;,[&lt;LOCN&gt;],[&lt;TMPER&gt;];

**Input Example**

SET-TH-OTU4::VFAC-5-1-1:1::LBCL-MAX,-10;

**Table 25-7**      **Parameter Support**

| Parameter | Description                                                                                                                                                                                        |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <AID>     | Access identifier from the <a href="#">“27.1 ALL” section on page 27-1</a> . All the VC, VT1, and Facility AIDs are supported. The AR-MXP, AR-XP, and AR-XPE cards use the VFAC Access Identifier. |
| <MONTYPE> | Monitored type. The parameter type is ALL_MONTYPE, which is the monitored type list.                                                                                                               |
| • AISSP   | Alarm Indication Signal Seconds—Path                                                                                                                                                               |
| • ALL     | All possible values                                                                                                                                                                                |
| • BBEP    | NCS Background Block Errors Path                                                                                                                                                                   |
| • BBE-PM  | OTN—Background Block Errors—Path Monitor Point                                                                                                                                                     |
| • BBER    | NCS Background Block Error Ratio                                                                                                                                                                   |
| • BBER-PM | OTN—Background Block Error Ratio—Path Monitor Point expressed in tenths of a percentage                                                                                                            |
| • BBER-SM | OTN—Background Block Error Ratio—Section Monitor Point expressed in tenths of a percentage                                                                                                         |
| • BBE-SM  | OTN—Background Block Errors—Section Monitor Point                                                                                                                                                  |
| • BIEC    | FEC—Bit Errors Corrected                                                                                                                                                                           |
| • BIT-EC  | The number of bit errors corrected by the FEC algorithm                                                                                                                                            |
| • CGV     | 8B10B—Code Group Violations                                                                                                                                                                        |
| • CVCPP   | Coding Violations—CP-Bit Path                                                                                                                                                                      |
| • CVL     | Coding Violations—Line                                                                                                                                                                             |
| • CVP     | Coding Violations—Path                                                                                                                                                                             |
| • CVS     | Coding Violations—Section                                                                                                                                                                          |
| • CVV     | Coding Violations—Section                                                                                                                                                                          |

**Table 25-7**      **Parameter Support**

| Parameter                  | Description                                                                                                                                                     |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| • DCG                      | 8B10B—Data Code Groups                                                                                                                                          |
| • ESCPP                    | Errored Seconds—CP—Bit Path                                                                                                                                     |
| • ESL                      | Errored Seconds—Line                                                                                                                                            |
| • ESP                      | Errored Seconds—Path                                                                                                                                            |
| • ES-PM                    | OTN—Errored Seconds—Path Monitor Point                                                                                                                          |
| • ESR                      | Errored Second—Ratio                                                                                                                                            |
| • ESR-PM                   | Errored Seconds Ratio—Path monitor point expressed in tenths of a percentage                                                                                    |
| • ESR-SM                   | Errored Seconds Ratio—Section monitor point expressed in tenths of a percentage                                                                                 |
| • ESS                      | Errored Seconds—Section                                                                                                                                         |
| • ES-SM                    | OTN—Errored Seconds—Section Monitor Point                                                                                                                       |
| • ESV                      | Errored Seconds—VC Path                                                                                                                                         |
| • etherStatsBroadcastPkts  | The total number of good packets received that were directed to a multicast address                                                                             |
| • etherStatsCollisions     | Number of transmit packets that are collisions                                                                                                                  |
| • etherStatsCRCAlignErrors | The total number of packets received that have a length (excluding framing bits, but including frame check sequence [FCS] octets) of between 64 and 1518 octets |
| • etherStatsDropEvents     | Number of received frames dropped at the port level                                                                                                             |
| • etherStatsFragments      | The total number of packets received that were less than 64 octets                                                                                              |
| • etherStatsJabbers        | The total number of packets received that are longer than 1518 octets                                                                                           |
| • etherStatsOctets         | The total number of octets of data                                                                                                                              |
| • etherStatsOversizePkts   | The total number of packets received that are longer than 1518 octets                                                                                           |
| • etherStatsPkts           | The total number of packets (including bad packets, broadcast packets, and multicast packets) received                                                          |
| • etherStatsUndersizePkts  | The total number of packets received that are less than 64 octets                                                                                               |
| • FCP                      | Failure Count—Line                                                                                                                                              |
| • FC-PM                    | OTN—Failure Count—Path Monitor Point                                                                                                                            |
| • FC-SM                    | OTN—Failure Count—Section Monitor Point                                                                                                                         |
| • HP-AR                    | Availability Ratio                                                                                                                                              |
| • HP-BBE                   | High-Order Path Background Block Error                                                                                                                          |
| • HP-BBER                  | High-Order Path Background Block Error Ratio                                                                                                                    |
| • HP-EB                    | High-Order Path Errored Block                                                                                                                                   |
| • HP-ES                    | High-Order Path Errored Second                                                                                                                                  |
| • HP-ESA                   | High-Order Path Errored Seconds—A                                                                                                                               |
| • HP-ESB                   | High-Order Path Errored Seconds—B                                                                                                                               |
| • HP-ESR                   | High-Order Path Errored Second Ratio                                                                                                                            |
| • HP-FC                    | High-Order Path Failure Count                                                                                                                                   |
| • HP-NPJC-PDET             | High Order Path Negative Pointer Justification Count-Path Detected                                                                                              |
| • HP-NPJC-PGEN             | High Order Path Pointer Justification Count Seconds-Path Generated                                                                                              |

**Table 25-7**      **Parameter Support**

| Parameter               | Description                                                                                            |
|-------------------------|--------------------------------------------------------------------------------------------------------|
| • HP-OI                 | Outage Intensity                                                                                       |
| • HP-PJCDIFF            | High Order Path Pointer Justification Count Difference                                                 |
| • HP-PJCS-PDET          | High Order Path Pointer Justification Count Seconds-Path Detected                                      |
| • HP-PPJC-PDET          | High Order Path Positive Pointer Justification Count-Path Detected                                     |
| • HP-PPJC-PGEN          | High Order Path Positive Pointer Justification Count-Path Generated                                    |
| • HP-SEPI               | The number of High-Order Path Severely Errored Period Intensity events in available time               |
| • HP-SES                | High-Order Path Severely Errored Seconds                                                               |
| • HP-SESR               | High-Order Path Severely Errored Second Ratio                                                          |
| • HP-UAS                | High-Order Path Unavailable Seconds                                                                    |
| • ifInBroadcastPkts     | Number of broadcast packets received since the last counter reset                                      |
| • ifInDiscards          | The number of inbound packets                                                                          |
| • ifInErrorBytePktss    | Receive Error Byte                                                                                     |
| • ifInErrors            | The number of inbound packets (or transmission units) that contained errors                            |
| • ifInFramingErrorPkts  | Receive Framing Error                                                                                  |
| • ifInJunkInterPkts     | Receive Interpacket Junk                                                                               |
| • ifInMulticastPkts     | Number of multicast packets received since the last counter reset                                      |
| • ifInOctets            | Number of bytes transmitted since the last counter reset                                               |
| • ifInUcastPkts         | Number of unicast packets received since the last counter reset                                        |
| • ifOutBroadcastPkts    | Number of broadcast packets transmitted                                                                |
| • ifOutDiscards         | The number of outbound packets                                                                         |
| • ifOutErrors           | The number of outbound packets (or transmission units) that could not be transmitted because of errors |
| • ifOutMulticastPkts    | Number of multicast packets transmitted                                                                |
| • ifOutPayloadCrcErrors | Received payload cyclic redundancy check (CRC) errors                                                  |
| • ifOutUcastPkts        | Number of unicast packets transmitted                                                                  |
| • IOS                   | 8B10—Idle Ordered Sets                                                                                 |
| • IPC                   | Invalid Packet Count                                                                                   |
| • LBCL-AVG              | Average Laser Bias current in microA                                                                   |
| • LBCL-MAX              | Maximum Laser Bias current in microA                                                                   |
| • LBCL-MIN              | Minimum Laser Bias current in microA                                                                   |
| • LBCN                  | Normalized Laser Bias current for STM1-8                                                               |
| • LBCN-HWT              | Laser bias current                                                                                     |
| • LBCN-LWT              | Laser bias current                                                                                     |
| • LOSSL                 | Loss of Signal Seconds—Line                                                                            |
| • LP-BBE                | Low-Order Path Background Block Error                                                                  |
| • LP-BBER               | Low-Order Path Background Block Error Ratio                                                            |



**Table 25-7**      **Parameter Support**

| Parameter     | Description                                                    |
|---------------|----------------------------------------------------------------|
| • LP-EB       | Low-Order Path Errored Block                                   |
| • LP-ES       | Low-Order Path Errored Second                                  |
| • LP-ESA      | Low-Order Path Errored Seconds—A                               |
| • LP-ESB      | Low-Order Path Errored Seconds—B                               |
| • LP-ESR      | Low-Order Path Errored Second Ratio                            |
| • LP-FC       | Low-Order Path Failure Count                                   |
| • LP-NPJC-DET | Low Order Negative Pointer Justification Count, Detected       |
| • LP-NPJC-GEN | Low Order Negative Pointer Justification Count, Generated      |
| • LP-PPJC-DET | Low Order Positive Pointer Justification Count, Detected       |
| • LP-PPJC-GEN | Low Order Positive Pointer Justification Count, Generated      |
| • LP-SEP      | A sequence of between 3 to 9 consecutive SES                   |
| • LP-SEPI     | Low-Order Path Severely Errored Period Intensity               |
| • LP-SES      | Low-Order Path Severely Errored Seconds                        |
| • LP-UAS      | Low-Order Path Unavailable Seconds                             |
| • MS-PSC      | Protection Switch Count                                        |
| • MS-PSD      | Protection Switch Duration                                     |
| • NIOS        | 8B10B—Non Idle Ordered Sets                                    |
| • NPJC-PDET   | PPJC-PDET:Negative Pointer Justification                       |
| • NPJC-PGEN   | PPJC-PGEN:Negative Pointer Justification                       |
| • OPR-AVG     | Average Receive Power in tenths of a microW                    |
| • OPR-MAX     | Maximum Receive Power in tenths of a microW                    |
| • OPR-MIN     | Minimum Receive Power in tenths of a microW                    |
| • OPRN        | Normalized Optical Receive Power for STM1-8                    |
| • OPRN-MAX    | Maximum value for OPRN                                         |
| • OPRN-MIN    | Minimum value for OPRN                                         |
| • OPT-AVG     | Average Transmit Power in tenths of a microW                   |
| • OPT-MAX     | Maximum Transmit Power in tenths of a microW                   |
| • OPT-MIN     | Minimum Transmit Power in tenths of a microW                   |
| • OPTN        | Normalized value for Optical Power Transmitted for STM1-8 card |
| • OPTN-MAX    | Maximum value for OPTN                                         |
| • OPTN-MIN    | Minimum value for OPTN                                         |
| • OPWR-AVG    | Optical Power—Average Interval Value in tenths of a dBm        |
| • OPWR-MAX    | Optical Power—Maximum Interval Value in tenths of a dBm        |
| • OPWR-MIN    | Optical Power—Minimum Interval Value in tenths of a dBm        |
| • PPJC-PDET   | Positive Pointer Justification Count—Path Detected             |
| • PPJC-PGEN   | Positive Pointer Justification Count—Path Generated            |

**Table 25-7**      **Parameter Support**

| Parameter    | Description                                                                                 |
|--------------|---------------------------------------------------------------------------------------------|
| • PRE-FECBER | Enum to hold PRE-FECBER value                                                               |
| • PSC        | Protection Switching Count                                                                  |
| • PSC-R      | Protection Switching Count—Ring                                                             |
| • PSC-S      | Protection Switching Count—Span                                                             |
| • PSC-W      | Protection Switching Count—Working                                                          |
| • PSD        | Protection Switching Duration                                                               |
| • PSD-R      | Protection Switching Duration—Ring                                                          |
| • PSD-S      | Protection Switching Duration—Span                                                          |
| • PSD-W      | Protection Switching Duration—Working                                                       |
| • SASCPP     | Severely Errored Framing/AIS Second—CP-Bit Path                                             |
| • SASP       | Severely Errored Framing/AIS Seconds Path                                                   |
| • SEFS       | Severely Errored Framing Seconds                                                            |
| • SESCOPP    | Severely Errored Second—CP-Bit Path                                                         |
| • SESL       | Severely Errored Second—Line                                                                |
| • SESP       | Severely Errored Second—Path                                                                |
| • SES-PM     | OTN—Severely Errored Second—Path                                                            |
| • SESR       | Severely Errored Second—Ratio                                                               |
| • SESR-PM    | OTN—Severely Errored Second Ratio—Path Monitor Point expressed in tenths of a percentage    |
| • SESR-SM    | OTN—Severely Errored Second Ratio—Section Monitor Point expressed in tenths of a percentage |
| • SESS       | Severely Errored Second—Section                                                             |
| • SES-SM     | OTN—Severely Errored Second—Section Monitor Point                                           |
| • SESV       | Severely Errored Second—VC Path                                                             |
| • UASCPP     | Unavailable Second—CP-Bit Path                                                              |
| • UASL       | Unavailable Second—Line                                                                     |
| • UASP       | Unavailable Second—Path                                                                     |
| • UAS-PM     | OTN—Unavailable Second—Path Monitor Point                                                   |
| • UAS-SM     | OTN—Unavailable Second—Section Monitor Point                                                |
| • UASV       | Unavailable Second—VC Path                                                                  |
| • UNC-WORDS  | FEC—Uncorrectable Words                                                                     |
| • VPC        | Valid Packet Count                                                                          |
| • OSNR-MIN   | Minimum Optical Signal To Noise Ratio.                                                      |
| • OSNR-MAX   | Maximum Optical Signal To Noise Ratio.                                                      |
| • PMD-MIN    | Minimum Polarization Mode Dispersion.                                                       |
| • PMD-MAX    | Maximum Polarization Mode Dispersion.                                                       |
| <THELV>      | Threshold level. THLEV is a float.                                                          |

**Table 25-7**      **Parameter Support**

| Parameter  | Description                                                                                                                                                                                           |
|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <LOCN>     | (Optional) Location associated with a particular command. The parameter type is LOCATION, which is the location where the action is to take place.                                                    |
| • FEND     | Action occurs on the far end of the facility.                                                                                                                                                         |
| • NEND     | Action occurs on the near end of the facility.                                                                                                                                                        |
| <TMPER>    | (Optional) Accumulation time period for performance counters. The parameter type is TMPER, which is the accumulation time period for the performance management center.                               |
| • 1-DAY    | Performance parameter accumulation interval length is every 24 hours. For NCS PM data, only one day of history data is available. For RMON managed PM data, seven days of history data are available. |
| • 1-HR     | Performance parameter accumulation interval length is every 1 hour. This is only applicable to RMON managed PM data. There are 24 hours of history data available.                                    |
| • 1-MIN    | Performance parameter accumulation interval length is every 1 minute. This is only applicable to RMON managed PM data. There are 60 minutes of history available.                                     |
| • 15-MIN   | Performance parameter accumulation interval length is every 15 minutes. There are 32 15-MIN buckets of history data available for this accumulation interval length.                                  |
| • RAW-DATA | Performance parameter accumulation interval length starts from the last time the counters were cleared. This is only applicable to RMON managed PMs.                                                  |

## 25.11 SET-TOD

The Set Time of Day (SET-TOD) command sets the system date and time for the NE. The year should be entered using four digits while the hour should be entered using a 24-hour time period (that is, military time).

**Usage Guidelines**      None

**Category**      System

**Security**      Provisioning

**Input Format**      SET-TOD:[<TID>]::<CTAG>::<YEAR>,<MONTH>,<DAY>,<HOUR>,<MINUTE>,<SECOND>,<DIFFERENCE>][:DST=<DST>];

**Input Example**      SET-TOD:CAZADERO::240::1998,05,08,13,18,55,480:DST=Y;

**Table 25-8**      **Parameter Support**

| Parameter    | Description                                                                                      |
|--------------|--------------------------------------------------------------------------------------------------|
| <YEAR>       | The current calendar year. YEAR is an integer.                                                   |
| <MONTH>      | The month of the year. Ranges from 01 to 12. MONTH is an integer.                                |
| <DAY>        | The day of the month. Ranges from 01 to 31. DAY is an integer.                                   |
| <HOUR>       | The hour of the day. Ranges from 00 to 23. HOUR is an integer.                                   |
| <MINUTE>     | The minute of the hour. Ranges from 00 to 59. MINUTE is an integer.                              |
| <SECOND>     | The second of the minute. Ranges from 00 to 59. SECOND is an integer.                            |
| <DIFFERENCE> | (Optional) The number of minutes off UTC. DIFFERENCE is an integer.                              |
| <DST>        | (Optional) Daylight savings time. The parameter type is ON_OFF (disable or enable an attribute). |
| • N          | Disable an attribute.                                                                            |
| • Y          | Enable an attribute.                                                                             |



## SW Commands

---

This chapter provides switch (SW) commands for the Cisco NCS2002 and Cisco NCS 2006.

### 26.1 SW-DX-EQPT

The Switch Duplex Equipment (SW-DX-EQPT) command switches an XC-VXL-10G or XC-VXL-2.5G card with its redundant card within the NE.

|                         |                                                                                                                                           |
|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Usage Guidelines</b> | If sending a mode parameter with a value other than NORM, FRCD, or NULL, the Input, Data Not Valid (IDNV) error message will be returned. |
| <b>Category</b>         | Equipment                                                                                                                                 |
| <b>Security</b>         | Maintenance                                                                                                                               |
| <b>Input Format</b>     | SW-DX-EQPT:[<TID>]:<AID>:<CTAG>::[<MODE>][,];                                                                                             |
| <b>Input Example</b>    | SW-DX-EQPT:CISCO:SLOT-8:123::NORM;                                                                                                        |

**Table 26-1** *Input Parameter Support*

| Parameter | Description                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <AID>     | Access identifier from the “ <a href="#">27.13 EQPT</a> ” section on page 27-21. Identifies the equipment unit in the NE that is to be switched with its redundant card.                                                                                                                                                                                                                         |
| <MODE>    | (Optional) Command mode. Normal (NORM) mode is the default behavior for all commands but you can specify forced (FRCD) mode to force the system to override a state where the command would normally be denied. The FRCD mode of operation is applicable to delete a virtual concatenated (VCAT) member cross-connect in Unlocked-Enabled or Locked-Disabled, AutomaticInService service states. |
| • FRCD    | Force the system to override a state in which the command would normally be denied. (FRCD is not supported in this command).                                                                                                                                                                                                                                                                     |
| • NORM    | Execute the command normally. Do not override any conditions that may make the command fail.                                                                                                                                                                                                                                                                                                     |

## 26.2 SW-TOPROTN-EQPT

The Switch to Protection Equipment (SW-TOPROTN-EQPT) command performs an equipment unit protection switch.

- This command is used for electrical cards that can participate in an electrical protection group (for example, E1, E3, E4, and DS3i-N-12).
- This command will switch the traffic from the working card specified in the AID to the protect card.
- There is a priority for the switch to protection commands in 1:N protection groups with  $N > 1$ . For example, suppose a 1:N protection group has two working cards: A and B. Card A is switched to the protect card with the SW-TOPROTN command. If Card B is pulled from the system, the protect card will carry the traffic of Card B and card A will become active. When Card B is replaced and the revert timer expires, Card B will carry traffic and Card A will carry traffic. The protect card will not carry any traffic.
- In a revertive protection group, the unit specified by the AID will raise the standing condition of WKSWPR if the command were executed without an error. In a nonrevertive protection group, the unit specified by the AID will raise the transient condition of WKSWPR if the command is executed without an error.
- The following actions will return error messages:
  - The default PROTID is the protect unit if there is only one protect unit per protection group in the NE, otherwise a DENY error message will be returned.
  - This command only supports the BTH or null value of the DIRN parameter. A command with any other value is considered an incorrect use of the command. An Input, Data Not Valid (IDNV) error message will be returned.
  - This command is not used for the common control (TCC2, TCC2P, TCC3, XC-VXL-10G, XC-VXL-2.5G, or XC-VXC-10G) cards. A command on a common control card will generate an Input, Invalid Access Identifier (IIAC) error message. To switch the common control cards, use the SW-DX-EQPT and ALW-SWDX-EQPT commands.

- This command is not used for NCS (STM) cards. A command on a NCS card will return an IIAC error message. To switch an NCS card, use the OPR-PROTNSW and RLS-PROTNSW commands.
- If this command is used on a card that is not in a protection group, the Status, Not in Valid State (SNVS) error message will be returned.
- If this command is sent to a missing working card, the Status, Working Unit Failed (SWFA) error message will be returned.
- If this command is used on a protect card, the IIAC error message will be returned.
- Sending a mode parameter with a value other than NORM, FRCD, or null will return the IDNV error message.
- Sending the SW-TOPROTN command to a working card when the working card has raised INHSWPR will return the Status, Working Unit Locked (SWLD) error message.
- Sending the SW-TOPROTN command to a working card when the protection card has raised INHSWPR will return the Status, Protection Unit Locked (SPLD) error message.
- Sending the SW-TOPROTN command to an active working card when the protect card is already carrying traffic (this only occurs in a 1:N protection group with N greater than one) will return the Status, Not in Valid State (SNVS) error message.
- Sending the SW-TOPROTN command to an active working card when the protect card is failed or missing will return the Status, Protection Unit Failed (SPFA) error message.
- Sending this command to a standby working card will return the SNVS error message.

|                      |                                                                     |
|----------------------|---------------------------------------------------------------------|
| <b>Category</b>      | Equipment                                                           |
| <b>Security</b>      | Maintenance                                                         |
| <b>Input Format</b>  | SW-TOPROTN-EQPT:[<TID>]:<AID>:<CTAG>::[<MODE>],[<PROTID>],[<DIRN>]; |
| <b>Input Example</b> | SW-TOPROTN-EQPT:CISCO:SLOT-1:123::FRCD,SLOT-3,BTH;                  |

**Table 26-2 Parameter Support**

| Parameter | Description                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <AID>     | Access identifier from the “ <a href="#">27.13 EQPT</a> ” <a href="#">section on page 27-21</a> . Specifies the working unit which will have traffic switched to protection.                                                                                                                                                                                                                     |
| <MODE>    | (Optional) Command mode. Normal (NORM) mode is the default behavior for all commands but you can specify forced (FRCD) mode to force the system to override a state where the command would normally be denied. The FRCD mode of operation is applicable to delete a virtual concatenated (VCAT) member cross-connect in Unlocked-Enabled or Locked-Disabled, AutomaticInService service states. |
| • FRCD    | Force the system to override a state in which the command would normally be denied.                                                                                                                                                                                                                                                                                                              |
| • NORM    | Execute the command normally. Do not override any conditions that may make the command fail.                                                                                                                                                                                                                                                                                                     |
| <PROTID>  | (Optional) Access identifier from the “ <a href="#">27.24 PRSLOT</a> ” <a href="#">section on page 27-32</a> . Identifies the protection unit to be switched when there is more than one protection unit within the NE.                                                                                                                                                                          |
| <DIRN>    | (Optional) The direction relative to the entity defined in the AID field. The direction of the switching. This command only supports the BTH value of this parameter. DIRN defaults to BTH. The parameter type is DIRECTION, which is the transmit and receive directions.                                                                                                                       |
| • BTH     | Both transmit and receive directions                                                                                                                                                                                                                                                                                                                                                             |

## 26.3 SW-TOWKG-EQPT

The Switch to Working Equipment (SW-TOWKG-EQPT) command switches the active protect card back to working card.

### Usage Guidelines

- This command is used for electrical cards that can participate in an electrical group (for example, E1, E3, E4, and DS3i-N-12).
- This command will switch the traffic from the protection card to the working card specified by the AID.



- In a revertive protection group, the unit specified by the AID will clear the standing condition of WKSWPR if the command is executed without an error. In a nonrevertive protection group, the unit specified by the AID will raise the transient condition of WKSWBK if the command were executed without an error.
- The following actions will return error messages:
  - This command only supports the BTH or null value of the DIR> parameter. A command with any other value is considered an incorrect use of the command. An IDNV error message will be returned.
  - This command is not used for the common control (TCC2, TCC2P, TCC3, XC-VXL-10G, XC-VXL-2.5G, or XC-VXC-10G) cards. A command on a common control card will return an IIAC error message. To switch common control cards, use the SW-DX-EQPT and ALW-SWDX-EQPT commands.
  - This command is not used for NCS (STM) cards. A command on a NCS card will return an IIAC error message. To switch an NCS card, use the OPR-PROTNSW and RLS-PROTNSW commands.
  - If this command is used on a card that is not in a protection group, the SNVS error message will be returned.
  - If this command is sent to a missing working card, the SWFA error message will be returned.
  - If this command is used on a protection card, the IIAC error message will be returned.
  - If you send a mode parameter with a value other than NORM, FRCD, or null, the IDNV error message will be returned.
  - Sending the SW-TOWKG command to a working card when the working card has raised INHSWWKG will return the SWLD error message.
  - Sending the SW-TOWKG command to a working card when the protection card has raised INHSWWKG will return the SPLD error message.
  - Sending the SW-TOWKG command to an active working card will return the SNVS error message.

|                 |           |
|-----------------|-----------|
| <b>Category</b> | Equipment |
|-----------------|-----------|

|                 |             |
|-----------------|-------------|
| <b>Security</b> | Maintenance |
|-----------------|-------------|

|                     |                                                        |
|---------------------|--------------------------------------------------------|
| <b>Input Format</b> | SW-TOWKG-EQPT:[<TID>]:<AID>:<CTAG>::[<MODE>][,<DIRN>]; |
|---------------------|--------------------------------------------------------|

|                      |                                           |
|----------------------|-------------------------------------------|
| <b>Input Example</b> | SW-TOWKG-EQPT:CISCO:SLOT-2:123::FRCD,BTH; |
|----------------------|-------------------------------------------|

**Table 26-3**      **Parameter Support**

| Parameter | Description                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <AID>     | Access identifier from the “ <a href="#">27.24 PRSLOT</a> ” <a href="#">section on page 27-32</a> . Specifies the working unit which will have traffic switched to protection.                                                                                                                                                                                                                   |
| <MODE>    | (Optional) Command mode. Normal (NORM) mode is the default behavior for all commands but you can specify forced (FRCD) mode to force the system to override a state where the command would normally be denied. The FRCD mode of operation is applicable to delete a virtual concatenated (VCAT) member cross-connect in Unlocked-Enabled or Locked-Disabled, AutomaticInService service states. |
| • FRCD    | Force the system to override a state in which the command would normally be denied.                                                                                                                                                                                                                                                                                                              |
| • NORM    | Execute the command normally. Do not override any conditions that may make the command fail.                                                                                                                                                                                                                                                                                                     |
| <DIRN>    | (Optional) The direction relative to the entity defined in the AID field. The direction of the switching. This command only supports the BTH value of this parameter. DIRN defaults to BTH. The parameter type is DIRECTION, which is the transmit and receive directions                                                                                                                        |
| • BTH     | Both transmit and receive direction                                                                                                                                                                                                                                                                                                                                                              |



## Access Identifiers

This chapter describes the access identifiers (AIDs) of TL1 commands and autonomous messages for the Cisco NCS 2002 and Cisco NCS 2006.

The AID code directs an input command to its intended physical or data entity inside the network element (NE). Equipment modules and facilities are typical examples of entities addressed by the access code.

### 27.1 ALL

The table lists the ALL AIDs and patterns.

**Table 27-1**      **ALL**

| AID         | Pattern                                                                                                                                                                                           |
|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AidUnionId  | FACILITY<br>VC                                                                                                                                                                                    |
| AidUnionId1 | MS-SPRing                                                                                                                                                                                         |
| ACHAN       | ACHAN[-{1-50}]-{2-7}-{1}-{1}                                                                                                                                                                      |
| AGGR        | AGGR-[SLOT]-[APPM]-[PORT]<br>AGGR[-{1-50}]-{2-7}-{1}-{1}                                                                                                                                          |
| BAND        | ALL<br>BAND[-{1-50}]-{1-6,12-17}-{1-4}-ALL<br>BAND[-{1-50}]-{1-6,12-17}-{1-4}-{RX,TX}<br>BAND[-{1-50}]-{1-6,12-17}-{1}-ALL<br>BAND[-{1-50}]-{1-6,12-17}-{1}-{RX,TX}                               |
| BANDWL      | BANDWL-{1-6,12-17}-{1-32}-{RX,TX}-1530.33<br>BANDWL-{1-6,12-17}-{1-32}-{RX,TX}-ALL<br>BANDWL-[-{1-50}]-{1-6,12-17}-{1-32}-{RX,TX,PT}-<WLEN><br>BANDWL-[-{1-50}]-{1-6,12-17}-{1-32}-{RX,TX,PT}-ALL |

Table 27-1 ALL

| AID             | Pattern                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BITS            | ALL<br>BITS-ALL<br>BITS[<SHELFID>]-ALL<br>BITS[<SHELFID>]-{1,2}<br>SYNC[<SHELFID>]-BITS{1,2}                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| CHANNEL         | ALL<br>CHAN[-{1-50}]-{1-6,12-17}-ALL<br>CHAN[-{1-50}]-{1-6,12-17}-{1-32}-ALL<br>CHAN[-{1-50}]-{1-6,12-17}-{1-32}-{RX,TX}<br>CHAN[-{1-50}]-{1-6,12-17}-{1-32}-{RX,PT}<br>CHAN[-{1-50}]-{1-5,12-16}-{1-40}-ALL<br>CHAN[-{1-50}]-{1-5,12-16}-{1-40}-{RX,TX}<br>CHAN[-{1-50}]-{1-5,12-16}-{1-40}-{RX,PT}<br>CHAN[-{1-50}]-{1-6,12-17}-{1-4}-ALL<br>CHAN[-{1-50}]-{1-6,12-17}-{1-4}-{RX,TX}<br>CHAN[-{1-50}]-{1-6,12-17}-{2,3}<br>CHAN[-{1-50}]-{1-6,12-17}-{5}<br>CHAN[-{1-50}]-{1-6,12-17}-{9,10}<br>CHAN[-{1-50}]-{1-6,12-17}-{3,4}-{1}<br>CHAN[-{1-50}]-{1-6,12-17}-{21,22}-{1}<br>CHAN[-{1-50}]-{1-6,12-17}-{1-32}-{RX,TX,PT}<br>CHAN[-{1-50}]-{1-6,12-17}-{1-32}-ALL<br>CHAN[-{1-50}]-{1-6,12-17}-{19}-{1}<br>CHAN[-{1-50}]-{1-6,12-17}-{17,18}-{1}<br>CHAN-[SLOT]-[PORT]<br>CHAN[-{1-50}]-{2-7}-{1-10}-{1} |
| COM             | Common                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| CrossConnectId  | FACILITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| CrossConnectId1 | VCM<br>FACILITY<br>VC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

Table 27-1 ALL

| AID      | Pattern                                                                                                                                                                                                                                                                                               |
|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ENV      | ALL<br>ENV-IN-ALL<br>ENV-IN[-{1-50}]-ALL<br>ENV-IN[-{1-50}]-{1-20}<br>ENV-IN[-{1-50}]-{1-32}<br>ENV-IN[-{1-50}]-{1-3}<br>ENV-IN[-{1-50}]-{1-4}                                                                                                                                                        |
| EQPT     | ALL<br>AIP-ALL<br>AIP[-{1-50}]<br>BIC-ALL<br>BIC[-{1-50}]-ALL<br>BIC[-{1-50}]-{A,B}<br>BP-ALL<br>BP[-{1-50}]<br>FAN-ALL<br>FAN[-{1-50}]<br>PPM-{1-6,12-17}-1                                                                                                                                          |
| FACILITY | ALL<br>FAC[-{1-50}]-{1-4,14-17}-{1-12}<br>FAC[-{1-50}]-{1-6,12-17}-1<br>FAC[-{1-50}]-{1-6,12-17}-ALL<br>FAC[-{1-50}]-{1-6,12-17}-{0-11}<br>FAC[-{1-50}]-{1-6,12-17}-{0-1}<br>FAC[-{1-50}]-{1-6,12-17}-{1-50,14,16,18,20,22,24,26,28,30,32,34,36}<br>FAC[-{1-50}]-{1-6,12-17}-{1-50,14,16,18,20,22,24} |
| IPADDR   | 111.222.333.444                                                                                                                                                                                                                                                                                       |

Table 27-1 ALL

| AID       | Pattern                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LINE      | LINE[-{1-50}]-{1-6,12-17}-{1-2}-ALL<br>LINE[-{1-50}]-{1-6,12-17}-{1-2}-{RX,TX}<br>LINE[-{1-50}]-{1-6,12-17}-{1-3}-ALL<br>LINE[-{1-50}]-{1-6,12-17}-{1-3}-{RX,TX}<br>LINE[-{1-50}]-{8,10}-{1}-ALL<br>LINE[-{1-50}]-{8,10}-{1}-{RX,TX}<br>LINE-[[{1-50}]-]{1-6,12-17}-{1}-{RX,TX}(COM)<br>LINE-[[{1-50}]-]{1-6,12-17}-{2}-{RX,TX}(OSC)<br>LINE-[[{1-50}]-]{1-6,12-17}-{3}-{RX,TX}(LINE)<br>LINE-[[{1-50}]-]{1-6,12-17}-{1-3}-ALL<br>LINE-[[{1-50}]-]{1-6,12-17}-{1}-{RX,TX}(LINE)<br>LINE-[[{1-50}]-]{1-6,12-17}-{2}-{RX,TX}(COM)<br>LINE-[[{1-50}]-]{1-6,12-17}-{3}-{RX,TX}(OSC)<br>LINE-[[{1-50}]-]{1-6,12-17}-{4}-{RX,TX}(DC)<br>LINE-[[{1-50}]-]{1-6,12-17}-{1-4}-ALL<br>LINE-[[{1-50}]-]{1-6,12-17}-1-RX (For input OTS)<br>LINE-[[{1-50}]-]{1-6,12-17}-1-ALL                                                                 |
| LINEWL    | LINEWL[-{1-50}]-{1-6,8,10,12-17}-ALL<br>LINEWL[-{1-50}]-{1-6,12-17}-{1}-{RX,TX}-ALL<br>LINEWL[-{1-50}]-{1-6,12-17}-{1}-{RX,TX}-<WLEN><br>LINEWL[-{1-50}]-{1-6,12-17}-{1-3}-{RX,TX}-ALL<br>LINEWL[-{1-50}]-{1-6,12-17}-{1-3}-{RX,TX}-<WLEN><br>LINEWL[-{1-50}]-{1-6,12-17}-{1-2}-{RX,TX}-ALL<br>LINEWL[-{1-50}]-{1-6,12-17}-{1-2}-{RX,TX}-<WLEN><br>LINEWL[-{1-50}]-{1-6,12-17}-{1-2}-{RX,TX}-ALL<br>LINEWL[-{1-50}]-{1-6,12-17}-{1-2}-{RX,TX}-<WLEN><br>LINEWL[-{1-50}]-{1-6,12-17}-{1,3,4}-{RX,TX}-ALL<br>LINEWL[-{1-50}]-{1-6,12-17}-{1,3,4}-{RX,TX}-<WLEN><br>LINEWL-[[{1-50}]-]{1-5,12-16}-{1-8}-{RX}-<WLEN><br>LINEWL-[[{1-50}]-]{1-5,12-16}-{9}-{RX,TX}-<WLEN><br>LINEWL-[[{1-50}]-]{1-5,12-16}-{10}-{TX}-<WLEN><br>LINEWL-[[{1-50}]-]{1-5,12-16}-{11}-{RX,TX}-<WLEN><br>LINEWL[-{1-50}]-{1-6,12-17}-{1-3}-{RX,TX}-<LABEL> |
| MS-SPRing | MSSPR-RINGID                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| ODU0      | ODU0[-{1-50}]-{1-6,12-17}-{1-10}-{1}-{1-4}-{1-2}                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

Table 27-1 ALL

| AID      | Pattern                                                                                                                        |
|----------|--------------------------------------------------------------------------------------------------------------------------------|
| OPM      | ALL<br>OPM[-{1-50}]-{1-5,12-16}-<WLEN><br>OPM[-{1-50}]-{1-5,12-16}-ALL                                                         |
| OSC      | OSC-RINGID                                                                                                                     |
| PR SLOT  | NULL<br>SLOT-1<br>SLOT-13<br>SLOT-15<br>SLOT-17<br>SLOT-3<br>SLOT-5                                                            |
| RPRIF    | ALL<br>RPRIF-{1-6,12-17}-0                                                                                                     |
| RFILE    | RFILE-DB<br>RFILE-LOG<br>RFILE-PKG<br>RFILE-COMPDB                                                                             |
| SHELF    | SHELF-ALL<br>SHELF-{1-50}                                                                                                      |
| SYN      | SYNC-NE                                                                                                                        |
| SYN_SRC  | BITS-1<br>BITS-2<br>FAC-{1-4,11-14}-{1-16}<br>FAC-{1-4,11-14}-{1-4}<br>FAC-{1-4}-1<br>FAC-{1-4}-{1-4}<br>FAC-{1-6,12-17}-{1-4} |
| SYNC_REF | SYNC-ALL<br>SYNC-NE<br>SYNC-{BITS1,BITS2}                                                                                      |
| SYNCSW   | INT<br>PRI<br>SEC                                                                                                              |
| UDC      | UDC-{F,DCC}-{A,B}                                                                                                              |

Table 27-1 ALL

| AID    | Pattern                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| VC     | VC11-{1-4,14-17}-{1-12}-1-{1-3}-{1-7}-{1-4}VC11-{1-4,14-17}-{1-4}-{1-4}-{1-3}-{1-7}-{1-4}<br>VC11-{1-4,14-17}-{1-8}-1-{1-3}-{1-7}-{1-4}VC11-{1-6,12-17}-1-1-{1-7}-{1-2}VC11-{1-6,12-<br>17}-1-{1-16}-{1-3}-{1-7}-{1-4}VC11-{1-6,12-17}-1-{1-4}-{1-3}-{1-7}-{1-4}VC11-{1-6,12-17}<br>-1-4-1-1-1-3-1-7-1-4VC12-{1-4,14-17}-{1-12}-1-{1-3}-{1-7}-{1-3}VC12-{1-4,14-17}-{1-4}<br>-1-4-1-3-1-7-1-3VC12-{1-4,14-17}-{1-8}-1-1-3-1-7-1-3VC12-{1-6,12-17}-1-1-<br>1-7-1-2VC12-{1-6,12-17}-1-1-16-1-3-1-7-1-3VC12-{1-6,12-17}-1-1-2-1-7-1-3<br>VC12-{1-6,12-17}-1-1-4-1-3-1-7-1-3VC12-{1-6,12-17}-{1-4}-1-1-3-1-7-1-3V<br>C3-{1-14,14-17}-{1-12}-1-1-3VC3-{1-4,14-17}-{1-4}-{1-4}-{1-3}VC3-{1-4,14-17}-{1-8}-1-1-<br>1-3VC3-{1-6,12-17}-1-1-16-1-3VC3-{1-6,12-17}-1-1-4-1-3VC3-{1-6,12-17}-{1-4}-1-1-<br>1-3VC3-{1-6,12-17}-{1-4}-{1-3}VC4-{1-4,11-14}-{1-16}-1VC4-{1-4,11-14}-{1-16}-{1,5,9,13}<br>VC4-{1-4,11-14}-{1-16}-{1,9}VC4-{1-4,11-14}-{1-4}-1 |
| VCFAC  | VCFAC[-{1-50}]{2-7}{1-2}                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| VFAC   | VFAC[-{1-50}]{2-7}{1-10}-1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| VCHAN  | VCHAN[-{1-50}]{2-7}{1-2}                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| VLINE  | VLINE[-{1-50}]{2-7}{1-2}{1}{1-12}                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| WDMANS | WDMSIDE-{UNKNOWN,A,B,C,D,E,F,G,H}<br>WDMNODE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| WLEN   | WLEN-{E,W}-{ADD,DROP,EXP}-{1530.33,1531.12,1531.90,1532.68,1534.25,1535.04,1535.82,<br>1536.61,1538.19,1538.98,1539.77,1540.56,1542.14,1542.94,1543.73,1544.53,1546.12,<br>1546.92,1547.72,1548.51,1550.12,1550.92,1551.72,1552.52,1554.13,1554.94,1555.75,1556.55,<br>1558.17,1558.98,1559.79,1560.61}                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |



## 27.2 AidUnionId

Table 27-2 lists the AidUnionId AIDs and patterns.

Table 27-2 AidUnionId

| AID      | Patterns                                                   |
|----------|------------------------------------------------------------|
| Facility | ACHAN[-{1-50}]-{2-7}-{1}-{1}                               |
|          | FAC-{5,6,12,13}-{1}                                        |
|          | AGGR[-{1-50}]-{2-7}-{1}-{1}                                |
|          | FAC-{5-6}-{1-28}                                           |
|          | CHAN[-{1-50}]-{2-7}-{2}                                    |
|          | FAC-{5-6}-{1-3}                                            |
|          | CHAN[-{1-50}]-{2-7}-{1-10}-{1}                             |
|          | FAC-{8,10}-{1}                                             |
|          | E1-{2}-{1-21}                                              |
|          | FSSTE-{1,2,5,6}-{0-7}                                      |
|          | E3-{2}-{1-3}                                               |
|          | FSSTE-{1,2,5,6}-{1-8}                                      |
|          | FAC-{1-4,11-14}-ALL                                        |
|          | FSSTE-{1}-{0-7}                                            |
|          | FAC-{1-4,11-14}-{1-16}                                     |
|          | FSSTE-{1}-{1-8}                                            |
|          | FAC-{1-4,11-14}-{1-4}                                      |
|          | STM1-{2}-{1-2}-{1}                                         |
|          | FAC-{1-4,11-14}-{1-4}-{1-4}-{1}                            |
|          | STM1-{3,4}-{1-2}-{1}                                       |
|          | FAC-{1-4,14-17}-{1-8}                                      |
|          | STM4-{2}-{1-2}-{1}                                         |
|          | FAC-{1-4}-1                                                |
|          | STM4-{3,4}-{1-2}-{1}                                       |
|          | FAC-{1-4}-{1-4}                                            |
|          | STM16-{3,4}-{1-2}-{1}                                      |
|          | FAC-{1-6,12-17}-1                                          |
|          | VFAC-{1,2,5,6}-{0-1}                                       |
|          | FAC-{1-6,12-17}-ALL                                        |
|          | VFAC-{1,2,5,6}-{1-8}                                       |
|          | FAC-{1-6,12-17}-{0-11}                                     |
|          | VFAC-{1-4,11-14}-{1-4}-{1-4}-1                             |
|          | FAC-{1-6,12-17}-{0-1}                                      |
|          | VFAC-{1-6,12-17}-{0-1}                                     |
|          | FAC-{1-6,12-17}-{1-12,14,16,18,20,22,24,26,28,30,32,34,36} |
|          | VFAC-{1-6,12-17}-{1,2}                                     |
|          | VFAC-{1-6,12-17}-{1,2}-{1,8}                               |
|          | FAC-{1-6,12-17}-{1-12,14,16,18,20,22,24}                   |
|          | VFAC-{1}-{0-1}                                             |
|          | VFAC-{1}-{1-8}                                             |
|          | VFAC-{1}-{1-8}                                             |
|          | VFAC[-{1-50}]-{2-7}-{1-10}-{1}                             |
|          | VLINE[-{1-50}]-{2-7}-{1-2}-{1}-{1-12}                      |
|          | FAC-{1-6,12-17}-{1-12}                                     |
|          | FAC-{1-6,12-17}-{1-4}                                      |
|          | FAC-{1-6,12-17}-{1-6}                                      |
|          | FAC-{1-6,12-17}-{1}                                        |
|          | FAC-{1-6}-ALL                                              |

Table 27-2 AidUnionId (continued)

| AID | Patterns                                                             |
|-----|----------------------------------------------------------------------|
| VC  | VC11-{1-4,14-17}-{1-12}-1-{1-3}-{1-7}-{1-4}                          |
|     | VC4-{1-4,11-14}-{1-4}-{1,17,33,49}                                   |
|     | VC4-{1-4,11-14}-{1-4}-{1,5,9,13,17,21,25,29,33,37,41,45,49,53,57,61} |
|     | VC11-{1-4,14-17}-{1-4}-{1-4}-{1-3}-{1-7}-{1-4}                       |
|     | VC4-{1-4,11-14}-{1-4}-{1,9,17,25,33,41,49,57}                        |
|     | VC11-{1-4,14-17}-{1-8}-1-{1-3}-{1-7}-{1-4}                           |
|     | VC4-{1-4,11-14}-{1-4}-{1-64}                                         |
|     | VC11-{1-6,12-17}-1-1-{1-7}-{1-2}                                     |
|     | VC4-{1-4,14-17}-1                                                    |
|     | VC4-{1-4,14-17}-1-1                                                  |
|     | VC11-{1-6,12-17}-1-{1-16}-{1-3}-{1-7}-{1-4}                          |
|     | VC4-{1-4,14-17}-{1-12}-1                                             |
|     | VC4-{1-4,14-17}-{1-4}-1                                              |
|     | VC11-{1-6,12-17}-1-{1-4}-{1-3}-{1-7}-{1-4}                           |
|     | VC4-{1-4,14-17}-{1-4}-{1-2}                                          |
|     | VC11-{1-6,12-17}-{1-4}-1-{1-3}-{1-7}-{1-4}                           |
|     | VC4-{1-4,14-17}-{1-4}-{1-3}                                          |
|     | VC4-{1-4,14-17}-{1-4}-{1-4}                                          |
|     | VC12-{1-4,14-17}-{1-12}-1-{1-3}-{1-7}-{1-3}                          |
|     | VC4-{1-4,14-17}-{1-8}-1                                              |
|     | VC4-{1-6,12-17}-1                                                    |
|     | VC12-{1-4,14-17}-{1-4}-{1-4}-{1-3}-{1-7}-{1-3}                       |
|     | VC4-{1-6,12-17}-1-1                                                  |
|     | VC12-{1-4,14-17}-{1-8}-1-{1-3}-{1-7}-{1-3}                           |
|     | VC4-{1-6,12-17}-1-1                                                  |
|     | VC12-{1-6,12-17}-1-1-{1-7}-{1-2}                                     |
|     | VC4-{1-6,12-17}-1-1-1                                                |
|     | VC12-{1-6,12-17}-1-{1-16}-{1-3}-{1-7}-{1-3}                          |
|     | VC4-{1-6,12-17}-1-1-1                                                |
|     | VC12-{1-6,12-17}-1-{1-2}-{1-7}-{1-3}                                 |
|     | VC4-{1-6,12-17}-1-1-1                                                |
|     | VC12-{1-6,12-17}-1-{1-4}-{1-3}-{1-7}-{1-3}                           |
|     | VC4-{1-6,12-17}-1-1-1                                                |
|     | VC12-{1-6,12-17}-1-{1-4}-1-{1-3}-{1-7}-{1-3}                         |
|     | VC4-{1-6,12-17}-1-1-1                                                |
|     | VC3-{1-14,14-17}-{1-12}-1-{1-3}                                      |
|     | VC4-{1-6,12-17}-{1-4}                                                |
|     | VC3-{1-4,14-17}-{1-4}-{1-4}-{1-3}                                    |
|     | VC4-{1-6,12-17}-{1-4}-1                                              |
|     | VC3-{1-4,14-17}-{1-8}-1-{1-3}                                        |
|     | VC4-{1-6,12-17}-1-{1-16}                                             |
|     | VC3-{1-6,12-17}-1-{1-16}-{1-3}                                       |
|     | VC4-{1-6,12-17}-1-1-1                                                |
|     | VC3-{1-6,12-17}-1-{1-4}-{1-3}                                        |
|     | VC4-{1-6,12-17}-1-1-1                                                |
|     | VC3-{1-6,12-17}-1-{1-4}-1-{1-3}                                      |
|     | VC4-{1-6,12-17}-1-1-1                                                |
|     | VC3-{1-6,12-17}-1-{1-4}-{1-3}                                        |
|     | VC4-{1-6,12-17}-1-1-1                                                |
|     | VC4-{1-4,11-14}-{1-16}-1                                             |
|     | VC4-{1-4,11-14}-{1-16}-{1,5,9,13}                                    |
|     | VC4-{1-4,11-14}-{1-16}-{1,9}                                         |
|     | VC4-{1-4,11-14}-{1-4}-1                                              |

## 27.3 AidUnionId1

Table 27-3 lists the AidUnionId1 AIDs and patterns.

**Table 27-3** AidUnionId1

| AID       | Patterns            |
|-----------|---------------------|
| MS-SPRing | ALL<br>MSSPR-RINGID |

## 27.4 BAND

The BAND AID is used to access Optical Multiplex Section (OMS) layer of optical networking units. Table 27-4 lists the BAND AIDs and their descriptions.

AID for OCH interface of CXP port on 100G-LC-C card: ACHAN-[SLOT]-[PPM]-[PORT].

AID for fixed trunk on 100G-LC-C card: CHAN-[SLOT]-[PORT].

**Table 27-4** BAND

| Pattern                                 | Description                                                                            |
|-----------------------------------------|----------------------------------------------------------------------------------------|
| ALL                                     | All of the OMSs of the NE. The ALL AID is applicable for retrieve-only commands.       |
| BAND[-{1-50}]-{1-6,12-17}-{1-4}-ALL     | All the channels in a Band OADM (AD-1B-xx.x, AD-4B-xx.x) unit.                         |
| BAND[-{1-50}]-{1-6,12-17}-{1-4}-{RX,TX} | The Receive/Transmit channels in a Band OADM (AD-1B-xx.x, AD-4B-xx.x) unit.            |
| BAND[-{1-50}]-{1-6,12-17}-{1}-ALL       | All the channels in an Optical Multiplexer/Demultiplexer (4MD-xx.x) unit.              |
| BAND[-{1-50}]-{1-6,12-17}-{1}-{RX,TX}   | The Receive/Transmit channels in an Optical Multiplexer/Demultiplexer (4MD-xx.x) unit. |

## 27.5 BANDWL

Band wavelength. Identifies a wavelength channel included in any of the lower layer OMS facilities.

Table 27-5 lists the BANDWL AIDs and their descriptions.

**Table 27-5** BANDWL

| Pattern                                   | Description                                                                                            |
|-------------------------------------------|--------------------------------------------------------------------------------------------------------|
| BANDWL-{1-6,12-17}-{1-32}-{RX,TX}-1530.33 | Identifies an allocated wavelength channel included in any of the lower layer OMS facilities.          |
| BANDWL-{1-6,12-17}-{1-32}-{RX,TX}-ALL     | Identifies all of the allocated wavelength channels included in any of the lower layer OMS facilities. |

Table 27-5 *BANDWL (continued)*

| Pattern                                                         | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BANDWL-[{ 1-50 }-]{ 1-6,12-17 }-<br>{ 1-32 }-{RX,TX,PT }-<WLEN> | OCH is the termination point of OCHNC connections and it is also used to report alarms and conditions eventually notified by the node connection anomalies. Because the endpoints of an OCHNC connection can be both at the OCH filter level and at the node LINE OTS single wavelength level, this logical termination is useful to represent univocally a wavelength termination independently by the physical port it is contained in. The format is<br>CHAN-[SHELF]-[SLOT]-[PORT]-[PORTDIRECTION]-[WAVELENGTH]. WAVELENGTH is in the form of 15xx.yy. |
| BANDWL-[{ 1-50 }-]{ 1-6,12-17 }-<br>{ 1-32 }-{RX,TX,PT }-ALL    | OCH is the termination point of OCHNC connections and it is also used to report alarms and conditions eventually notified by the node connection anomalies. Because the endpoints of an OCHNC connection can be both at the OCH filter level and at the node LINE OTS single wavelength level, this logical termination is useful to represent univocally a wavelength termination independently by the physical port it is contained in. The format is<br>CHAN-[SHELF]-[SLOT]-[PORT]-[PORTDIRECTION]-[WAVELENGTH]. WAVELENGTH is in the form of 15xx.yy. |

## 27.6 BITS

AID for building integrated timing supply (BITS). [Table 27-6](#) lists the BITS AIDs and their descriptions.

Table 27-6 *BITS*

| Pattern                   | Description                                                                                                                                                                                                                                                       |
|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ALL                       | The ALL AID is applicable to RTRV commands only (RTRV-BITS, RTRV-ALM-BITS, and RTRV-COND-BITS). The All AID is equivalent to BITS-ALL for these commands. For RTRV-ALM-SYNCN and RTRV-COND-SYNCN, the ALL AID translates to BITS-ALL, SYNC-BITS1, and SYNC-BITS2. |
| BITS-ALL                  | BITS AIDs of both BITS-1 and BITS-2 in the RTRV-BITS command.                                                                                                                                                                                                     |
| BITS[<SHELFID>]-ALL       | BITS shelf ID of both BITS-1 and BITS-2 in the RTRV-BITS command.                                                                                                                                                                                                 |
| BITS[<SHELFID>]-{1,2}     | Individual BITS AID.                                                                                                                                                                                                                                              |
| SYNC[<SHELFID>]-BITS{1,2} | BITS-OUT AIDs of BITS-1 and BITS-2. These AIDs are applicable only in ED-BITS and RTRV-BITS commands and are used for setting and retrieving the BITS-OUT parameters.                                                                                             |

## 27.7 CHANNEL

Accesses the Optical Channel (OCH) layer of optical networking/client units. [Table 27-9](#) lists the CHANNEL AIDs and their descriptions.

**Table 27-7** CHANNEL

| CHANNEL Values                           | Description                                                                                                                                                                                                                                                                        |
|------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ALL                                      | ALL OCHs of the NE. The ALL AID is applicable for retrieve-only commands.                                                                                                                                                                                                          |
| ACHAN[-{1-50}]-{2-7}-{1}-{1}             | Identifies the OCH Facility of Aggregate port of 100G-LC-C Card.                                                                                                                                                                                                                   |
| CHAN[-{1-50}]-{2-7}-{2}                  | Identifies the Fixed Trunk or the Coherent Trunk on 100G-LC-C Card.                                                                                                                                                                                                                |
| CHAN[-{1-50}]-{1-6,12-17}-ALL            | All the channels of an Optical Transponder/Muxponder. The format is CHAN-[SLOT]-ALL                                                                                                                                                                                                |
| CHAN[-{1-50}]-{1-6,12-17}-{1-32}-ALL     | All the channels in an Optical Multiplexer/Demultiplexer 32WSS unit. The format is CHAN-[SHELF]-[SLOT]-[PORT]-ALL.                                                                                                                                                                 |
| CHAN[-{1-50}]-{1-6,12-17}-{1-32}-{RX,TX} | The Receive/Transmit channels in an Optical Multiplexer/Demultiplexer (32DMX, 32MUX) units. The format is CHAN-[SHELF]-[SLOT]-[PORT]-[DIRECTION].                                                                                                                                  |
| CHAN[-{1-50}]-{1-6,12-17}-{1-32}-{RX,PT} | The Receive/Pass-through channels in an Optical 32WSS unit. The format is CHAN-[SHELF]-[SLOT]-[PORT]-[DIRECTION].                                                                                                                                                                  |
| CHAN[-{1-50}]-{1-5,12-16}-{1-40}-ALL     | All the channels in Optical Multiplexer/Demultiplexer/WSS (40Ch) units. The format is CHAN-[SHELF]-[SLOT]-[PORT]-ALL.                                                                                                                                                              |
| CHAN[-{1-50}]-{1-5,12-16}-{1-40}-{RX,TX} | The receive/transmit channels in an Optical Multiplexer/Demultiplexer (40Ch) unit. The format is CHAN-[SHELF]-[SLOT]-[PORT]-[DIRECTION].                                                                                                                                           |
| CHAN[-{1-50}]-{1-5,12-16}-{1-40}-{RX,PT} | The Receive/Pass-through channels in an Optical WSS (40Ch) unit. The format is CHAN-[SHELF]-[SLOT]-[PORT]-[DIRECTION].                                                                                                                                                             |
| CHAN[-{1-50}]-{1-6,12-17}-{1-4}-ALL      | All the Channels in an OADM (AD-1C-xx.x, AD-2C-xx.x, AD-4C-xx.x) unit or Optical Multiplexer/Demultiplexer (4MD-xx.x) units. The format is CHAN-[SHELF]-[SLOT]-[PORT]-ALL.                                                                                                         |
| CHAN[-{1-50}]-{1-6,12-17}-{1-4}-{RX,TX}  | The Receive/Transmit Channels in an OADM (AD-1C-xx.x, AD-2C-xx.x, AD-4C-xx.x) unit or Optical Multiplexer/Demultiplexer (4MD-xx.x) unit. The format is CHAN-[SHELF]-[SLOT]-[PORT]-[DIRECTION].                                                                                     |
| CHAN[-{1-50}]-{1-6,12-17}-{2,3}          | A single channel of an Optical Transponder/Muxponder. The TXP_MR_10G, TXP_MR_10E, and TXP_MR_2.5G cards use CHAN-[SHELF]-SLOT-2 for the one NCS Facility. The TXPP_MR_2.5G card uses CHAN-[SHELF]-SLOT-{2,3} for the two NCS Facilities. The format is CHAN-[SHELF]-[SLOT]-[PORT]. |

Table 27-7 CHANNEL (continued)

| CHANNEL Values                              | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|---------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CHAN[-{1-50}]-{1-6,12-17}-{5}               | A single channel of an Optical Muxponder. The TXP_MR_10G and TXP_MR_10E cards use CHAN-[SHELF]-SLOT-5 for the one NCS facility. The TXP_MR_10G uses the CHAN-[SHELF]-SLOT-5 for the one NCS facility. The format is CHAN-[SHELF]-[SLOT]-[PORT].                                                                                                                                                                                                                                                                                            |
| CHAN[-{1-50}]-{1-6,12-17}-{9,10}            | A single channel of an Optical Muxponder. The MXP_MR_10DME_C and MXP_2.5G_10G cards use CHAN-[SHELF]-SLOT-9 for the one NCS Facility. The MXPP_2.5G_10G card uses CHAN-[SHELF]-SLOT-{9,10} for the two NCS Facilities. The format is CHAN-[SHELF]-[SLOT]-[PORT].                                                                                                                                                                                                                                                                           |
| CHAN[-{1-50}]-{1-6,12-17}-{3,4}-{1}         | A single channel of an Optical Muxponder. The 10GE-XP uses CHAN-[SHELF]-SLOT-{3,4}-1 for the two NCS facilities. The format is CHAN-[SHELF]-[SLOT]-[PPM]-[PORT].                                                                                                                                                                                                                                                                                                                                                                           |
| CHAN[-{1-50}]-{1-6,12-17}-{21,22}-{1}       | A single channel of an Optical Muxponder. The GE-XP uses CHAN-[SHELF]-SLOT-{11,12}-1 for the two NCS facilities. The format is CHAN-[SHELF]-[SLOT]-[PPM]-[PORT].                                                                                                                                                                                                                                                                                                                                                                           |
| CHAN[-{1-50}]-{1-6,12-17}-{1-32}-{RX,TX,PT} | OCH is the termination point of OCHNC connections and it is also used to report alarms and conditions eventually notified by the node connection anomalies. Because the end points of an OCHNC connection can be both at the OCH filter level and at the node LINE OTS single wavelength level, this logical termination is useful to represent univocally a wavelength termination independently by the physical port it is contained in. The format is CHAN-[SHELF]-[SLOT]-[PORT]-[PORTDIRECTION].                                       |
| CHAN[-{1-50}]-{1-6,12-17}-{1-32}-ALL        | OCH is the termination point of OCHNC connections and it is also used to report alarms and conditions eventually notified by the node connection anomalies. Because the end points of an OCHNC connection can be both at the OCH filter level and at the node LINE OTS single wavelength level, this logical termination is useful to represent univocally a wavelength termination independently by the physical port it is contained in. The format is CHAN-[SHELF]-[SLOT]-[PORT]-[PORTDIRECTION]-[WAVELENGTH (in the form of 15xx.yy)]. |
| CHAN[-{1-50}]-{1-6,12-17}-{19}-{1}          | A single channel of an ADM-10G card. ADM-10G uses CHAN-[SHELF]-SLOT-19 for one NCS Facility. Format is CHAN-[SHELF]-[SLOT]-[PPM]-[PORT].                                                                                                                                                                                                                                                                                                                                                                                                   |
| CHAN[-{1-50}]-{1-6,12-17}-{17,18}-{1}       | The NCS interlinks between two peer ADM-10G cards. ADM-10G uses CHAN-[SHELF]-SLOT-{17,18} for the two NCS interlinks Facilities. Format is CHAN-[SHELF]-[SLOT]-[PPM]-[PORT].                                                                                                                                                                                                                                                                                                                                                               |
| CHAN[-{1-50}]-{1-6,12-17}-{19}-{1}          | A single channel of an ADM-10G card. ADM-10G uses CHAN-[shelf]-slot-19 for the 1 NCS Facility. Format is CHAN-[shelf]-[slot]-[ppm]-[port].                                                                                                                                                                                                                                                                                                                                                                                                 |
| CHAN[-{1-50}]-{2-7}-{1-10}-{1}              | Identifies OCH interface of SFP+ ports on 10x10G-LC and CFP ports on CFP-LC.                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| CHAN[-{1--0}]-{1-6,12-17}-{17,18}-{1}       | The NCS Interlinks between 2 peer ADM-10G cards. ADM-10G uses CHAN-[shelf]-slot-{17,18} for the 2 NCS Interlinks Facilities. Where format is CHAN-[shelf]-[slot]-[ppm]-[port]. In Release 9.0 or later, Port Number 18 can be used as an optical channel in the single card mode, the AID and the format remain the same.                                                                                                                                                                                                                  |

Table 27-7 CHANNEL (continued)

| CHANNEL Values                | Description                                                                                                                                                                                                                                                                 |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PCHAN-ALL                     | All the Channels in all the Passive patch panel module where format is PCHAN-ALL. This AID is applicable to OCH commands like ENT/DLT/RTRV-LNK, ENT/DLT/ED/RTRV-OCHNC, RTRV-OCH, ENT/ED/RTRV/OPR/RLS/DLT-CPS, SET/RTRV-HOP-CPS.                                             |
| PCHAN-{1-96}-ALL              | All the Channels in a Passive patch panel module where format is PCHAN-[id]-ALL. This AID is applicable to OCH commands like ENT/DLT/RTRV-LNK, ENT/DLT/ED/RTRV-OCHNC, RTRV-OCH, ENT/ED/RTRV/OPR/RLS/DLT-CPS, SET/RTRV-HOP-CPS.                                              |
| PCHAN-{1-96}-{1-4}-ALL        | All the TX and RX Channels in a port of 15216-FLD-xx-x, passive modules where format is PCHAN-[id]-[port]-ALL. This AID is applicable to OCH commands like ENT/DLT/RTRV-LNK, ENT/DLT/ED/RTRV-OCHNC, RTRV-OCH, ENT/ED/RTRV/OPR/RLS/DLT-CPS, SET/RTRV-HOP-CPS.                |
| PCHAN-{1-96}-{1-4}-{RX-TX}    | All the TX and RX Channels in a port of 15216-FLD-xx-x, passive modules where format is PCHAN-[id]-[port]-[direction]. This AID is applicable to OCH commands like ENT/DLT/RTRV-LNK, ENT/DLT/ED/RTRV-OCHNC, RTRV-OCH, ENT/ED/RTRV/OPR/RLS/DLT-CPS, SET/RTRV-HOP-CPS.        |
| PCHAN-{1-96}-{1-40}-ALL       | All the TX and RX Channels in a port of 15216-MD-ODD, 15216-MD-EVEN passive modules where format is PCHAN-[id]-[port]-ALL. This AID is applicable to OCH commands like ENT/DLT/RTRV-LNK, ENT/DLT/ED/RTRV-OCHNC, RTRV-OCH, ENT/ED/RTRV/OPR/RLS/DLT-CPS, SET/RTRV-HOP-CPS.    |
| PCHAN-{1-96}-{1-40}-{RX,TX}   | The Recieve/Transmit Channels in a 15216-MD-ODD, 15216-MD-EVEN passive modules where format is PCHAN-[id]-[port]-[direction]. This AID is applicable to OCH commands like ENT/DLT/RTRV-LNK, ENT/DLT/ED/RTRV-OCHNC, RTRV-OCH, ENT/ED/RTRV/OPR/RLS/DLT-CPS, SET/RTRV-HOP-CPS. |
| PCHAN-{1-96}-{1-40}-ALL       | All the TX and RX Channels in a port of 15216-MD-ODD, 15216-MD-EVEN passive modules where format is PCHAN-[id]-[port]-ALL. This AID is applicable to OCH commands like ENT/DLT/RTRV-LNK, ENT/DLT/ED/RTRV-OCHNC, RTRV-OCH, ENT/ED/RTRV/OPR/RLS/DLT-CPS, SET/RTRV-HOP-CPS.    |
| PCHAN-{1-96}-{1-40}-{RX,TX}   | The Recieve/Transmit Channels in a 15216-MD-ODD, 15216-MD-EVEN passive modules where format is PCHAN-[id]-[port]-[direction]. This AID is applicable to OCH commands like ENT/DLT/RTRV-LNK, ENT/DLT/ED/RTRV-OCHNC, RTRV-OCH, ENT/ED/RTRV/OPR/RLS/DLT-CPS, SET/RTRV-HOP-CPS. |
| VCHAN[-{1-50}]-{2-7}-{1-2}    | Identifies the OCH Facility of the Backplane Virtual ports on 100G-LC-C card.                                                                                                                                                                                               |
| FPCHAN-{1-126}-{1-48}-{RX-TX} | All the ADD/DROP ports of MD-48-EVEN/MD-48-ODD passive module where format is FPCHAN-[id]-[port]-[DIR].                                                                                                                                                                     |

## 27.8 CHGRP

AID for the Channel Group (CHGRP). [Table 27-8](#) lists the CHGRP AIDs and their descriptions.



**Table 27-8** CHGRP

| Pattern                           | Description                                                                                                                                                                            |
|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ALL                               | The ALL aid is applicable for RTRV-only commands, basically the RTRV-rr type of commands. For example, RTRV-CHGRP with ALL aid returns all CHGRP ports on the GE_XP and 10GE_XP cards. |
| CHGRP-[[1-50]]-[1-6,12-17]-[1-11] | Channel group AID on GE_XP and 10GE_XP cards. The format is CHGRP-[SHELF]-[SLOT]-[CHGRP]                                                                                               |

## 27.9 COM

[Table 27-9](#) lists the common (COM) AIDs and their descriptions.

**Table 27-9** COM

| Pattern | Description |
|---------|-------------|
| COM     | Common      |

## 27.10 CrossConnectId

[Table 27-10](#) lists the CrossConnectId AIDs and their descriptions.

**Table 27-10** *CrossConnectId*

| AID                 | Pattern                                               |
|---------------------|-------------------------------------------------------|
| FACILITY            | E1-{2}-{1-21} FAC-{5,6,12,13}-{1}                     |
|                     | E3-{2}-{1-3} FAC-{5-6}-{1-28}                         |
|                     | FAC-{1-4,11-14}-ALL FAC-{5-6}-{1-3}                   |
|                     | FAC-{1-4,11-14}-{1-16} FAC-{8,10}-{1}                 |
|                     | FAC-{1-4,11-14}-{1-4} FSTE-{1,2,5,6}-{0-7}            |
|                     | FAC-{1-4,11-14}-{1-4}-{1-4}-{1} FSTE-{1,2,5,6}-{1-8}  |
|                     | FAC-{1-4,14-17}-{1-8} FSTE-{1}-{0-7}                  |
|                     | FAC-{1-4}-1 FSTE-{1}-{1-8}                            |
|                     | FAC-{1-4}-{1-4} STM1-{2}-{1-2}-{1}                    |
|                     | FAC-{1-6,12-17}-1 STM1-{3,4}-{1-2}-{1}                |
|                     | FAC-{1-6,12-17}-ALL STM4-{2}-{1-2}-{1}                |
|                     | FAC-{1-6,12-17}-{0-11} STM4-{3,4}-{1-2}-{1}           |
|                     | FAC-{1-6,12-17}-{0-1} STM16-{3,4}-{1-2}-{1}           |
|                     | FAC-{1-6,12-17}-{1-50,14,16,18,2 VFAC-{1,2,5,6}-{0-1} |
|                     | 0,22,24,26,28,<br>30,32,34,36}                        |
| FACILITY<br>(cont.) | FAC-{1-6,12-17}-{1-50,14,16,18,2 VFAC-{1,2,5,6}-{1-8} |
|                     | 0,22,24} VFAC-{1-4,11-14}-{1-4}-{1-4}-1               |
|                     | FAC-{1-6,12-17}-{1-50} VFAC-{1-6,12-17}-{0-1}         |
|                     | FAC-{1-6,12-17}-{1-4} VFAC-{1-6,12-17}-{1,2}          |
|                     | FAC-{1-6,12-17}-{1-6} VFAC-{1-6,12-17}-{1,2}-{1,8}    |
|                     | FAC-{1-6,12-17}-{1} VFAC-{1}-{0-1}                    |
|                     | FAC-{1-6}-ALL VFAC-{1}-{1-8}                          |

## 27.11 CrossConnectId1

Table 27-11 lists the CrossConnectId1 AIDs and their descriptions.

AID for CXP port on 100G-LC-C: AGGR[-{1-50}]{2-7}{1}{1}.

AID for fixed trunk on 100G-LC-C: CHAN-[SLOT]-[PORT].

Table 27-11 CrossConnectId1

| AID  | Pattern                                                  |
|------|----------------------------------------------------------|
| EQPT | ALL PPM[-{1-50}]-{1-4,11-14}-{1-4}-{1-4}                 |
|      | AIP-ALL PPM[-{1-50}]-{1-6,12-17}-{1-4}                   |
|      | AIP[-{1-50}] PPM[-{1-50}]-{1-6,12-17}-{1-8}              |
|      | BIC-ALL PWR-ALL                                          |
|      | BIC[-{1-50}]-ALL PWR[-{1-50}]-ALL                        |
|      | BIC[-{1-50}]-{A,B} PWR[-{1-50}]-{A,B}                    |
|      | BP-ALL SLOT-ALL                                          |
|      | BP[-{1-50}] SLOT[-{1-50}]-ALL                            |
|      | FAN-ALL SLOT[-{1-50}]-{1-14}                             |
|      | FAN[-{1-50}] SLOT[-{1-50}]-{1-17}                        |
|      | PIM[-{1-50}]-{1-4,11-14}-ALL SLOT[-{1-50}]-{1-2}         |
|      | PIM[-{1-50}]-{1-4,11-14}-{1-4} SLOT[-{1-50}]-{1-4,11-14} |
|      | } SLOT[-{1-50}]-{1-6,12-17}                              |
|      | PPM[-{1-50}]-1-{1,2} SLOT[-{1-50}]-{1-8}                 |
|      | PPM[-{1-50}]-2-{1,2}                                     |
|      | PPM[-{1-50}]-{1-4,11-14}-{1-4}                           |
|      | -ALL                                                     |
| VCM  | VCM-{1-6,12-17}-{0-1}-ALL                                |
|      | VCM-{1-6,12-17}-{0-1}-{1-256}                            |
|      | VCM-{1-6,12-17}-{1-4}-ALL                                |
|      | VCM-{1-6,12-17}-{1-4}-{1-256}                            |

Table 27-11 CrossConnectId1 (continued)

| AID              | Pattern                                                                         |
|------------------|---------------------------------------------------------------------------------|
| FACILITY         | E1-{2}-{1-21} FAC-{5,6,12,13}-{1}                                               |
|                  | E3-{2}-{1-3} FAC-{5-6}-{1-28}                                                   |
|                  | FAC-{1-4,11-14}-ALL FAC-{5-6}-{1-3}                                             |
|                  | FAC-{1-4,11-14}-{1-16} FAC-{8,10}-{1}                                           |
|                  | FAC-{1-4,11-14}-{1-4} FSTE-{1,2,5,6}-{0-7}                                      |
|                  | FAC-{1-4,11-14}-{1-4}-{1-4}-{1} FSTE-{1,2,5,6}-{1-8}                            |
|                  | FAC-{1-4,14-17}-{1-8} FSTE-{1}-{0-7}                                            |
|                  | FAC-{1-4}-1 FSTE-{1}-{1-8}                                                      |
|                  | FAC-{1-4}-{1-4} STM1-{2}-{1-2}-{1}                                              |
|                  | FAC-{1-6,12-17}-1 STM1-{3,4}-{1-2}-{1}                                          |
|                  | FAC-{1-6,12-17}-ALL STM4-{2}-{1-2}-{1}                                          |
|                  | FAC-{1-6,12-17}-{0-11} STM4-{3,4}-{1-2}-{1}                                     |
|                  | FAC-{1-6,12-17}-{0-1} STM16-{3,4}-{1-2}-{1}                                     |
|                  | FAC-{1-6,12-17}-{1-50,14,16,18,20,22,24,26,28,30,32,34,36} VFAC-{1,2,5,6}-{0-1} |
|                  | VFAC-{1,2,5,6}-{1-8}                                                            |
| FACILITY (cont.) | FAC-{1-6,12-17}-{1-50,14,16,18,20,22,24} VFAC-{1-4,11-14}-{1-4}-{1-4}-1         |
|                  | VFAC-{1-6,12-17}-{0-1}                                                          |
|                  | FAC-{1-6,12-17}-{1-50} VFAC-{1-6,12-17}-{1,2}                                   |
|                  | FAC-{1-6,12-17}-{1-4} VFAC-{1-6,12-17}-{1,2}-{1,8}                              |
|                  | FAC-{1-6,12-17}-{1-6} VFAC-{1}-{0-1}                                            |
|                  | FAC-{1-6,12-17}-{1} VFAC-{1}-{1-8}                                              |
|                  | FAC-{1-6}-ALL                                                                   |

Table 27-11 CrossConnectId1 (continued)

| AID | Pattern                                                              |
|-----|----------------------------------------------------------------------|
| VC  | VC11-{1-4,14-17}-{1-50}-1-{1-3}-{1-7}-{1-4}                          |
|     | VC11-{1-4,14-17}-{1-4}-{1-4}-{1-3}-{1-7}-{1-4}                       |
|     | VC11-{1-4,14-17}-{1-8}-1-{1-3}-{1-7}-{1-4}                           |
|     | VC11-{1-6,12-17}-1-1-{1-7}-{1-2}                                     |
|     | VC11-{1-6,12-17}-1-{1-16}-{1-3}-{1-7}-{1-4}                          |
|     | VC11-{1-6,12-17}-1-{1-4}-{1-3}-{1-7}-{1-4}                           |
|     | VC11-{1-6,12-17}-{1-4}-1-{1-3}-{1-7}-{1-4}                           |
|     | VC12-{1-4,14-17}-{1-50}-1-{1-3}-{1-7}-{1-3}                          |
|     | VC12-{1-4,14-17}-{1-4}-{1-4}-{1-3}-{1-7}-{1-3}                       |
|     | VC12-{1-4,14-17}-{1-8}-1-{1-3}-{1-7}-{1-3}                           |
|     | VC12-{1-6,12-17}-1-1-{1-7}-{1-2}                                     |
|     | VC12-{1-6,12-17}-1-{1-16}-{1-3}-{1-7}-{1-3}                          |
|     | VC12-{1-6,12-17}-1-{1-2}-{1-7}-{1-3}                                 |
|     | VC12-{1-6,12-17}-1-{1-4}-{1-3}-{1-7}-{1-3}                           |
|     | VC12-{1-6,12-17}-{1-4}-1-{1-3}-{1-7}-{1-3}                           |
|     | VC3-{1-14,14-17}-{1-50}-1-{1-3}                                      |
|     | VC3-{1-4,14-17}-{1-4}-{1-4}-{1-3}                                    |
|     | VC3-{1-4,14-17}-{1-8}-1-{1-3}                                        |
|     | VC3-{1-6,12-17}-1-{1-16}-{1-3}                                       |
|     | VC3-{1-6,12-17}-1-{1-4}-{1-3}                                        |
|     | VC3-{1-6,12-17}-{1-4}-1-{1-3}                                        |
|     | VC3-{1-6,12-17}-{1-4}-{1-3}                                          |
|     | VC4-{1-4,11-14}-{1-16}-1                                             |
|     | VC4-{1-4,11-14}-{1-16}-{1,5,9,13}                                    |
|     | VC4-{1-4,11-14}-{1-16}-{1,9}                                         |
|     | VC4-{1-4,11-14}-{1-4}-1                                              |
|     | VC4-{1-4,11-14}-{1-4}-{1,17,33,49}                                   |
|     | VC4-{1-4,11-14}-{1-4}-{1,5,9,13,17,21,25,29,33,37,41,45,49,53,57,61} |

**Table 27-11** *CrossConnectId1 (continued)*

| AID            | Pattern                                          |
|----------------|--------------------------------------------------|
| VC (continued) | VC4-{1-4,11-14}-{1-4}-{1,9,17,25,33,41,49,57}    |
|                | VC4-{1-4,11-14}-{1-4}-{1-64}                     |
|                | VC4-{1-4,14-17}-1                                |
|                | VC4-{1-4,14-17}-1-1                              |
|                | VC4-{1-4,14-17}-{1-50}-1                         |
|                | VC4-{1-4,14-17}-{1-4}-1                          |
|                | VC4-{1-4,14-17}-{1-4}-{1-2}                      |
|                | VC4-{1-4,14-17}-{1-4}-{1-3}                      |
|                | VC4-{1-4,14-17}-{1-4}-{1-4}                      |
|                | VC4-{1-4,14-17}-{1-8}-1                          |
|                | VC4-{1-6,12-17}-1                                |
|                | VC4-{1-6,12-17}-1-1                              |
|                | VC4-{1-6,12-17}-1-{1,2,3,5,6,7,9,10,11,13,14,15} |
|                | VC4-{1-6,12-17}-1-{1,2,4,5,6,7,9,10,13,14}       |
|                | VC4-{1-6,12-17}-1-{1,5,9,13}                     |
|                | VC4-{1-6,12-17}-1-{1-16}                         |
|                | VC4-{1-6,12-17}-1-{1-2}                          |
|                | VC4-{1-6,12-17}-1-{1-3}                          |
|                | VC4-{1-6,12-17}-1-{1-4}                          |
|                | VC4-{1-6,12-17}-1-{1-9}                          |
|                | VC4-{1-6,12-17}-{1-4}                            |
|                | VC4-{1-6,12-17}-{1-4}-1                          |

## 27.12 ENV

Table 27-12 lists the environmental (ENV) AIDs for the AIC-I cards and their descriptions.

**Table 27-12** *ENV*

| Pattern               | Description                                                                                                    |
|-----------------------|----------------------------------------------------------------------------------------------------------------|
| ALL                   | The ALL AID applies to retrieve-only commands: RTRV-ALM-ENV, RTRV-COND-ENV, RTRV-ATTR-CONT, and RTRV-ATTR-ENV. |
| ENV-IN-ALL            | Environmental AID for ALL environmental alarms.                                                                |
| ENV-IN[-{1-50}]-ALL   | Environmental AID for ALL multishelf environmental alarms.                                                     |
| ENV-IN[-{1-50}]-{1-4} | Environmental AID for the AIC-I card. “IN” is used for environmental alarms.                                   |

**Table 27-12** ENV (continued)

| Pattern                      | Description                                                                                                   |
|------------------------------|---------------------------------------------------------------------------------------------------------------|
| ENV-IN[-{1-50}]-{1-20}       | Environmental AID for the AIC-I card. “IN” is used for environmental alarms.                                  |
| ENV-IN[-{1-50}]-{1-32}       | Environmental AID for AIC-I card extensions. “IN” is used for environmental alarms.                           |
| ENV-IN[-{1-50}]-{1-3}        | Environmental AID for the AIC-I card. “IN” is used for environmental alarms.                                  |
| ENV-IN[-{1-50}]-{1-6}        | Environmental AID. “IN” is used for environmental alarms.                                                     |
| ENV-OUT-ALL                  | Environmental AID for AIC-I cards. “OUT” is used for environmental controls.                                  |
| ENV-OUT[-{1-50}]-ALL         | Environmental AID for AIC-I cards. “OUT” is used for environmental controls.                                  |
| ENV-OUT[-{1-50}]-{1-4}       | Environmental AID for AIC-I cards. “OUT” is used for environmental controls.                                  |
| ENV-OUT[-{1-50}]-{1-16}      | Environmental AID for AIC-I card extensions. “OUT” is used for environmental controls.                        |
| ENV-OUT[-{1-50}]-{1-2}       | Environmental AID for AIC-I cards. “OUT” is used for environmental controls.                                  |
| ENV-{IN,OUT}[-{1-50}]-{1-16} | ENV-IN[1-16] is used for the environmental alarm AID.<br>ENV-OUT-{1-16} is used for the external control AID. |

## 27.13 EQPT

Table 27-13 lists the equipment (EQPT) AIDs for the AIC-I cards and their descriptions. EQPT AIDs are used to access specific cards.

AID for CXP port on 100G-LC-C and 10x10G-LC: APPM-[SLOT]-[PPM]-[PORT]

**Table 27-13** EQPT

| Pattern      | Description                                                                                                                                                                                                                                                                                                                                         |
|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AIP[-{1-50}] | The AID for the alarm interface panel (AIP). It is used for RTRV-INV output only.                                                                                                                                                                                                                                                                   |
| AIP-ALL      | The AID for all of the AIPs in any shelf of the node. It is used for RTRV-INV output only.                                                                                                                                                                                                                                                          |
| ALL          | Only used for RTRV-INV, RTRV-EQPT, RTRV-ALM-EQPT, and RTRV-COND-EQPT commands. RTRV-INV returns all the inventory information for the NE. The NCS includes the multiservice cards, common control cards, and the AIP, BP, and FAN. RTRV-ALM-EQPT and RTRV-COND-EQPT with the ALL AID return EQPT and PWR-A and PWR-B type of alarms and conditions. |
| BIC-ALL      | AIDs for the backplane interface connectors (BICs): BIC-A and BIC-B. These AIDs are valid only for the RTRV-ALM-EQPT and RTRV-COND-EQPT commands.                                                                                                                                                                                                   |

Table 27-13 EQPT (continued)

| Pattern                                     | Description                                                                                                                                                          |
|---------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BIC[-{1-50}]<br>]-ALL                       | AIDs for the BICs: BIC-A and BIC-B of a single shelf in a multishelf node. These AIDs are valid only for the RTRV-ALM-EQPT and RTRV-COND-EQPT commands.              |
| BIC[-{1-50}]<br>-{A,B}                      | AIDs for the BICs. These AIDs are valid only for the RTRV-ALM-EQPT and RTRV-COND-EQPT commands.                                                                      |
| BP[-{1-50}]                                 | The AID for the backplane. It is used for RTRV-INV output only.                                                                                                      |
| BP-ALL                                      | The AID for all of the backplanes in any shelf on the multishelf node. It is used for RTRV-INV output only.                                                          |
| FAN[-{1-50}]                                | The AID for the fan tray. It is used for RTRV-INV output only.                                                                                                       |
| FAN-ALL                                     | The AID for all of the fan tray in all the shelves of a multishelf node. It is used for RTRV-INV output only.                                                        |
| PPM-{1-6,12-17}-1                           | PPM for the OC192-XFP card. Format is PPM-[SLOT]-[PPM].                                                                                                              |
| PPM-{1-6,12-17}-{1-4}                       | Pluggable Port Module for MRC-4. Format is PPM-[SLOT]-[PPM]. It is not applied on CHG-EQPT, and RMV/RST/ED-EQPT commands.                                            |
| PPM-{1-6,12-17}-{1-50}                      | Pluggable Port Module for MRC-12 card. Format is PPM-[SLOT]-[PPM]. It is not applied on CHG-EQPT, and RMV/RST/ED-EQPT commands.                                      |
| PPM[-{1-50}]<br>]-{1-6,12-17}<br>-<br>{1-4} | PPM AID for NCS MXP_2.5G_10G, TXP_MR_10G, TXP_MR_2.5G, TXPP_MR_2.5G, MXP_2.5G_10E, and TXP_MR_10E cards. Format of AID is PPM-[SLOT]-[PPM].                          |
| PPM[-{1-50}]<br>]-{1-6,12-17}<br>-<br>{1-8} | PPM AID for the MXP_MR_2.5G and MXPP_MR_2.5G cards. Format of AID is PPM-[SLOT]-[PPM].                                                                               |
| PUNIT-ALL                                   | The whole NE Passive patch panel equipment AIDs. These AIDs are applicable to EQPT commands like ENT/DLT/RTRV/ED-EQPT commands.                                      |
| PUNIT-{1-96}<br>}                           | Individual equipment AID of the Passive patch panel units where format is PUNIT-[id]. These AIDs are applicable to EQPT commands like ENT/DLT/RTRV/ED-EQPT commands. |
| PWR-ALL                                     | AIDs for the power supply sources. These AIDs are valid only for the RTRV-ALM-EQPT and RTRV-COND-EQPT commands.                                                      |
| PWR[-{1-50}]<br>]-{A,B}                     | AIDs for the power supply sources. These AIDs are valid only for the RTRV-ALM-EQPT and RTRV-COND-EQPT commands.                                                      |
| PWR[-{1-50}]<br>]-ALL                       | AIDs for all of the power supply sources. These AIDs are valid only for the RTRV-ALM-EQPT and RTRV-COND-EQPT commands.                                               |
| SLOT-ALL                                    | All of the NE equipment AIDs.                                                                                                                                        |
| SLOT[-{1-50}]<br>]-{1-17}                   | EQPT AID where the format is SLOT-[SLOT].                                                                                                                            |
| SLOT[-{1-50}]<br>]-{1-6,12-17}<br>}         | Individual equipment AID of the multiservice card units or slots where the format is SLOT-[SLOT].                                                                    |



**Table 27-13** *EQPT (continued)*

| Pattern                  | Description                                                                                                      |
|--------------------------|------------------------------------------------------------------------------------------------------------------|
| SPPM[-{36-55}]-{1-44}    | PPM for the CPT 50 panel GIGE ports card. The format is SPPM-[PTSA]-[PPM].                                       |
| SFOPPM[-{36-55}]-{45-48} | PPM for the CPT 50 panel 10GIGE ports card. The format is SFOPPM-[PTSA]-[PPM].                                   |
| PTSYS[-{1}]-ALL          | PT System AID for the CPT system. The format is PTSYS-{PTSYSID}.                                                 |
| FOG[-{1}]-{36-55}-ALL    | Fan-Out-Group AID for connecting the CPT 50 panel to fabric and line cards. The format is FOG-{PTSYSID}-{FOGID}. |

## 27.14 ETH

Ethernet (ETH) AIDs are used to access the ethernet port. [Table 27-8](#) lists the ETH AIDs and their descriptions.

**Table 27-14** *ETH*

| Pattern                                      | Description                                                                                                                                                                                                                                            |
|----------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ETH-{1,2,5,6}-{1-6}                          | Format is ETH-slot-port. Port numbering is 1-based.                                                                                                                                                                                                    |
| ETH[-{1-50}]-{1-6,12-17}-{1-22}-{1}          | Ethernet AID for ethernet port on GE_XP and 10GE_XP cards. The format is ETH-[SHELF]-[SLOT]-[PPM]-[PORT].                                                                                                                                              |
| ETH[-{1-50}]-{1-6,12-17}-{1-22}-{1}-{1-4096} | Ethernet CEPID AID for ethernet port CEP on GE_XP and 10GE_XP cards. The format is ETH-[SHELF]-[SLOT]-[PPM]-[PORT]-[CEPID], where [CEPID] is the connection end point identifier, that identifies a single 1 Gbit/sec circuit inside an ethernet port. |

## 27.15 FACILITY

Facilities AIDs are used to access specific ports. [Table 27-15](#) lists the FACILITY AIDs and their descriptions. The FACILITY AID formats are as follows:

- Format for DS3i-N-12 electrical facilities: FAC-[SLOT]-[PORT]
- Format for POS ports: VFAC-[SLOT]-[PORT]
- Format for POS port with PIM and PPM: VFAC-[SLOT]-[PIM]-[PPM]-[PORT]
- Format for 100G-LC-C, 10x10G-LC, and CFP-LC cards:  
VLIN-[SLOT]-[PPM]-[PORT]-[SUBLANE-NO] Sublane Aid for all sublanes
- Format for CXP port on 100G-LC-C card: AGGR-[SLOT]-[APPM]-[PORT].
- Format for SFP+ ports on for 10x10G-LC and CFP-LC cards: VFAC-[SLOT]-[PPM]-[PORT]

Table 27-15 FACILITY

| Pattern                                                             | Description                                                                                                                                                                                                                                                                                                                                |
|---------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ALL                                                                 | The ALL AID is applicable for retrieve-only commands (RTRV-xx type of commands), for example: RTRV-STM16 with an ALL AID returns all STM16 facilities on the node.                                                                                                                                                                         |
| AGGR[-{1-50}]-{2-7}-{1}-{1}                                         | Facility AID for CXP port on 100G-LC-C card.                                                                                                                                                                                                                                                                                               |
| FAC[-{1-50}]-{1-4,14-17}-{1-8}                                      | Facilities for an STM1 card where the format is FAC-[SLOT]-[PORT].                                                                                                                                                                                                                                                                         |
| FAC[-{1-50}]-{1-6,12-17}-1                                          | Facility AID for the one client (CLNT) port on a TXP_MR_10G, TXP_MR_2.5G, TXP_MR_2.5G, or TXPP_MR_2.5G card where the format is FAC-[SLOT]-[PORT].                                                                                                                                                                                         |
| FAC[-{1-50}]-{1-6,12-17}-ALL                                        | All the facilities of an input/output (I/O) unit or slot where the format is FAC-[SLOT]-[ALL].                                                                                                                                                                                                                                             |
| FAC[-{1-50}]-{1-6,12-17}-{0-11}                                     | Facilities for the Ethernet front-end ports on the ML100T-12 card. Ports are numbered starting with 0 (for the ML100T-12, the first port is FAC-SLOT-0, second port is FAC-SLOT-1, etc., and the last port is FAC-SLOT-11; for the ML1000-2, the first port is FAC-SLOT-0 and second port is FAC-SLOT-1). The format is FAC-[SLOT]-[PORT]. |
| FAC[-{1-50}]-{1-6,12-17}-{0-1}                                      | Facilities for the Ethernet back-end ports on the ML1000-2 card. Ports are 0-based, (for example, the first port is FAC-SLOT-0 and the second port is FAC-SLOT-1). The format is FAC-[SLOT]-[PORT].                                                                                                                                        |
| FAC-{1-6,12-17}-{1-8}                                               | Facility AID for the Ethernet front-end ports on the CE-100T-8 card The format is FAC-[SLOT]-[PORT].                                                                                                                                                                                                                                       |
| FAC-{1-6,12-17}-{0-11}                                              | Facility AID for the Ethernet front-end ports on the MS-ISC-100T The first port is FAC-SLOT-0, the second port is FAC-SLOT-1, and so on. The last port is FAC-SLOT-11. The format is FAC-[SLOT]-[PORT].                                                                                                                                    |
| FAC[-{1-50}]-{1-6,12-17}-{1-12,14,16,18,20,22,24,26,28,30,32,34,36} | Facility AIDs for the DS3i-N-12 VC416 backplane rate where format is FAC-[SLOT]-[PORT]. Ports 1 through 12 are always available, but only even ports after 12 are available.                                                                                                                                                               |
| FAC[-{1-50}]-{1-6,12-17}-{1-12,14,16,18,20,22,24}                   | Facility AIDs for DS3i-N-12 VC44 backplane rate where format is FAC-[SLOT]-[PORT]. Ports 1 through 12 are always available, but only even ports after 12 are available.                                                                                                                                                                    |
| FAC[-{1-50}]-{1-6,12-17}-{1-4}                                      | Facility AID for the four CLNT facilities on the MXP_2.5G_10G card. Facility AID for 4-Port G1000/FC_MR-4 card. Facility AID for creating and editing cross-connects (VC3, VC4, VC4-2C, VC4-3C, VC4-4C, and VC4-8C) for the 4-Port G1000/FC_MR-4 card where format is FAC-[SLOT]-[PORT].                                                   |
| FAC[-{1-50}]-{1-6,12-17}-{1-6}                                      | Facilities for the DS3i-N-12 card where the format is FAC-[SLOT]-[PORT].                                                                                                                                                                                                                                                                   |

**Table 27-15** *FACILITY (continued)*

| Pattern                               | Description                                                                                                                                                                                                                                                                      |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FAC[-{1-50}]-{1-6,12-17}-{1}          | Facility AID for the 1-Port STM4, STM16, and STM1 on OSC-CSM cards. Facility AID for the client ports on the MXP/TXP and TXP_MR_2.5G cards where format is FAC-[SLOT]-[PORT].                                                                                                    |
| FAC[-{1-50}]-{5,6,12,13}-{1}          | Facility AID for the STM16/STM64 cards. The STM16/STM64 cards can only use Slot 5, Slot 6, Slot 12, and Slot 13 where format is FAC-[SLOT]-[PORT].                                                                                                                               |
| FAC[-{1-50}]-{8,10}-{1}               | Facility AID for the OSCM card where format is FAC-[SLOT]-[PORT].                                                                                                                                                                                                                |
| FAC[-{1-50}]-{1-6,12-17}-1-1          | Facility AID for the TXP_MR_2.5G, TXPP_MR_2.5G, TXP_MR_10E, TXP_MR_10EX and TXPP_MR_10EX cards in the format of:FAC-[shelf]-[slot]-[ppm]-[port].                                                                                                                                 |
| VFAC[-{1-50}]-{1-6,12-17}-{0-1}       | Facilities for the back-end packet-over-NCS (POS) ports on the ML-Series card. Port numbering is 0-based (first POS port is VFAC-SLOT-0, second POS port is VFAC-SLOT-1). VC4, VC4-2C, VC4-3C, VC4-4C, and VC4-8C for the ML1000 and ML100T cards. Format is VFAC-[SLOT]-[PORT]. |
| VFAC-{1-6,12-17}-{0-15}               | Facilities for ML-MR-10 back-end packet-over-NCS (POS) ports in MLMR-AUTO Mode. ML-MR-10 has 16 POS Ports. POS Ports are 0-Based. Format is VFAC-[slot]-[port]                                                                                                                   |
| VFAC[-{1-50}]-{1-6,12-17}-{1,2}       | GFP facilities on the MXP-MR-2.5G and MXPP-MR-2.5G cards.                                                                                                                                                                                                                        |
| VFAC[-{1-50}]-{1-6,12-17}-{1,2}-{1,8} | GFP client facilities for MXP-MR-2.5G and MXPP-MR-2.5G cards                                                                                                                                                                                                                     |
| FAC[-{1-50}]-{1-4,14-17}-{1-4}        | Facility AID for four Ether Ports on the CE1000 card.                                                                                                                                                                                                                            |
| VFAC[-{1-50}]-{1-4,14-17}-{1-4}       | Facility AID for the back-end ports on the CE1000 card.                                                                                                                                                                                                                          |
| VFAC[-{1-50}]-{2-7}-{1-10}-{1}        | Facility AID for SFP+ ports on 10x10G-LC and CFP ports on Fumaiolo cards.                                                                                                                                                                                                        |
| VLIN[-{1-50}]-{2-7}-{1-2}-{1}-{1-12}  | Facility AID for sublanes on 10x10G-LC card only.                                                                                                                                                                                                                                |
| SFAC[-{36-55}]-{1-44}-1               | GIGE facilities on the CPT 50 panel. The format is SFAC-[PTSAID]-[PPM]-[PORT].                                                                                                                                                                                                   |
| SFOFAC[-{36-55}]-{45-48}-1            | 10GIGE facilities on the CPT 50 panel. The format is SFOFAC-[PTSAID]-[PPM]-[PORT].                                                                                                                                                                                               |

## 27.16 FPLINE

FPLINE AIDs are used on passive OTS ports of MD-48-EVEN/MD-48-ODD passive module. [Table 27-16](#) lists the FPLINE AIDs and their descriptions. The FPLINE AID format is:  
FPLINE-ID-PORT-DIR-LABEL

**Table 27-16** *FPLINE*

| Pattern                       | Description                                                                                             |
|-------------------------------|---------------------------------------------------------------------------------------------------------|
| FPLINE-{1-126}-{1-48}-{RX-TX} | All the ADD/DROP ports of MD-48-EVEN/MD-48-ODD passive module where format is FPCHAN-[id]-[port]-[DIR]. |
| FPLINE-{1-126}-{1-20}-{RX-TX} | All the IN/OUT ports of MF-DEG-5 passive module where format is FPCHAN-[id]-[port]-[DIR].               |
| FPLINE-{1-126}-{1-32}-{RX-TX} | All the IN/OUT ports of MF-UPG-4 passive module where format is FPCHAN-[id]-[port]-[DIR].               |
| FPLINE-{1-126}-{1-8}-{RX-TX}  | All the ports of MF-MPO-8LC passive module where format is FPCHAN-[id]-[port]-[DIR].                    |
| FPLINE-{1-126}-{1-8}-{RX-TX}  | All the IN/OUT ports of MF-4x4-COFS passive module where format is FPCHAN-[id]-[port]-[DIR].            |
| FPLINE-{1-126}-{1-17}-{RX-TX} | All the IN/OUT ports of MF-16AD-CFS passive module where format is FPCHAN-[id]-[port]-[DIR].            |

## 27.17 IPADDR

Table 27-17 lists the IP address (IPADDR) AIDs and their descriptions.

**Table 27-17** *IPADDR*

| Pattern         | Description                         |
|-----------------|-------------------------------------|
| 111.222.333.444 | Standard 4-part IP address notation |
| ALL             | ALL                                 |

## 27.18 LINE

The LINE AID is used to access the Optical Transport Section (OTS) layer of optical networking units. Applicable only to NCS AD-1B-xx.x, AD-4B-xx.x, AD-1C-xx.x, AD-2C-xx.x, AB-4C-xx.x, OSC-CSM, OSCM, OPT-BST, OPT-PRE, 4MD-xx.x, 32MUX-O, and 32DMX-O cards. The format is LINE-[SLOT]-[PORT]-[DIRECTION]. Table 27-18 lists the LINE AIDs and their descriptions.

**Table 27-18** *LINE*

| Values                         | Description                                                                                                    |
|--------------------------------|----------------------------------------------------------------------------------------------------------------|
| ALL                            | All of the OTSs of the NE. The ALL AID applies to retrieve-only commands.                                      |
| LINE-{1-6,12-17}-{1-2}-ALL     | All the lines in a OPT-PRE, OCS-CSM, AD-1B-xx.x, AD-4B-xx.x, AD-1C-xx.x, AD-2C-xx.x, and AD-4C-xx.x cards.     |
| LINE-{1-6,12-17}-{1-2}-{RX,TX} | The receive/transmit lines in a OPT-PRE, AD-1B-xx.x, AD-4B-xx.x, AD-1C-xx.x, AD-2C-xx.x, and AD-4C-xx.x cards. |

Table 27-18 *LINE (continued)*

| Values                                          | Description                                                                                                                                                                                                                                                                             |
|-------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LINE-{1-6,12-17}-{1-3}-{RX,TX}                  | The receive/transmit lines in a OPT-BST cards.                                                                                                                                                                                                                                          |
| LINE-{8,10}-{1}-ALL                             | All the lines in a OSCM cards.                                                                                                                                                                                                                                                          |
| LINE-{8,10}-{1}-{RX,TX}                         | The receive/transmit lines in OSCM car                                                                                                                                                                                                                                                  |
| LINE-[{1-50}]{1-6,12-17}-{1}-{RX,TX}            | For booster cards, there is an input OTS for LINE(1) and an output OTS (amplified) for amplification stage COM(2), two OTS for input line COM(2) and output LINE(1), and 2 OTS for OSC(3) add and drop service channel.                                                                 |
| LINE-[{1-50}]{1-6,12-17}-{2}-{RX,TX}            |                                                                                                                                                                                                                                                                                         |
| LINE-[{1-50}]{1-6,12-17}-{3}-{RX,TX}            |                                                                                                                                                                                                                                                                                         |
| LINE-[{1-50}]{1-6,12-17}-{1-3}-ALL              |                                                                                                                                                                                                                                                                                         |
| LINE-[{1-50}]{1-6,12-17}-{1}-{RX,TX}            | Preamplifier card with 2 stages of amplification; input OTS for LINE(1) and an output OTS (amplified) for amplification stage COM(2), two OTS for input line COM(2) and output LINE(1), and two OTS for OSC(3) add and drop service channel and output and an input OTS for the DCU(2). |
| LINE-[{1-50}]{1-6,12-17}-{2}-{RX,TX}            |                                                                                                                                                                                                                                                                                         |
| LINE-[{1-50}]{1-6,12-17}-{3}-{RX,TX}            |                                                                                                                                                                                                                                                                                         |
| LINE-[{1-50}]{1-6,12-17}-{4}-{RX,TX}            |                                                                                                                                                                                                                                                                                         |
| LINE-[{1-50}]{1-6,12-17}-{1-4}-ALL              |                                                                                                                                                                                                                                                                                         |
| LINE-[{1-50}]{1-6,12-17}-1-RX<br>For input OTS  | For demultiplexer cards, there is an OTS for input line and up to 32 OCH for drop channel connectors. A demultiplexer is a unidirectional unit.                                                                                                                                         |
| LINE-[{1-50}]{1-6,12-17}-1-ALL                  |                                                                                                                                                                                                                                                                                         |
| CHAN-[{1-50}]{1-6,12-17}-{1-32}-TX for Drop OCH |                                                                                                                                                                                                                                                                                         |
| CHAN-[{1-50}]{1-6,12-17}-{1-32}-ALL             |                                                                                                                                                                                                                                                                                         |

Table 27-18 LINE (continued)

| Values                                                      | Description                                                                                                                                                                                                                                                                                                                                                                               |
|-------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LINE-[{1-50}]-[{1-5,12-16}]-{1}-{RX,TX} (EXP)               | Wavelength switch selector card has input and output OTS for signals coming from amplifier units COM(2), input and output OTS for signal continuing to next WSS unit in the node EXP(1), and an output PT(3) drop port for the signal continuing to 32DMX-L card. It also has 32 internal OCH pass-through channels (PT) and 32 external input channels (ADD). This unit is 2 slots wide. |
| LINE-[{1-50}]-[{1-5,12-16}]-{2}-{RX,TX} (COM)               |                                                                                                                                                                                                                                                                                                                                                                                           |
| LINE-[{1-50}]-[{1-5,12-16}]-{3}-{TX} (DROP)                 |                                                                                                                                                                                                                                                                                                                                                                                           |
| LINE-[{1-50}]-[{1-5,12-16}]-{1-3}-ALL                       |                                                                                                                                                                                                                                                                                                                                                                                           |
| CHAN-[{1-50}]-[{1-5,12-16}]-{1-32}-{RX} (ADD)               |                                                                                                                                                                                                                                                                                                                                                                                           |
| CHAN-[{1-50}]-[{1-5,12-16}]-{1-32}-{PT} (PT)                |                                                                                                                                                                                                                                                                                                                                                                                           |
| CHAN-[{1-50}]-[{1-5,12-16}]-{1-32}-ALL                      |                                                                                                                                                                                                                                                                                                                                                                                           |
| LINE-[{1-50}]-[{1-6,12-17}]-{1}-{RX,TX} (EXP)               | Multiring/mesh unit has 6 OTS connectors: two are the input and output OTS for signal coming from amplifier units COM(1), the other four are for the split 50/50 signals continuing to AD, MUX/DMX, and WSS units. Because the incoming signal is split into two separate signals, there are two sets of input and output EXP ports (2 and 3).                                            |
| LINE-[{1-50}]-[{1-6,12-17}]-{2}-{RX,TX} (COM)               |                                                                                                                                                                                                                                                                                                                                                                                           |
| LINE-[{1-50}]-[{1-6,12-17}]-{3}-{RX,TX} (EXP to other ring) |                                                                                                                                                                                                                                                                                                                                                                                           |
| LINE-[{1-50}]-[{1-6,12-17}]-{1-3}-ALL                       |                                                                                                                                                                                                                                                                                                                                                                                           |
| PLINE-ALL                                                   | All the EXP/COMM/DC lines in all the Passive patch panel module where format is PLINE-ALL.                                                                                                                                                                                                                                                                                                |
| PLINE-{1-96}-ALL                                            | All the EXP/COM/DC lines in a Passive patch panel module where format is PLINE-[id]-ALL.                                                                                                                                                                                                                                                                                                  |
| PLINE-{1-96}-{1}-ALL                                        | All the IN and OUT DC/COM lines in DCU,15216-MD-40-ODD/EVEN passive modules where format is PLINE-[id]-[port]-ALL                                                                                                                                                                                                                                                                         |
| PLINE-{1-96}-{1-3}-ALL                                      | All the IN and OUT COM lines in 15216-MD-ID-50 passive module where format is PLINE-[id]-[port]-ALL.                                                                                                                                                                                                                                                                                      |
| PLINE-{1-96}-{1-20}-ALL                                     | All the IN COM and OUT EXP lines in PP-MESH-4 passive module where format is PLINE-[id]-[port]-ALL.                                                                                                                                                                                                                                                                                       |
| PLINE-{1-96}-{1-72}-ALL                                     | All the IN COM and OUT EXP lines in PP-MESH-8 passive module where format is PLINE-[id]-[port]-ALL.                                                                                                                                                                                                                                                                                       |
| PLINE-{1-96}-{1}-{RX-TX}                                    | The Receive or Transmit DC/COM lines in DCU,15216-MD-40-ODD/EVEN passive modules where format is PLINE-[id]-[port]-[direction]                                                                                                                                                                                                                                                            |
| PLINE-{1-96}-{1-3}-{RX-TX}                                  | The Recieve or Transmit COM line in a 15216-MD-ID-50 passive module where format is PLINE-[id]-[port]-[direction].                                                                                                                                                                                                                                                                        |

**Table 27-18** *LINE (continued)*

| Values                                                          | Description                                                                                                          |
|-----------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| PLINE-{1-96}-{1,6,11,16}-RX                                     | The Recieve COM lines in a PP-MESH-4 passive module where format is PLINE-[id]-[port]-[direction].                   |
| PLINE-{1-96}-{2-5,7-10,12-15,17-20}-TX                          | The Transmit EXP lines in a PP-MESH-4 passive module where format is PLINE-[id]-[port]-[direction].                  |
| PLINE-{1-96}-{1,10,19,28,37,46,55,64}-RX                        | The Recieve COM line in a PP-MESH-8, passive modules where format is PLINE-[id]-[port]-[direction].                  |
| PLINE-{1-96}-{2-9,11-18,20-27,29-36,38-45,47-54,56-63,65-72}-TX | The Transmit EXP line in a PP-MESH-8, passive modules where format is PLINE-[id]-[port]-[direction].                 |
| PLINE-{1-96}-{1}-{RX-TX}                                        | The Recieve or Transmit COM line in a 15216-FLD-xx-x, passive modules where format is PLINE-[id]-[port]-[direction]. |
| PLINE-{1-96}-{2}-{RX-TX}                                        | The Recieve or Transmit EXP line in a 15216-FLD-xx-x, passive modules where format is PLINE-[id]-[port]-[direction]. |

## 27.19 LINEWL

The line wavelength (LINEWL) AID identifies a wavelength channel included in any of the lower layer OTS facilities. [Table 27-20](#) lists the LINEWL AIDs and their descriptions.

**Table 1:**

| Values                                       | Description                                                                                                                                                                                           |
|----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LINEWL[-{1-50}]{1-6,8,10,12-17}-ALL          | All the Optical Channels representing single wavelength inside OTS facility of a card configured in specified slot. The format is LINE-[SHELF]-[SLOT]-ALL                                             |
| LINEWL[-{1-50}]{1-6,12-17}{1}{RX,TX}-ALL     | The Optical Channel representing single wavelength inside OTS facility in a 32-DMX-O, 32-DMX, 32-DMX-L, 32-MUX-O, 40-DMX-C, 40-MUX-C cards. The format is LINEWL-[SHELF]-[SLOT]-[PORT]-[DIRN]-ALL.    |
| LINEWL[-{1-50}]{1-6,12-17}{1}{RX,TX}<wlen>   | The Optical Channel representing single wavelength inside OTS facility in a 32-DMX-O, 32-DMX, 32-DMX-L, 32-MUX-O, 40-DMX-C, 40-MUX-C cards. The format is LINEWL-[SHELF]-[SLOT]-[PORT]-[DIRN]-[WLEN]. |
| LINEWL[-{1-50}]{1-6,12-17}{1-3}{RX,TX}-ALL   | The Optical Channel representing single wavelength inside OTS facility in a 32-WSS, 40-WSS-C cards. The format is LINEWL-[SHELF]-[SLOT]-[PORT]-[DIRN]-ALL.                                            |
| LINEWL[-{1-50}]{1-6,12-17}{1-3}{RX,TX}<WLEN> | The Optical Channel representing single wavelength inside OTS facility in a 32-WSS, 40-WSS-C cards. The format is LINEWL-[SHELF]-[SLOT]-[PORT]-[DIRN]-[WLEN].                                         |

Table 1:

| Values                                                 | Description                                                                                                                                                                                                                                         |
|--------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LINEWL[-{1-50}]-{1-6,12-17}-{1-2}<br>-{RX,TX}-ALL      | All the Optical Channel representing single wavelength inside OTS facility in a AD-1B, AD-4B, AD-1C, AD-2C, AD-4C units. The format is<br>LINE-[SHELF]-[SLOT]-[PORT]-[DIRN]-ALL                                                                     |
| LINEWL[-{1-50}]-{1-6,12-17}-{1-2}<br>-{RX,TX}-<WLEN>   | The Optical Channel representing single wavelength inside OTS facility in a AD-1B, AD-4B, AD-1C, AD-2C, AD-4C units. The format is<br>LINE-[SHELF]-[SLOT]-[PORT]-[DIRN]-[WLEN]                                                                      |
| LINEWL[-{1-50}]-{1-6,12-17}-{1-2}<br>-{RX,TX}-ALL      | All the Optical Channel representing single wavelength inside OTS (COM=1, DC=2) facility in an OPT-PRE unit. The format is<br>LINE-[SHELF]-[SLOT]-[PORT]-[DIRN]-ALL                                                                                 |
| LINEWL[-{1-50}]-{1-6,12-17}-{1-2}<br>-{RX,TX}-<WLEN>   | The Optical Channel representing single wavelength inside OTS (COM=1, DC=2) facility in a OPT-PRE units. The format is<br>LINE-[SHELF]-[SLOT]-[PORT]-[DIRN]-<WLEN>                                                                                  |
| LINEWL[-{1-50}]-{1-6,12-17}-{1,3}<br>-{RX,TX}-ALL      | The Optical Channel representing single wavelength inside OTS (COM=1, LINE=3) facility in a OPT-BST, OPT-BST-E, OPT-BST-L, OPT-AMP-L, OPT-AMP-17-C, and OPT-AMP-23-C cards. The format is<br>LINEWL-[SHELF]-[SLOT]-[PORT]-[DIRN]-ALL.               |
| LINEWL[-{1-50}]-{1-6,12-17}-{1,3}<br>-{RX,TX}-<WLEN>   | The Optical Channel representing single wavelength inside OTS (COM=1, LINE=3) facility in a OPT-BST, OPT-BST-E, OPT-BST-L, OPT-AMP-L, OPT-AMP-17-C, OPT-AMP-23-C, and OPT-AMP-C cards. The format is<br>LINEWL-[SHELF]-[SLOT]-[PORT]-[DIRN]-[WLEN]. |
| LINEWL[-{1-50}]-{1-6,12-17}-{1,3,4}<br>-{RX,TX}-ALL    | The Optical Channel representing single wavelength inside OTS (COM=1, LINE=3, DC=4) facility in a OPT-AMP-C card. The format is<br>LINEWL-[SHELF]-[SLOT]-[PORT]-[DIRN]-ALL.                                                                         |
| LINEWL[-{1-50}]-{1-6,12-17}-{1,3,4}<br>-{RX,TX}-<WLEN> | The Optical Channel representing single wavelength inside OTS (COM=1, LINE=3, DC=4) facility in a OPT-AMP-C card. The format is<br>LINEWL-[SHELF]-[SLOT]-[PORT]-[DIRN]-[WLEN].                                                                      |
| LINEWL[-{1-50}]-{1-6,12-17}-{1}-<br>{RX,TX}-ALL        | All the Optical Channel representing single wavelength inside OTS (COM) facility in a OPT-PRE units. The format is<br>LINE-[SHELF]-[SLOT]-[PORT]-[DIRN]-ALL                                                                                         |
| LINEWL[-{1-50}]-{1-6,12-17}-{1}-<br>{RX,TX}-<WLEN>     | The Optical Channel representing single wavelength inside OTS (COM) facility in a OPT-PRE units. The format is<br>LINE-[SHELF]-[SLOT]-[PORT]-[DIRN]-[WLEN]                                                                                          |
| LINEWL[-{1-50}]-{1-6,12-17}-{1,3}<br>-{RX,TX}-ALL      | The Optical Channel representing single wavelength inside OTS (COM=1, LINE=3) facility in a OPT-BST, OPT-BST-E, OPT-BST-L, OPT-AMP-L, OPT-AMP-17-C and OPT-AMP-23-C cards. The format is<br>LINEWL-[SHELF]-[SLOT]-[PORT]-[DIRN]-ALL.                |



**Table 1:**

| Values                                                  | Description                                                                                                                                                                                                                          |
|---------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LINEWL[-{1-50}]-{1-6,12-17}-{1,3}<br>-{RX,TX}-<WLEN>    | The Optical Channel representing single wavelength inside OTS (COM=1, LINE=3) facility in a OPT-BST, OPT-BST-E, OPT-BST-L, OPT-AMP-L, OPT-AMP-17-C and OPT-AMP-23-C cards. The format is LINEWL-[SHELF]-[SLOT]-[PORT]-[DIRN]-[WLEN]. |
| LINEWL[-{1-50}]-{1-6,12-17}-{1-2}<br>-{RX,TX}-ALL       | The Optical Channel representing single wavelength inside OTS (COM=1, LINE=2) facility in a OSC-CSM cards. The format is LINEWL-[SHELF]-[SLOT]-[PORT]-[DIRN]-ALL.                                                                    |
| LINEWL[-{1-50}]-{1-6,12-17}-{1-2}<br>-{RX,TX}-<WLEN>    | The Optical Channel representing single wavelength inside OTS (COM=1, LINE=2) facility in a OSC-CSM cards. The format is LINEWL-[SHELF]-[SLOT]-[PORT]-[DIRN]-[WLEN].                                                                 |
| LINEWL-<br>[{1-50}]-{1-5,12-16}-{1-8}-{RX}-<<br>WLEN>   | The Optical Channel representing single wavelength inside EXP lines from all the other WXC cards in a 40-WX-C card. The format is LINEWL-[SHELF]-[SLOT]-[PORT]-[DIRN].                                                               |
| LINEWL-<br>[{1-50}]-{1-5,12-16}-{9}-{RX,TX}-<br><WLEN>  | The Optical Channel representing single wavelength inside ADD/DROP line to/from MUX/DMX/WSS cards in a 40-WXC-C card. The format is LINEWL-[SHELF]-[SLOT]-[PORT]-[DIRN].                                                             |
| LINEWL-<br>[{1-50}]-{1-5,12-16}-{10}-{TX}-<<br>WLEN>    | The Optical Channel representing single wavelength inside EXP line in a 40-WXC-C card. The format is LINEWL-[SHELF]-[SLOT]-[PORT]-[DIRN].                                                                                            |
| LINEWL-<br>[{1-50}]-{1-5,12-16}-{11}-{RX,TX}<br>-<WLEN> | The Optical Channel representing single wavelength inside COM line in a 40-WXC-C card. The format is LINEWL-[SHELF]-[SLOT]-[PORT]-[DIRN].                                                                                            |
| LINEWL[-{1-50}]-{1-6,12-17}-{1-3}<br>-{RX,TX}-<LABEL>   | The Optical Channel representing OCHTERM interface in a OPT-EDRA/OPT-EDFA/16-WXC-FS units. The format is LINE-[SHELF]-[SLOT]-[PORT]-[DIRN]-[LABEL].                                                                                  |

## 27.20 LNKTERM

Link Termination (LNKTERM) AIDs are used to access the termination points of a provisionable patchcord. [Table 27-19](#) lists the LNKTERM AIDs and their descriptions.

**Table 27-19 LNKTERM**

| Pattern           | Description                                                                                                  |
|-------------------|--------------------------------------------------------------------------------------------------------------|
| ALL               | Indicates all the provisionable patchcord terminations on a node. Applicable only for the retrieve commands. |
| LNKTERM-ALL       | Indicates all the provisionable patchcord terminations on a node. Applicable only for the retrieve commands. |
| LNKTERM-{1-65535} | Indicates a single provisionable patchcord termination point on a node.                                      |

## 27.21 MSSPR

Multiplex section-shared protection ring (MSSPR) AIDs are used to access the MS-SPRing of the NE. [Table 27-20](#) lists the MSSPR AIDs and their descriptions.

**Table 27-20** MSSPR

| Pattern      | Description                                                                                                                                         |
|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| ALL          | ALL AID for all MS-SPRings in the NE. The ALL AID is applicable for retrieve-only commands like RTRV-MSSPR, RTRV-ALM-MSSPR, and RTRV-COND-MSSPR.    |
| MSSPR-RINGID | MS-SPRing AID is keyword MS-SPRing followed by RINGID. RINGID is a string of up to 6 characters; valid characters are [A-Z,0-9] (case insensitive). |

## 27.22 OPM

Optical power monitoring (OPM) AIDs represent the single wavelength inside an optical power monitoring object. [Table 27-21](#) lists the OPM AIDs and their descriptions.

**Table 27-21** OPM

| Values                          | Description                                                                                                                                                                                                                                           |
|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ALL                             | The first ID represents the shelf, the second ID represents the slot, and the last ID is the wavelength, represented in the form of 15xx.yy nanometers. The last index of the wavelength is the value of the wavelength as described in OPTICAL_WLEN. |
| OPM[-{1-50}]-{1-5,12-16}-ALL    |                                                                                                                                                                                                                                                       |
| OPM[-{1-50}]-{1-5,12-16}-<WLEN> |                                                                                                                                                                                                                                                       |

## 27.23 OSC

Optical service channel (OSC) AIDs are used to access the OSC of the NE. [Table 27-22](#) lists the OSC AIDs and their descriptions.

**Table 27-22** OSC

| Values     | Description                                                                                    |
|------------|------------------------------------------------------------------------------------------------|
| ALL        | All of the OSCs of the NE. The ALL AID applies to the retrieve-only commands.                  |
| OSC-RINGID | RINGID is a string of up to six characters, valid characters are [A-Z,0-9] (case insensitive). |

## 27.24 PRSLOT

Valid protection slots for the electrical cards. Format is SLOT-[SLOT]. [Table 27-23](#) lists the PRSLPT AIDs and their descriptions.

**Table 27-23** *PR SLOT*

| Pattern | Description                                                                            |
|---------|----------------------------------------------------------------------------------------|
| NULL    | Indicates there is no protection group. Used when trying to delete a protection group. |
| SLOT-1  | Slot 1 of an NE.                                                                       |
| SLOT-2  | Slot 2 of an NE.                                                                       |
| SLOT-3  | Slot 3 of an NE.                                                                       |
| SLOT-5  | Slot 5 of an NE.                                                                       |
| SLOT-6  | Slot 6 of an NE.                                                                       |
| SLOT-13 | Slot 13 slot of an NE.                                                                 |
| SLOT-15 | Slot 15 slot of an NE.                                                                 |
| SLOT-17 | Slot 17 slot of an NE.                                                                 |

## 27.25 RFILE

[Table 27-24](#) lists the file transfer type (RFILE) AIDs and their descriptions.

**Table 27-24** *RFILE*

| Pattern      | Description                                        |
|--------------|----------------------------------------------------|
| RFILE-DB     | Transferring the provisioning database.            |
| RFILE-LOG    | Transferring a log file.                           |
| RFILE-PKG    | Transferring a software package.                   |
| RFILE-COMPDB | Transferring the provisioning and system database. |

## 27.26 SHELF

The SHELF AID identifies a shelf within a node. SHELF is applicable only to nodes that are set to MULTISHELF or MULTISHELFETH mode. [Table 27-25](#) lists the SHELF AIDs and their descriptions.

**Table 27-25** *SHELF*

| Pattern        | Description                                        |
|----------------|----------------------------------------------------|
| SHELF-ALL      | All of the shelves in the node.                    |
| SHELF-{ 1-50 } | A specific shelf in the node (shelf 1 through 30). |

## 27.27 SYN

[Table 27-26](#) lists the synchronization (SYN) AIDs and their descriptions.

**Table 27-26** SYN

| Pattern                     | Description                                               |
|-----------------------------|-----------------------------------------------------------|
| SYNC[-{1-50}]-ALL           | ALL synchronization AID (values 1 to 8 is the shelf ID).  |
| SYNC[-{1-50}]-NE            | NE synchronization AID (values 1 to 8 is the shelf ID).   |
| SYNC[-{1-50}]-{BITS1,BITS2} | BITS synchronization AID (values 1 to 8 is the shelf ID). |

## 27.28 SYN\_SRC

Table 27-27 lists the synchronization source (SYN\_SRC) AIDs and their descriptions.

**Table 27-27** SYN\_SRC

| Pattern               | Description                                                                                                                             |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| BITS-1                | Synchronization source is BITS-1. Format is BITS-[PORT].                                                                                |
| BITS-2                | Synchronization source is BITS-2. Format is BITS-[PORT].                                                                                |
| FAC-{1-4,11-14}-{1-4} | Synchronization source is the 4-port STM64. Format is FAC-[SLOT]-[PORT].                                                                |
| FAC-{1-6,12-17}-{1-4} | Synchronization source is the optical card (STM1 and STM4) facility. Format is FAC-[SLOT]-[PORT].                                       |
| FAC-{1-6,12-17}-{1}   | Synchronization source is the optical card (STM1 and STM4) facility. Format is FAC-[SLOT]-[PORT].                                       |
| FAC-{5,6,12,13}-{1}   | Synchronization source is the optical card (STM16 and STM 64) facility. Format is FAC-[SLOT]-[PORT].                                    |
| INTERNAL              | Set the SYN_SRC to be the system default value. This value is only applied for the SYNC-NE AID on the ED-SYNCN command.                 |
| NONE                  | Set the SYNC_SRC value to the default value for BITS-OUT. This value only applies to the BITS-1 and BITS-2 AID of the ED-SYNCN command. |
| SYNC-NE               | SYNC-NE source. It is only used in the alarm report or alarm retrieve commands.                                                         |

## 27.29 SYNC\_REF

Table 27-28 lists the synchronization reference (SYNC\_REF) AIDs and their descriptions. The Facility AID formats for line timing are as follows:

- Format for optical facilities without PPM: FAC-[SLOT]-[PORT]
- Format for optical facilities with PPM: FAC-[SLOT]-[PPM]-[PORT]

**Table 27-28** SYNC\_REF

| Pattern                    | Description                                                                                                                                        |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| ALL                        | Equivalent to a combination of SYNC-ALL, BITS-1, and BITS-2. This AID is valid only for the commands RTRV-SYCN, RTRV-ALM-SYCN, and RTRV-COND-SYCN. |
| SYNC-ALL                   | All synchronization references.                                                                                                                    |
| SYNC-{1-50}-NE             | NE synchronization AID.                                                                                                                            |
| SYNC-{1-50}-{BITS1, BITS2} | BITS1 and BITS2 synchronization AIDs.                                                                                                              |

## 27.30 SYNC SW

Table 27-29 lists the synchronization switch (SYNC SW) AIDs and their descriptions.

**Table 27-29** SYNC SW

| Pattern | Description                                                                                                    |
|---------|----------------------------------------------------------------------------------------------------------------|
| INT     | Internal clock. The “INT” value of the SYNC SW is only applied for the SYNC-NE AID on the OPR-SYNC SW command. |
| PRI     | Primary timing reference.                                                                                      |
| SEC     | Secondary timing reference.                                                                                    |

## 27.31 UDC

Table 27-30 lists the user data channel (UDC) AIDs and their descriptions F-UDC and DCC-UDC channels on the AIC-I card.

**Table 27-30** UDC

| Pattern           | Description                                                                                                                                                                                 |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ALL               | ALL AID is applicable to retrieve-only commands, for example: RTRV-ALM-UDCF, RTRV-COND-UDCF, RTRV-ALM-UDCDCC, and RTRV-COND-UDCDCC. It corresponds to a superset of F-UDC and DCC-UDC AIDs. |
| UDC-{F,DCC}-{A,B} | F-UDC and DCC-UDC AIDs for A and B channels.                                                                                                                                                |

## 27.32 VC

Table 27-31 lists the virtual channel (VC) AIDs and their descriptions for the NCS frame-level AID set. The VC4 AID formats are as follows:

- For Optical Facilities: VC4-[SLOT]-[PORT]-[VC4]
- For Electrical Facilities: VC4-[SLOT]-[VC4]

The VC3 AID formats are as follows:

- For Optical Facilities: VC3-[SLOT]-[PORT]-[VC4]-[VC3]
- For Electrical Facilities: VC3-[SLOT]-[VC4]-[VC3]

The VC12 AID formats are as follows:

- For Optical Facilities: VC12-[SLOT]-[PORT]-[VC4]-[VC3]-[TUG2]-[VC12]
- For Electrical Facilities: VC12-[SLOT]-[VC4]-[VC3]-[TUG2]-[VC12]

The VC11 AID formats are as follows:

- For Optical Facilities: VC11-[SLOT]-[PORT]-[VC4]-[VC3]-[TUG2]-[VC11]
- For Electrical Facilities: VC11-[SLOT]-[VC4]-[VC3]-[TUG2]-[VC11]

**Table 27-31** VC

| Pattern                                        | Description                       |
|------------------------------------------------|-----------------------------------|
| VC11-{1-4,14-17}-{1-12}-1-{1-3}-{1-7}-{1-4}    | VC11 for the STM1E-12 card        |
| VC11-{1-4,14-17}-{1-4}-{1-4}-{1-3}-{1-7}-{1-4} | VC11 for STM4-4                   |
| VC11-{1-4,14-17}-{1-8}-1-{1-3}-{1-7}-{1-4}     | VC11 for STM1-8 card              |
| VC11-{1-6,12-17}-1-{1-16}-{1-3}-{1-7}-{1-4}    | VC11 for STM-16 card              |
| VC11-{1-6,12-17}-1-{1-4}-{1-3}-{1-7}-{1-4}     | VC11 for STM-4 card               |
| VC11-{1-6,12-17}-{1-14}-1-11{1-7}-{1-2}        | VC11 for the E1 card              |
| VC11-{1-6,12-17}-{1-4}-1-{1-3}-{1-7}-{1-3}     | VC11 for the STM-1 card           |
| VC12-{1-4,14-17}-{1-12}-1-{1-3}-{1-7}-{1-3}    | VC12 for the STM1E-12 card        |
| VC12-{1-4,14-17}-{1-4}-{1-4}-{1-3}-{1-7}-{1-3} | VC12 for STM4-4 card              |
| VC12-{1-4,14-17}-{1-8}-1-{1-3}-{1-7}-{1-3}     | VC12 for STM1-8 card              |
| VC12-{1-6,12-17}-1-1-{1-7}-{1-2}               | VC12 AIDs for the E1 card         |
| VC12-{1-6,12-17}-1-{1-16}-{1-3}-{1-7}-{1-3}    | VC12 for STM-16 card              |
| VC12-{1-6,12-17}-1-{1-2}-{1-7}-{1-3}           | VC12 for E1-42 card               |
| VC12-{1-6,12-17}-1-{1-4}-{1-3}-{1-7}-{1-3}     | VC12 for STM-4 card               |
| VC12-{1-6,12-17}-{1-4}-1-{1-3}-{1-7}-{1-3}     | VC12 for STM-1 card               |
| VC3-{1-14,14-17}-{1-12}-1-{1-3}                | VC3 for the STM1E-12 card         |
| VC3-{1-4,14-17}-{1-4}-{1-4}-{1-3}              | VC3 for the STM4-4 card           |
| VC3-{1-4,14-17}-{1-8}-1-{1-3}                  | VC3 for the STM1-8 card           |
| VC3-{1-6,12-17}-1-{1-16}-{1-3}                 | VC3 for the STM-16 card           |
| VC3-{1-6,12-17}-1-{1-4}-{1-3}                  | VC3 for the STM-4 card            |
| VC3-{1-6,12-17}-{1-4}-1-{1-3}                  | VC3 for the STM-1 card            |
| VC3-{1-6,12-17}-{1-4}-{1-3}                    | VC3 AID for DS3i-N-12 and E3 card |
| VC4-{1-4,14-17}-1                              | VC4 for E1-42 card                |
| VC4-{1-4,14-17}-1-1                            | VC4 for STM1-8 card               |
| VC4-{1-4,14-17}-{1-12}-1                       | VC4 for the STM1E-12 card         |

**Table 27-31** VC (continued)

| Pattern                                          | Description                                               |
|--------------------------------------------------|-----------------------------------------------------------|
| VC4-{1-4,14-17}-{1-4}-1                          | VC4 for the STM4 card and VC4-4c for the STM4-4 card      |
| VC4-{1-4,14-17}-{1-4}-{1-2}                      | VC4-3c for the STM4-4 card                                |
| VC4-{1-4,14-17}-{1-4}-{1-3}                      | VC4-2c for the STM4-4 card                                |
| VC4-{1-4,14-17}-{1-4}-{1-4}                      | VC4 for the STM4-4 card                                   |
| VC4-{1-4,14-17}-{1-8}-1                          | VC4 for the STM1-8 card                                   |
| VC4-{1-6,12-17}-1                                | VC4 for E1 card                                           |
| VC4-{1-6,12-17}-1-1                              | VC4-4c for the STM-4 card.<br>VC4-16c for the STM-16 card |
| VC4-{1-6,12-17}-1-{1,2,3,5,6,7,9,10,11,13,14,15} | VC4-2c for the STM-16 card                                |
| VC4-{1-6,12-17}-1-{1,2,4,5,6,7,9,10,13,14}       | VC4-3c for the STM-16                                     |
| VC4-{1-6,12-17}-1-{1,5,9,13}                     | VC4-4c for the STM-16 card                                |
| VC4-{1-6,12-17}-1-{1-16}                         | VC4 for the STM-16 card                                   |
| VC4-{1-6,12-17}-1-{1-2}                          | VC4-3c for the STM-4 card                                 |
| VC4-{1-6,12-17}-1-{1-3}                          | VC4-2c for the STM-4 card                                 |
| VC4-{1-6,12-17}-1-{1-4}                          | VC4 for the STM-4 card                                    |
| VC4-{1-6,12-17}-1-{1-9}                          | VC4-8c for the STM-16 card (454)                          |
| VC4-{1-6,12-17}-{1-4}                            | VC4 for DS3i-N-12, E3, G1000 cards                        |
| VC4-{1-6,12-17}-{1-4}-1                          | VC4 for STM-1 card                                        |

## 27.33 WDMANS

The WDMANS AID is used to access the automatic optical node setup (AONS) application of the NE. [Table 27-32](#) lists the synchronization switch (SYNCSW) AIDs and their descriptions.

**Table 27-32** WDMANS

| Pattern                           | Description                          |
|-----------------------------------|--------------------------------------|
| WDMSIDE-{UNKNOWN,A,B,C,D,E,F,G,H} | Automatic MSTP node setup identifier |
| WDMNODE                           | Automatic MSTP node setup identifier |

## 27.34 WLEN

This AID represents the single wavelength inside an external facility. If the facility is of type OTS (line), the wavelengths contained are all the available wavelengths in the node (currently 32). If the facility is of type OCH (CHAN), the wavelength is the one correspondent wavelength customized for that channel. [Table 27-33](#) lists the WLEN AIDs and their descriptions.

Table 27-33 WLEN

| Pattern                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Description           |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| WLEN-{E,W}-{ADD,DROP,EXP}-{1530.33,1531.12,1531.90,1532.68,1534.25,1535.04,1535.82,1536.61,1538.19,1538.98,1539.77,1540.56,1542.14,1542.94,1543.73,1544.53,1546.12,1546.92,1547.72,1548.51,1550.12,1550.92,1551.72,1552.52,1554.13,1554.94,1555.75,1556.55,1558.17,1558.98,1559.79,1560.61,1577.44,1577.86,1578.27,1578.69,1579.10,1579.52,1579.93,1580.35,1580.77,1581.18,1581.60,1582.02,1582.44,1582.85,1583.27,1583.69,1584.11,1584.53,1584.95,1585.36,1585.78,1586.20,1586.62,1587.04,1587.46,1587.88,1588.30,1588.73,1589.15,1589.57,1589.99,1590.41,1590.83,1591.26,1591.68,1592.10,1592.52,1592.95,1593.37,1593.79} | Wavelength identifier |

## 27.35 CTC Port Numbers and TL1 Aids

Table 27-34 CTC Port Numbers and TL1 Aids

| Equipment   | CTC Port Name | CTC Port Number | TL1 Aid              |
|-------------|---------------|-----------------|----------------------|
| OPT-RAMP-C  | COM-RX        | 1               | LINE-shelf-slot-1-RX |
|             | COM-TX        | 2               | LINE-shelf-slot-1-TX |
|             | OSC-RX        | 3               | LINE-shelf-slot-2-RX |
|             | OSC-TX        | 4               | LINE-shelf-slot-2-TX |
|             | LINE-RX       | 5               | LINE-shelf-slot-3-RX |
|             | LINE-TX       | 6               | LINE-shelf-slot-3-TX |
|             | DC-RX         | 7               | LINE-shelf-slot-4-RX |
|             | DC-TX         | 8               | LINE-shelf-slot-4-TX |
|             | RAMAN-RX      | 9               | LINE-shelf-slot-5-RX |
|             | RAMAN-TX      | 10              | LINE-shelf-slot-5-TX |
| OPT-AMP-17C | COM-RX        | 1               | LINE-shelf-slot-1-RX |
|             | COM-TX        | 2               | LINE-shelf-slot-1-TX |
|             | OSC-RX        | 3               | LINE-shelf-slot-2-RX |
|             | OSC-TX        | 4               | LINE-shelf-slot-2-TX |
|             | LINE-RX       | 5               | LINE-shelf-slot-3-RX |
|             | LINE-TX       | 6               | LINE-shelf-slot-3-TX |



**Table 27-34** *CTC Port Numbers and TL1 Aids*

| Equipment | CTC Port Name | CTC Port Number | TL1 Aid                        |
|-----------|---------------|-----------------|--------------------------------|
| OPT-AMP-C | COM-RX        | 1               | LINE-shelf-slot-1-RX           |
|           | COM-TX        | 2               | LINE-shelf-slot-1-TX           |
|           | DC-RX         | 7               | LINE-shelf-slot-4-RX           |
|           | DC-TX         | 8               | LINE-shelf-slot-4-TX           |
|           | OSC-RX        | 3               | LINE-shelf-slot-2-RX           |
|           | OSC-TX        | 4               | LINE-shelf-slot-2-TX           |
|           | LINE-RX       | 5               | LINE-shelf-slot-3-RX           |
|           | LINE-TX       | 6               | LINE-shelf-slot-3-TX           |
| OSC-CSM   | COM-RX        | 2               | LINE-shelf-slot-1-RX           |
|           | COM-TX        | 3               | LINE-shelf-slot-1-TX           |
|           | LINE-RX       | 4               | LINE-shelf-slot-2-RX           |
|           | LINE-TX       | 5               | LINE-shelf-slot-2-TX           |
|           | OSC-RX        | 6               | LINE-shelf-slot-3-RX           |
|           | OSC-TX        | 7               | LINE-shelf-slot-3-TX           |
|           | OC3           | 1               | FAC-shelf-slot-1               |
| 40 WXC    | EXP-i-RX      | 1..8            | LINE-shelf-slot-i-RX (i=1..8)  |
|           | EXP-TX        | 11              | LINE-shelf-slot-10-TX          |
|           | ADD-RX        | 9               | LINE-shelf-slot-9-RX           |
|           | DROP-TX       | 10              | LINE-shelf-slot-9-TX           |
|           | COM-RX        | 12              | LINE-shelf-slot-11-RX          |
|           | COM-TX        | 13              | LINE-shelf-slot-11-TX          |
| 80-WXC-C  | EAD-i-R/T     | 1..8            | LINE-shelf-slot-i (i=1..8)     |
|           | ADD R/T       | 9               | LINE-shelf-slot-9              |
|           | COM R/T       | 10              | LINE-shelf-slot-10             |
|           | DROP-TX       | 11              | LINE-shelf-slot-11-TX          |
|           | COM-RX        | 13              | LINE-shelf-slot-13-RX          |
|           | EXP-TX        | 12              | LINE-shelf-slot-12-TX          |
| 32 DMX    | CHAN TX       | 1-32            | CHAN-shelf-slot-i-TX (i=1..32) |
|           | COM-RX        | 33              | LINE-shelf-slot-1-RX           |
| OPT-PRE   | COM-RX        | 1               | LINE-shelf-slot-1-RX           |
|           | COM-TX        | 2               | LINE-shelf-slot-1-TX           |
|           | DC-RX         | 3               | LINE-shelf-slot-2-RX           |
|           | DC-TX         | 4               | LINE-shelf-slot-2-TX           |
| 40 DMX    | CHAN TX       | 1 - 40          | CHAN-shelf-slot-i-TX (i=1..40) |
|           | COM RX        | 41              | LINE-shelf-slot-1-RX           |

Table 27-34 CTC Port Numbers and TL1 Aids

| Equipment | CTC Port Name | CTC Port Number | TL1 Aid                        |
|-----------|---------------|-----------------|--------------------------------|
| 4 MD      | CHAN-RX       | 1               | CHAN-shelf-slot-1-RX           |
|           | CHAN-TX       | 2               | CHAN-shelf-slot-1-TX           |
|           | CHAN-RX       | 3               | CHAN-shelf-slot-2-RX           |
|           | CHAN-TX       | 4               | CHAN-shelf-slot-2-TX           |
|           | CHAN-RX       | 5               | CHAN-shelf-slot-3-RX           |
|           | CHAN-TX       | 6               | CHAN-shelf-slot-3-TX           |
|           | CHAN-RX       | 7               | CHAN-shelf-slot-4-RX           |
|           | CHAN-TX       | 8               | CHAN-shelf-slot-4-TX           |
|           | COM-RX        | 9               | LINE-shelf-slot-1-RX           |
|           | COM-TX        | 10              | LINE-shelf-slot-1-TX           |
| 40 MUX    | CHAN-RX       | 1-40            | CHAN-shelf-slot-i-RX (i=1..40) |
|           | COM-TX        | 41              | LINE-shelf-slot-1-TX           |
| 32 DMX L  | CHAN TX       | 1 - 32          | CHAN-shelf-slot-i-TX (i=1..32) |
|           | COM RX        | 33              | LINE-shelf-slot-1-RX           |
| 32 WSS L  | ADD-RX        | 1-32            | CHAN-shelf-slot-i-RX (i=1..32) |
|           | PT            | 33-64           | CHAN-shelf-slot-i-PT (i=1..32) |
|           | DROP-TX       | 69              | LINE-shelf-slot-3-TX           |
|           | EXP-RX        | 66              | LINE-shelf-slot-2-RX           |
|           | EXP-TX        | 65              | LINE-shelf-slot-2-TX           |
|           | COM-RX        | 68              | LINE-shelf-slot-1-RX           |
|           | COM-TX        | 67              | LINE-shelf-slot-1-TX           |
| OPT-BST   | COM-RX        | 1               | LINE-shelf-slot-1-RX           |
|           | COM-TX        | 2               | LINE-shelf-slot-1-TX           |
|           | OSC-RX        | 3               | LINE-shelf-slot-2-RX           |
|           | OSC-TX        | 4               | LINE-shelf-slot-2-TX           |
|           | LINE-RX       | 5               | LINE-shelf-slot-3-RX           |
|           | LINE-TX       | 6               | LINE-shelf-slot-3-TX           |
| OPT-BST E | COM-RX        | 1               | LINE-shelf-slot-1-RX           |
|           | COM-TX        | 2               | LINE-shelf-slot-1-TX           |
|           | OSC-RX        | 3               | LINE-shelf-slot-2-RX           |
|           | OSC-TX        | 4               | LINE-shelf-slot-2-TX           |
|           | LINE-RX       | 5               | LINE-shelf-slot-3-RX           |
|           | LINE-TX       | 6               | LINE-shelf-slot-3-TX           |

Table 27-34 CTC Port Numbers and TL1 Aids

| Equipment | CTC Port Name | CTC Port Number | TL1 Aid              |
|-----------|---------------|-----------------|----------------------|
| OPT-AMP L | COM-RX        | 1               | LINE-shelf-slot-1-RX |
|           | COM-TX        | 2               | LINE-shelf-slot-1-TX |
|           | DC-RX         | 7               | LINE-shelf-slot-4-RX |
|           | DC-TX         | 8               | LINE-shelf-slot-4-TX |
|           | OSC-RX        | 3               | LINE-shelf-slot-2-RX |
|           | OSC-TX        | 4               | LINE-shelf-slot-2-TX |
|           | LINE-RX       | 5               | LINE-shelf-slot-3-RX |
|           | LINE-TX       | 6               | LINE-shelf-slot-3-TX |
| OPT-BST L | COM-RX        | 1               | LINE-shelf-slot-1-RX |
|           | COM-TX        | 2               | LINE-shelf-slot-2-TX |
|           | OSC-RX        | 3               | LINE-shelf-slot-1-RX |
|           | OSC-TX        | 4               | LINE-shelf-slot-2-TX |
|           | LINE-RX       | 5               | LINE-shelf-slot-1-RX |
|           | LINE-TX       | 6               | LINE-shelf-slot-2-TX |
| MMU       | EXPA-RX       | 5               | LINE-shelf-slot-3-RX |
|           | EXPA-TX       | 6               | LINE-shelf-slot-3-TX |
|           | EXP-RX        | 1               | LINE-shelf-slot-1-RX |
|           | EXP-TX        | 2               | LINE-shelf-slot-1-TX |
|           | COM-RX        | 3               | LINE-shelf-slot-2-RX |
|           | COM-TX        | 4               | LINE-shelf-slot-2-TX |
| PSM       | W-RX          | 1               | LINE-shelf-slot-1-RX |
|           | W-TX          | 2               | LINE-shelf-slot-1-TX |
|           | P-RX          | 3               | LINE-shelf-slot-2-RX |
|           | P-TX          | 4               | LINE-shelf-slot-2-TX |
|           | COM-RX        | 5               | LINE-shelf-slot-3-RX |
|           | COM-TX        | 6               | LINE-shelf-slot-3-TX |
| AD 1B     | BAND-RX       | 1               | BAND-shelf-slot-1-RX |
|           | BAND-TX       | 2               | BAND-shelf-slot-1-TX |
|           | EXP-RX        | 3               | LINE-shelf-slot-1-RX |
|           | EXP-TX        | 4               | LINE-shelf-slot-1-TX |
|           | COM-RX        | 5               | LINE-shelf-slot-2-RX |
|           | COM-TX        | 6               | LINE-shelf-slot-2-TX |

**Table 27-34** CTC Port Numbers and TL1 Aids

| Equipment | CTC Port Name | CTC Port Number | TL1 Aid                        |
|-----------|---------------|-----------------|--------------------------------|
| AD 1C     | CHAN-RX       | 1               | CHAN-shelf-slot-1-RX           |
|           | CHAN-TX       | 2               | CHAN-shelf-slot-1-TX           |
|           | EXP-RX        | 3               | LINE-shelf-slot-1-RX           |
|           | EXP-TX        | 4               | LINE-shelf-slot-1-TX           |
|           | COM-RX        | 5               | LINE-shelf-slot-2-RX           |
|           | COM-TX        | 6               | LINE-shelf-slot-2-TX           |
| AD 2C     | CHAN-RX       | 1               | CHAN-shelf-slot-1-RX           |
|           | CHAN-TX       | 2               | CHAN-shelf-slot-1-TX           |
|           | CHAN-RX       | 3               | CHAN-shelf-slot-2-RX           |
|           | CHAN-TX       | 4               | CHAN-shelf-slot-2-TX           |
|           | EXP-RX        | 5               | LINE-shelf-slot-1-RX           |
|           | EXP-TX        | 6               | LINE-shelf-slot-1-TX           |
|           | COM-RX        | 7               | LINE-shelf-slot-2-RX           |
|           | COM-TX        | 8               | LINE-shelf-slot-2-TX           |
| AD 4C     | CHAN-RX       | 1               | CHAN-shelf-slot-1-RX           |
|           | CHAN-TX       | 2               | CHAN-shelf-slot-1-TX           |
|           | CHAN-RX       | 3               | CHAN-shelf-slot-2-RX           |
|           | CHAN-TX       | 4               | CHAN-shelf-slot-2-TX           |
|           | CHAN-RX       | 5               | CHAN-shelf-slot-3-RX           |
|           | CHAN-TX       | 6               | CHAN-shelf-slot-3-TX           |
|           | CHAN-RX       | 7               | CHAN-shelf-slot-4-RX           |
|           | CHAN-TX       | 8               | CHAN-shelf-slot-4-TX           |
|           | EXP-RX        | 9               | LINE-shelf-slot-1-RX           |
|           | EXP-TX        | 10              | LINE-shelf-slot-1-TX           |
|           | COM-RX        | 11              | LINE-shelf-slot-2-RX           |
|           | COM-TX        | 12              | LINE-shelf-slot-2-TX           |
| 32 WSS    | ADD-RX        | 1-32            | CHAN-shelf-slot-i-RX (i=1..32) |
|           | PT            | 33-64           | CHAN-shelf-slot-i-PT (i=1..32) |
|           | DROP-TX       | 69              | LINE-shelf-slot-3-TX           |
|           | EXP-RX        | 66              | LINE-shelf-slot-2-RX           |
|           | RXP-TX        | 65              | LINE-shelf-slot-2-TX           |
|           | COM-RX        | 68              | LINE-shelf-slot-1-RX           |
|           | COM-TX        | 67              | LINE-shelf-slot-1-TX           |

Table 27-34 CTC Port Numbers and TL1 Aids

| Equipment | CTC Port Name | CTC Port Number            | TL1 Aid                        |
|-----------|---------------|----------------------------|--------------------------------|
| 40 WSS CO | ADD-RX        | 1-40                       | CHAN-shelf-slot-i-RX (i=1..32) |
|           | PT            | 41-80                      | CHAN-shelf-slot-i-PT (i=1..32) |
|           | DROP-TX       | 85                         | LINE-shelf-slot-3-TX           |
|           | EXP-RX        | 82                         | LINE-shelf-slot-2-RX           |
|           | RXP-TX        | 81                         | LINE-shelf-slot-2-TX           |
|           | COM-RX        | 84                         | LINE-shelf-slot-1-RX           |
|           | COM-TX        | 83                         | LINE-shelf-slot-1-TX           |
| 32 DMXO   | CHAN-TX       | 1-32                       | CHAN-shelf-slot-i-TX (i=1..32) |
|           | COM-RX        | 33                         | LINE-shelf-slot-1-RX           |
| 32 MUXO   | CHAN RX       | 1-32                       | CHAN-shelf-slot-i-RX (i=1..32) |
|           | COM TX        | 33                         | LINE-shelf-slot-1-TX           |
| SMR-1     | EXP-RX        | 1                          | LINE-shelf-slot-1-RX           |
|           | EXP-TX        | 2                          | LINE-shelf-slot-1-TX           |
|           | DC-RX         | 3                          | LINE-shelf-slot-2-RX           |
|           | DC-TX         | 4                          | LINE-shelf-slot-2-TX           |
|           | OSC-RX        | 5                          | LINE-shelf-slot-3-RX           |
|           | OSC-TX        | 6                          | LINE-shelf-slot-3-TX           |
|           | ADD-RX        | 7                          | LINE-shelf-slot-4-RX           |
|           | DROP-TX       | 8                          | LINE-shelf-slot-4-TX           |
|           | LINE-RX       | 9                          | LINE-shelf-slot-5-RX           |
|           | LINE_TX       | 10                         | LINE-shelf-slot-5-TX           |
| SMR-2     | DC-RX         | 1                          | LINE-shelf-slot-1-RX           |
|           | DC-TX         | 2                          | LINE-shelf-slot-1-TX           |
|           | OSC-RX        | 3                          | LINE-shelf-slot-2-RX           |
|           | OSC-TX        | 4                          | LINE-shelf-slot-2-TX           |
|           | ADD-RX        | 5                          | LINE-shelf-slot-3-RX           |
|           | DROP-TX       | 6                          | LINE-shelf-slot-3-TX           |
|           | LINE-RX       | 7                          | LINE-shelf-slot-4-RX           |
|           | LINE_TX       | 8                          | LINE-shelf-slot-4-TX           |
|           | EXP-TX-1      | 9                          | LINE-shelf-slot-5-TX           |
|           | EXP-RX-2      | 10                         | LINE-shelf-slot-6-RX           |
|           | EXP-RX-3      | 11                         | LINE-shelf-slot-7-RX           |
|           | EXP-RX-4      | 12                         | LINE-shelf-slot-8-RX           |
| 10x10G-LC | CXP [port 11] | CXP 11-2...11 or 11-2...11 | VLINE-SL-1-1-i (i=2...11)      |
| 100G-LC-C | CXP [port 1]  | CXP 1-2...11 or 1-2...11   | VLINE-SL-1-1-i (i=2...11)      |

**Table 27-34** *CTC Port Numbers and TL1 Aids*

| Equipment | CTC Port Name | CTC Port Number             | TL1 Aid                  |
|-----------|---------------|-----------------------------|--------------------------|
| CFP-LC    | CFP-1         | CFP 1-1...10 or<br>1-1...10 | VLIN-SL-1-1-i (i=1...10) |
|           | CFP-2         | CFP 2-1...10 or<br>2-1...10 | VLIN-SL-2-1-i (i=1...10) |



## Conditions

This chapter lists the conditions for TL1 commands and autonomous messages for the Cisco NCS 2002 and Cisco NCS 2006.. These conditions are listed below.

Conditions include any problem detected on an Cisco NCS 2002 or Cisco NCS 2006. shelf. They can include standing or transient notifications. A snapshot of all current raised, standing conditions on the network, node, or card can be retrieved in the Cisco Transport Controller (CTC) Conditions window or using the RTRV-COND commands. (In addition, some but not all cleared conditions are also found in the History tab in CTC.)

**Table 28-1**      **Conditions**

| Condition    | Description                                     |
|--------------|-------------------------------------------------|
| AIS          | Alarm Indication Signal                         |
| AIS-L        | Alarm Indication Signal—Line                    |
| ALS          | Automatic Laser Shutdown                        |
| AMPLI-INIT   | Optical Amplifier Initialization                |
| APC-DISABLED | Automatic Power Control Disabled                |
| APC-FAIL     | Automatic Power Control Failure                 |
| APSB         | Byte Failure                                    |
| APSC-IMP     | Improper Automatic Protection Switch (APS) Code |
| APSCDFLTK    | Default K Byte                                  |
| APSCINCON    | Inconsistent APS Code                           |
| APSCM        | Protection Switching Channel Match Failure      |
| APSCNMIS     | Node ID Mismatch                                |
| APSIMP       | APS Invalid Mode                                |
| APSM         | APS Mode Mismatch                               |
| AS-CMD       | Alarms Suppressed By User Command               |
| AS-MT        | Alarms Suppressed For Maintenance               |
| AU-AIS       | AIS—Administration Unit—Alarm Indication Signal |

**Table 28-1**      **Conditions**

| Condition         | Description                                            |
|-------------------|--------------------------------------------------------|
| AU-LOF            | LOF—Administration Unit—Loss of Multi Frame            |
| AU-LOP            | LOP—Administration Unit—Loss of Pointer                |
| AUD-LOG-LOSS      | Audit Log 100 Percent Full—Oldest records will be lost |
| AUD-LOG-LOW       | Audit Log 80 Percent Full                              |
| AUTOLSROFF        | Automatic Laser Shutoff Due To High Temperature        |
| AUTORESET         | Automatic System Reset                                 |
| AUTOSW-AIS-SNCP   | Automatic SNCP Switch caused by AIS                    |
| AUTOSW-LOP-SNCP   | Automatic SNCP Switch Caused By LOP                    |
| AUTOSW-PDI-SNCP   | Automatic SNCP Switch Caused By PDI                    |
| AUTOSW-SDBER-SNCP | Automatic SNCP Switch Caused By SDBER                  |
| AUTOSW-SFBER-SNCP | Automatic SNCP Switch Caused By SFBER                  |
| AUTOSW-UNEQ-SNCP  | Automatic SNCP Switch Caused By UNEQ                   |
| AWG-DEG           | AWG Temperature Degrade                                |
| AWG-FAIL          | AWG Temperature Failure                                |
| AWG-OVERTEMP      | AWG Over-Temperature                                   |
| AWG-WARM-UP       | AWG Warm Up                                            |
| BAT-FAIL          | Battery Failure                                        |
| BAT-HGH-VLT       | High Volt                                              |
| BAT-LOW-VLT       | Low Volt                                               |
| BKUPMEMP          | Primary Non-Volatile Backup Memory Failure             |
| CARLOSS           | Carrier Loss On The LAN                                |
| CASETEMP-DEG      | Case Temperature Degrade                               |
| CKTDOWN           | Signaling unable to set up circuit                     |
| CLDRESTART        | Cold Restart                                           |
| COMIOXC           | IO Slot To XCON Communication Failure                  |
| COMM-FAIL         | Plug-in Module Communication Failure                   |
| CONTBUS-A-18      | TCC A To DCC A Processor Communication Failure         |



**Table 28-1**      **Conditions**

| Condition          | Description                                              |
|--------------------|----------------------------------------------------------|
| CONTBUS-B-18       | TCC B To DCC B Processor Communication Failure           |
| CONTBUS_A          | Controller A To Shelf Slot Communication Failure         |
| CONTBUS_B          | Controller B To Shelf Slot Communication Failure         |
| CTNEQPT-MISMA TCH  | Connection Equipment Mismatch                            |
| CTNEQPT-PBPRO T    | Interconnection Equipment Failure—Protect XC Payload Bus |
| CTNEQPT-PBWOR K    | Interconnection Equipment Failure—Working XC Payload Bus |
| DATAFLT            | Software Fault—Data Integrity Fault                      |
| DBOSYNC            | Standby Database Out of Sync                             |
| DS3-MISM           | DS3 Frame Format Mismatch                                |
| DSP-COMM-FAIL      | DSP Communication Failure                                |
| DSP-FAIL           | DSP Failure                                              |
| DUP-IPADDR         | IP address already in use within the same DCC Area       |
| DUP-NODENAME       | Node name already in use within the same DCC area        |
| E-W-MISMATCH       | Both Ends Of Fiber Provisioned As East Or Both As West   |
| E3-ISD             | E3 Idle Condition                                        |
| EHIBATVG           | Extreme High Volt                                        |
| ELWBATVG           | Extreme Low Volt                                         |
| EOC                | RS-DCC Termination Failure                               |
| EQPT               | Equipment Failure                                        |
| EQPT-MISS          | Replaceable Equipment/Unit is Missing                    |
| ERFI-P-CONN        | Enhanced Remote Failure Indication—Path—Connectivity     |
| ERFI-P-PAYLD       | Enhanced Remote Failure Indication—Path—Payload          |
| ERFI-P-SRVR        | Enhanced Remote Failure Indication—Path—Server           |
| ERROR-CONFIG       | Error in Startup Configuration                           |
| ETH-LINKLOSS       | Rear Panel Ethernet Link Removed                         |
| EXCCOL             | Excess Collisions On The LAN                             |
| EXERCISE-RING-FAIL | Exercise Request on Ring Failed                          |

**Table 28-1**      **Conditions**

| Condition           | Description                                            |
|---------------------|--------------------------------------------------------|
| EXERCISE-RING-REQ   | Exercise Request on Ring                               |
| EXERCISE-SPAN-FAIL  | Exercise Request on Span Failed                        |
| EXERCISE-SPAN-REQ   | Exercise Request on Span                               |
| EXT                 | Failure Detected External To The NE                    |
| EXTRA-TRAF-PR EEMPT | Extra Traffic Preempted                                |
| FAILTOSW            | Failure To Switch To Protection                        |
| FAILTOSW-HO         | Failure To Switch To Protection—High Order Path        |
| FAILTOSW-LO         | Failure To Switch To Protection—Low Order Path         |
| FAILTOSWR           | Failure To Switch To Protection—Ring                   |
| FAILTOSWS           | Failure To Switch To Protection—Span                   |
| FAN                 | Fan Failure                                            |
| FANDEGRADE          | Partial Fan Failure                                    |
| FE-AIS              | Far End AIS                                            |
| FE-DS1-MULTLOS      | Far End Multiple DS1 LOS Detected On DS3               |
| FE-DS1-NSA          | Far End DS1 Equipment Failure—Non Service Affecting    |
| FE-DS1-SA           | Far End DS1 Equipment Failure—Service Affecting        |
| FE-DS1-SNGLLOS      | Far End Single DS1 LOS                                 |
| FE-DS3-NSA          | Far End DS3 Equipment Failure—Non Service Affecting    |
| FE-DS3-SA           | Far End DS3 Equipment Failure—Service Affecting        |
| FE-E1-MULTLOS       | Far end multiple E1 LOS detected on E3                 |
| FE-E1-NSA           | Far end E1 eqpt fail non service affecting             |
| FE-E1-SA            | Far end E1 eqpt fail service affecting                 |
| FE-E1-SNGLLOS       | Far end signal E1 LOS                                  |
| FE-E3-NSA           | Far end E3 eqpt fail non service affecting             |
| FE-E3-SA            | Far end E3 eqpt fail service affecting                 |
| FE-EQPT-NSA         | Far End Common Equipment Failure—Non Service Affecting |
| FE-EXERCISING-RING  | Far End Exercising Ring                                |

**Table 28-1**      **Conditions**

| Condition            | Description                                                  |
|----------------------|--------------------------------------------------------------|
| FE-EXERCISING-SPAN   | Far End Exercising Span                                      |
| FE-FRCDWKSWP R-RING  | Far End Working Facility Forced To Switch To Protection—Ring |
| FE-FRCDWKSWP R-SPAN  | Far End Working Facility Forced To Switch To Protection—Span |
| FE-IDLE              | Far End IDLE                                                 |
| FE-LOCKOUTOF R-ALL   | Far End Lockout Of Protection—All Spans                      |
| FE-LOCKOUTOF R-RING  | Far End Lockout Of Protection—Ring                           |
| FE-LOCKOUTOF R-SPAN  | Far End Lockout Of Protection—Span                           |
| FE-LOCKOUTOF WK-RING | Far End Lockout Of Working—Ring                              |
| FE-LOCKOUTOF WK-SPAN | Far End Lockout Of Working—Span                              |
| FE-LOF               | Far End LOF                                                  |
| FE-LOS               | Far End LOS                                                  |
| FE-MANWKSWPR -RING   | Far End Manual Switch Of Working Facility To Protection—Ring |
| FE-MANWKSWPR -SPAN   | Far End Manual Switch Of Working Facility To Protection—Span |
| FE-SDPRLF            | APS Channel—Far End Protection Line Signal Degrade           |
| FEC-MISM             | FEC Mismatch                                                 |
| FEPLRF               | Far End Protection Line Failure                              |
| FIBERTEMP-DEG        | Fiber Temperature Degrade                                    |
| FORCED-REQ           | Forced Switch Request                                        |
| FORCED-REQ-RING      | Forced Switch Request On Ring                                |
| FORCED-REQ-SPAN      | Forced Switch Request On Span                                |
| FRCDSWTOINT          | Forced Switch To Internal Clock                              |
| FRCDSWTOPRI          | Forced Switch To Primary Reference                           |
| FRCDSWTOSEC          | Forced Switch To Second Reference                            |
| FRCDSWTOTHIRD        | Forced Switch To Third Reference                             |
| FRNGSYNC             | Free Running Synchronization Mode                            |
| FSTSYNC              | Fast Start Synchronization Mode                              |

**Table 28-1**      **Conditions**

| Condition           | Description                                                                |
|---------------------|----------------------------------------------------------------------------|
| FULLPASSTHR-BI      | Bidirectional Full Pass Through Is Active                                  |
| GAIN-HDEG           | Optical Amplifier Gain Degrade High                                        |
| GAIN-HFAIL          | Optical Amplifier Gain Failure High                                        |
| GAIN-LDEG           | Optical Amplifier Gain Degrade Low                                         |
| GAIN-LFAIL          | Optical Amplifier Gain Failure Low                                         |
| GCC-EOC             | GCC Termination Failure                                                    |
| GE-OOSYNC           | Gigabit Ethernet Out of Sync                                               |
| HI-LASERBIAS        | Equipment High Laser Bias                                                  |
| HI-RXPOWER          | Equipment High Receive Power                                               |
| HI-TXPOWER          | Equipment High Transmit Power                                              |
| HITEMP              | High Temperature                                                           |
| HLDOVRSYNC          | Holdover Synchronization Mode                                              |
| HP-RFI              | Remote Failure Indication—High Order—Remote Failure/Alarm Indication       |
| HP-TIM              | High Order—Trace Identifier Mismatch Failure                               |
| HP-UNEQ             | Signal Label Mismatch Failure (SLMF)—Unequipped High Order—Path Unequipped |
| I-HITEMP            | Industrial High Temperature                                                |
| IMPROPRMVL          | Improper Removal                                                           |
| INC-GFP-OUTOFF RAME | Out Of Frame Detected by Generic Framing Protocol (GFP) Receiver           |
| INC-GFP-SIGLOSS     | Client Signal Loss Frames Detected by GFP Receiver                         |
| INC-ISD             | DS3 Idle Condition                                                         |
| INC-SIGLOSS         | Incoming Signal Loss on Fibre Channel Interface                            |
| INC-SYNCLLOSS       | Incoming Synchronization Loss on Fibre Channel Interface                   |
| INC_GFP_SYNCLOSS    | Client Synchronization Loss Frames Detected by GFP Receiver                |
| INHSWPR             | Inhibit Switch To Protect Request On Equipment                             |
| INHSWWKG            | Inhibit Switch To Working Request On Equipment                             |
| INTRUSION-PSWD      | Security Intrusion Attempt Detected—See Audit Log                          |
| INVMACADR           | Invalid MAC Address                                                        |

**Table 28-1**      **Conditions**

| Condition                 | Description                                                            |
|---------------------------|------------------------------------------------------------------------|
| IOSCFGCOPY                | Ios Config Copy In Progress                                            |
| KB-PASSTHR                | K Bytes Pass-Through Is Active                                         |
| KBYTE-APS-CHANNEL-FAILURE | Kbyte Channel Failure                                                  |
| LAN-POL-REV               | Lan Connection Polarity Reversed                                       |
| LASER-APR                 | Laser Auto Power Reduction                                             |
| LASERBIAS-DEG             | Laser Bias Degrade                                                     |
| LASERBIAS-FAIL            | Laser Bias Failure                                                     |
| LASEREOL                  | Laser Approaching End of Life                                          |
| LASERTEMP-DEG             | Laser Temperature Degrade                                              |
| LKOUTPR-R                 | Lockout Of Protection—Ring                                             |
| LKOUTPR-S                 | Lockout Of Protection—Span                                             |
| LKOUTWK-R                 | Lockout Of Working—Ring                                                |
| LKOUTWK-S                 | Lockout Of Working—Span                                                |
| LMP-HELLODOWN             | Link Management Protocol (LMP) Hello FSM to Control Channel down       |
| LMP-NDFAIL                | LMP Neighbor Discovery has failed                                      |
| LO-RXPOWER                | Equipment Low Receive Power                                            |
| LO-TXPOWER                | Equipment Low Transmit Power                                           |
| LOA                       | Loss of Alignment                                                      |
| LOC                       | Loss of Channel                                                        |
| LOCKOUT-REQ               | Lockout Switch Request On Facility or Equipment                        |
| LOCKOUT-REQ-RING          | Lockout Switch Request On Ring                                         |
| LOCKOUTOFPR               | Lockout Of Protection                                                  |
| LOF                       | Loss Of Frame                                                          |
| LOM                       | Loss of Multi-Frame                                                    |
| LOS                       | Loss Of Signal                                                         |
| LOS-CONT                  | Loss Of Continuity                                                     |
| LP-PLM                    | Signal Label Mismatch Failure (SLMF)—PLM Low Order—Path Label Mismatch |
| LP-RFI                    | RFI—Low Order—Remote Failure/Alarm Indication                          |
| LP-TIM                    | TIM Low Order—Trace Identifier Mismatch Failure                        |

**Table 28-1**      **Conditions**

| Condition       | Description                                                               |
|-----------------|---------------------------------------------------------------------------|
| LP-UNEQ         | Signal Label Mismatch Failure (SLMF)—Unequipped Low Order—Path Unequipped |
| LPBKCRS         | Cross-connect Loopback                                                    |
| LPBKDS1FEAC     | DS1 Loopback Due To Far End Alarm and Control (FEAC) Command              |
| LPBKDS3FEAC     | DS3 Loopback Due To FEAC Command                                          |
| LPBKDS3FEAC-CMD | DS3 Loopback Command Sent To Far End                                      |
| LPBKE1FEAC      | E1 loopback due to FEAC command                                           |
| LPBKE3FEAC      | E3 loopback due to FEAC command                                           |
| LPBKE3FEAC-CMD  | E3 loopback command sent to far end                                       |
| LPBKFACILITY    | Facility Loopback                                                         |
| LPBKTERMINAL    | Terminal Loopback                                                         |
| MAN-REQ         | Manual Switch Request                                                     |
| MANRESET        | Manual System Reset                                                       |
| MANSWTOINT      | Manual Switch To Internal Clock                                           |
| MANSWTOPRI      | Manual Switch To Primary Reference                                        |
| MANSWTOSEC      | Manual Switch To Second Reference                                         |
| MANSWTO THIRD   | Manual Switch To Third Reference                                          |
| MANUAL-REQ-RING | Manual Switch Request On Ring                                             |
| MANUAL-REQ-SPAN | Manual Switch Request On Span                                             |
| MEA             | Mismatch Of Equipment And Attributes                                      |
| MEM-GONE        | Free Memory On Card Near Zero                                             |
| MEM-LOW         | Free Memory On Card Very Low                                              |
| MFGMEM          | Manufacturing Data Memory (EEPROM Failure)                                |
| MS-AIS          | AIS—Multiplex Section—Alarm Indication Signal                             |
| MS-EOC          | Multiplex Section DCC Termination Failure                                 |
| MS-RFI          | RFI—Multiplex Section—Remote Failure/Alarm Indication                     |
| MSSP-OOSYNC     | Procedural Error—MS-SPRing out of sync                                    |
| NO-CONFIG       | No Startup Configuration                                                  |
| NTWTPINC        | Network Topology Incomplete                                               |

**Table 28-1**      **Conditions**

| Condition          | Description                                      |
|--------------------|--------------------------------------------------|
| OCHNC-ACTIV-FAIL   | Optical Channel Activation Failure               |
| OCHNC-DEACTIV-FAIL | Optical Channel Deactivation Failure             |
| OCHNC-FAIL         | Optical Channel Connection Failure               |
| OCHNC-INC          | Optical Channel Incomplete                       |
| ODUK-AIS-PM        | ODUk: Alarm Indication Signal                    |
| ODUK-BDI-PM        | ODUk: PM Backward Defect Indication              |
| ODUK-LCK-PM        | ODUk: Locked Defect —Performance Monitoring (PM) |
| ODUK-OCI-PM        | ODUk: Open Connection Indication                 |
| ODUK-SD-PM         | ODUk: Signal Degrade                             |
| ODUK-SF-PM         | ODUk: Signal Failure                             |
| ODUK-TIM-PM        | ODUk: Trail Trace Identifier Mismatch            |
| OOU-TPT            | Out of Use—Transport Failure                     |
| OPTNTWMIS          | Optical Network Type Mismatch                    |
| OPWR-HDEG          | Optical Power Degrade High                       |
| OPWR-HFAIL         | Optical Power Failure High                       |
| OPWR-LDEG          | Optical Power Degrade Low                        |
| OPWR-LFAIL         | Optical Power Failure Low                        |
| OTUK-AIS           | OTUk: Alarm Indication Signal                    |
| OTUK-BDI           | OTUk: Backward Defect Indication                 |
| OTUK-LOF           | OTUk: Loss Of Frame                              |
| OTUK-SD            | OTUk: Signal Degrade                             |
| OTUK-SF            | OTUk: Signal Failure                             |
| OTUK-TIM           | OTUk: Trail Trace Identifier Mismatch            |
| OUT-OF-SYNC        | 8B10B Out of Sync                                |
| PDI-P              | Payload Defect Indication—Path                   |
| PEER-NORESPONSE    | Peer Card Not Responding                         |
| PORT-CODE-MISMATCH | Pluggable port security code mismatch            |
| PORT-COMM-FAILURE  | Module Communication Failure                     |
| PORT-MISMATCH      | Pluggable port rate mismatch                     |
| PORT-MISSING       | Pluggable port missing                           |
| PRC-DUPID          | Duplicate Node ID                                |
| PROTNA             | Protection Unit Not Available                    |

**Table 28-1**      **Conditions**

| Condition                | Description                                                     |
|--------------------------|-----------------------------------------------------------------|
| PTIM                     | Payload Type Identifier Mismatch                                |
| PWR-REDUN                | Redundant Power Capability Lost                                 |
| RAI                      | Remote Alarm Indication                                         |
| RCVR-MISS                | Facility Termination Equipment—Receiver Missing                 |
| RFI                      | Remote Failure Indication                                       |
| RFI-L                    | Remote Failure Indication—Line                                  |
| RING-ID-MIS              | Ring Id Mismatch                                                |
| RING-MISMATCH            | Far End Of Fiber Is Provisioned With Different Ring ID          |
| RING-SW-EAST             | Ring Switch Is Active On The East Side                          |
| RING-SW-WEST             | Ring Switch Is Active On The West Side                          |
| RSVP-HELLODOWN           | RSVP Hello FSM to Neighbor down                                 |
| RUNCFG-SAVENEED          | Need to Save Running Config                                     |
| SD                       | Signal Degrade                                                  |
| SD-L                     | Bit Error Rate (BER) Threshold Exceeded For Signal Degrade—Line |
| SDBER-EXCEED-HO          | BER Threshold Exceeded For Signal Degrade—High Order            |
| SF                       | Signal Failure                                                  |
| SF-L                     | BER Threshold Exceeded For Signal Failure—Line                  |
| SFBER-EXCEED-HO          | BER Threshold Exceeded For Signal Failure—High Order            |
| SFTWDOWN                 | Software Download In Progress                                   |
| SH-INS-LOSS-VAR-DEG-HIGH | Shutter Insertion Loss Variation Degrade High                   |
| SH-INS-LOSS-VAR-DEG-LOW  | Shutter Insertion Loss Variation Degrade Low                    |
| SHUTTER-OPEN             | Shutter Open                                                    |
| SNTP-HOST                | Simple Network time Protocol (SNTP) Host Failure                |
| SPAN-SW-EAST             | Span Switch Is Active On The East Side                          |
| SPAN-SW-WEST             | Span Switch Is Active On The West Side                          |
| SQM                      | Sequence Mismatch                                               |
| SQUELCH                  | Ring Is Squelching Traffic                                      |
| SQUELCH-PATH             | Squelching Path                                                 |



**Table 28-1**      **Conditions**

| Condition  | Description                                                    |
|------------|----------------------------------------------------------------|
| SQUELCHED  | Equipment Squelched                                            |
| SSM-DUS    | Do Not Use For Synchronization                                 |
| SSM-FAIL   | Failed To Receive Synchronization Status Message               |
| SSM-LNC    | ITU-T G.812—Local Node Clock traceable                         |
| SSM-OFF    | Synchronization Status Messages Are Disabled On This Interface |
| SSM-PRC    | ITU-T G.811—Primary Reference Clock traceable                  |
| SSM-PRS    | Stratum 1 Primary Reference Source Traceable                   |
| SSM-RES    | Reserved For Network Synchronization Use                       |
| SSM-NCS-TN | ITU-T G.812—Transit Node Clock traceable                       |
| SSM-SETS   | ITU-T G.813—Synchronous Equipment Timing Source traceable      |
| SSM-SMC    | NCS Minimum Clock Traceable                                    |
| SSM-ST2    | Stratum 2 Traceable                                            |
| SSM-ST3    | Stratum 3 Traceable                                            |
| SSM-ST3E   | Stratum 3E Traceable                                           |
| SSM-ST4    | Stratum 4 Traceable                                            |
| SSM-STU    | Synchronized—Traceability Unknown                              |
| SSM-TNC    | Transit Node Clock Traceable                                   |
| SWMTXMOD   | Switching Matrix Module Failure                                |
| SWTOPRI    | Switch To Primary Reference                                    |
| SWTOSEC    | Switch To Second Reference                                     |
| SWTOTHIRD  | Switch To Third Reference                                      |
| SYNC-FREQ  | Synchronization Reference Frequency Out Of Bounds              |
| SYNCPRI    | Primary Synchronization Reference Failure                      |
| SYNCSEC    | Secondary Synchronization Reference Failure                    |
| SYNCTHIRD  | Third Synchronization Reference Failure                        |
| SYSBOOT    | System Reboot                                                  |
| TIM        | TIM Section—Trace Identifier Mismatch Failure                  |
| TIM-MON    | TIM Section Monitor—Trace Identifier Mismatch Failure          |

**Table 28-1**      **Conditions**

| Condition    | Description                                           |
|--------------|-------------------------------------------------------|
| TPTFAIL      | Transport layer failure                               |
| TRMT         | Transmit Failure                                      |
| TRMT-MISS    | Facility Termination<br>Equipment—Transmitter Missing |
| TU-AIS       | AIS—Tributary Unit—Alarm Indication<br>Signal         |
| TU-LOP       | LOP—Tributary Unit—Loss of Pointer                    |
| TUNDERRUN    | Ethernet Transmit First In First Out<br>Underrun      |
| TX-AIS       | Alarm Indication Signal in TX                         |
| TX-RAI       | Remote Alarm Indication in TX                         |
| UNC-WORD     | FEC Uncorrected Word                                  |
| VCG-DEG      | VCAT Group Degraded                                   |
| VCG-DOWN     | VCAT Group Down                                       |
| VOA-HDEG     | Variable Optical Attenuator Degrade High              |
| VOA-HFAIL    | Variable Optical Attenuator Failure High              |
| VOA-LDEG     | Variable Optical Attenuator Degrade Low               |
| VOA-LFAIL    | Variable Optical Attenuator Failure Low               |
| WKSWPR       | Switched To Protection                                |
| WTR          | Wait To Restore                                       |
| WVL-MISMATCH | Equipment Wavelength Mismatch                         |



## Modifiers

This chapter describes the modifiers for TL1 commands and autonomous messages for the Cisco NCS 2002 and Cisco NCS 2006.

### 29.1 Modifier Support by Platform

[Table 29-1](#) lists the TL1 modifiers supported on the Cisco NCS 2002 and Cisco NCS 2006 platforms. The commands which include an angle brackets (< >) as part of the input format are called as Modifiers; for example, RTRV-<STM\_TYPE>.

**Table 29-1**      **Modifier Support**

| Modifier | NCS 2002 | NCS 2006 |
|----------|----------|----------|
| 10GFC    | Yes      | Yes      |
| 10GIGE   | Yes      | Yes      |
| 40GIGE   | Yes      | Yes      |
| 100GIGE  | Yes      | Yes      |
| 1GFC     | Yes      | Yes      |
| 1GFICON  | Yes      | Yes      |
| 2GFC     | Yes      | Yes      |
| 4GFC     | Yes      | Yes      |
| 2GFICON  | Yes      | Yes      |
| 5GIB     | Yes      | Yes      |
| 8GFC     | Yes      | Yes      |
| 3GVIDEO  | Yes      | Yes      |
| AUTO     | Yes      | Yes      |
| CHGRP    | Yes      | Yes      |
| D1VIDEO  | Yes      | Yes      |
| DS1      | Yes      | Yes      |
| DV6000   | Yes      | Yes      |
| DVBASI   | Yes      | Yes      |

**Table 29-1** *Modifier Support (continued)*

| <b>Modifier</b> | <b>NCS 2002</b> | <b>NCS 2006</b> |
|-----------------|-----------------|-----------------|
| E100            | Yes             | Yes             |
| E1000           | Yes             | Yes             |
| EC1             | Yes             | Yes             |
| FSTE            | Yes             | Yes             |
| G1000           | Yes             | Yes             |
| GIGE            | Yes             | Yes             |
| HDLC            | Yes             | Yes             |
| HDSDI           | Yes             | Yes             |
| HDTV            | Yes             | Yes             |
| ISC1            | Yes             | Yes             |
| ISC3STP1G       | Yes             | Yes             |
| ISC3STP2G       | Yes             | Yes             |
| MSISC           | Yes             | Yes             |
| OC12            | Yes             | Yes             |
| OC192           | Yes             | Yes             |
| OC3             | Yes             | Yes             |
| OC48            | Yes             | Yes             |
| OC768           | Yes             | Yes             |
| OCH             | Yes             | Yes             |
| ODU0            | Yes             | Yes             |
| OMS             | Yes             | Yes             |
| OTL             | Yes             | Yes             |
| OTS             | Yes             | Yes             |
| OTU1            | Yes             | Yes             |
| OTU2            | Yes             | Yes             |
| OTU3            | Yes             | Yes             |
| OTU4            | Yes             | Yes             |
| POS             | Yes             | Yes             |
| REP             | Yes             | Yes             |
| SDSDI           | Yes             | Yes             |
| STS1            | Yes             | Yes             |
| STS12C          | Yes             | Yes             |
| STS192C         | Yes             | Yes             |
| STS24C          | Yes             | Yes             |
| STS18C          | Yes             | Yes             |
| STS36C          | Yes             | Yes             |

**Table 29-1**      **Modifier Support (continued)**

| <b>Modifier</b> | <b>NCS 2002</b> | <b>NCS 2006</b> |
|-----------------|-----------------|-----------------|
| STS3C           | Yes             | Yes             |
| STS48C          | Yes             | Yes             |
| STS6C           | Yes             | Yes             |
| STS9C           | Yes             | Yes             |
| T1              | Yes             | Yes             |
| T3              | Yes             | Yes             |
| VT1             | Yes             | Yes             |





## TL1 Errors

This chapter provides TL1 error information supported by the Cisco NCS 2002 and Cisco NCS 2006. For alarm information, refer to the platform-specific procedure guide, troubleshooting guide, and reference manual.

### 30.1 Errors

Errors can be generated by any command or command response message. [Table 30-1](#) through [Table 30-65](#) list errors alphabetically by error code. The format of an error message is as follows:

```
SID DATE TIME
M CTAG DENY
<ERRCODE>
/* <ERRMSG> */
;
```

**Table 30-1**      **ENEQ Errors**

| ENEQ Error Messages                       |
|-------------------------------------------|
| At Least One Equipment Is Not Plugged     |
| Communication Failed                      |
| Control Not Provisioned                   |
| Cost Not Found                            |
| EnvControl IF Is Not Found                |
| Environmental Control Interface Not Found |
| Equipment Is Deleted                      |
| Equipment Must Be Present                 |
| Equipment Not Found                       |
| Equipment Not Present                     |
| Equipment Not Provisioned                 |
| IP Address Not Found                      |
| IP Mask Not Found                         |
| Internal Communication Error              |

**Table 30-1** *ENEQ Errors (continued)*

| <b>ENEQ Error Messages</b>              |
|-----------------------------------------|
| Next Hop Not Found                      |
| No standby present                      |
| No standby provisioned                  |
| Not Equipped                            |
| Sensor IF Is Not Found                  |
| Sensor Interface Not Found              |
| Standby not in valid state, please wait |
| TID Not Found                           |

**Table 30-2** *IBEX Errors*

| <b>IBEX Error Messages</b>             |
|----------------------------------------|
| Extra Datablock                        |
| Extra parameters                       |
| Invalid AID Block. Extra Datablock     |
| Invalid Payload Block. Extra Datablock |

**Table 30-3** *ICNV Errors*

| <b>ICNV Error Messages</b>                              |
|---------------------------------------------------------|
| AIS on LOF Not Supported                                |
| AISV on AIS Not Supported                               |
| Admin SSM Not Supported                                 |
| Cannot Change Threshold Values On Protect Port          |
| Cannot Enable IPV6 Without Provisioning IPV6 Address    |
| Cannot Provision IPV6 Parameters While IPV6 Is Disabled |
| Cannot Set DCC When G709 Is Enabled                     |
| Cannot set Timer value if FTP server is not enabled     |
| Cross Connect Not Supported By XC Mode                  |
| Equipment Does Not Match Request                        |
| Equipment In Use                                        |
| Impedance Not Supported With Current Configuration      |
| Inhfelpbk Not Supported                                 |
| Invalid Command                                         |
| Invalid VLAN Remapping                                  |
| Operation Not Supported By This Card                    |
| Operation Not Supported On This Shelf                   |



**Table 30-3 ICNV Errors (continued)****ICNV Error Messages**

|                                                |
|------------------------------------------------|
| PDIP Generation Not Supported                  |
| PDIP Not Supported                             |
| PM Threshold Type Not Supported                |
| PM Type Not Supported                          |
| Payload Does Not Match Request                 |
| Performance Monitoring Type Not Supported      |
| SaBit Not Supported With Current Configuration |
| Senddus Not Supported                          |
| Syncmap Not Supported                          |
| Syncmsg Not Supported                          |
| Threshold Type Not Supported                   |
| Trace Not Supported On Protect Trunk Port      |
| Unidirectional Not Supported                   |
| VT Map Not Supported                           |
| XC MODE Not Supported                          |

**Table 30-4 IDMS Errors****IDMS Error Messages**

|                       |
|-----------------------|
| Data Missing          |
| Loopback Type Missing |
| Missing Internal Data |

**Table 30-5 IDNC Errors****IDNC Error Messages**

|                                                                         |
|-------------------------------------------------------------------------|
| Invalid Data                                                            |
| Invalid PST Value                                                       |
| Invalid SST Value                                                       |
| PRI source cannot be INTERNAL when SEC source is not INTERNAL           |
| PRI source cannot be INTERNAL when THIRD is not INTERNAL                |
| Primary Source Cannot Be INTERNAL When Secondary Source Is Not INTERNAL |
| Primary Source Cannot Be INTERNAL When Third Source Is Not INTERNAL     |
| Primary Source Cannot Be NONE When Secondary Source Is Not NONE         |
| Primary Source Cannot Be NONE When Third Source Is Not NONE             |
| SEC source cannot be INTERNAL when THIRD is not INTERNAL                |
| SSM not supported on SDH                                                |

**Table 30-5 IDNC Errors (continued)****IDNC Error Messages**

Secondary Source Cannot Be INTERNAL When Third Source Is Not INTERNAL

Secondary Source Cannot Be NONE When Third Source Is Not NONE

Third source must be INTERNAL

**Table 30-6 IDNV Errors****IDNV Error Messages**

2F-MSSPR Architecture Does Not Permit Manual/Forced Span Switching

ADM Peer Group Name Exceeds Maximum Length

AIS On Terminal Loopback Not Supported

AISONLPBK Not Supported

AMPLMODE Not Supported

AUTO ALS Mode Not Allowed With Digital Wrapper Disabled

AUTO Trace Mode Not Allowed

Alarm Message Must Be Enclosed Within a Pair of Quotes

Alarm Message Required for MISC

Alarm Type Exceeds Maximum Length Allowed

At least an XC10G XC card is needed for this equipment type

BERT Diagnostics Limited To VT Cross Connections

BWP Name Exceeds Maximum Length

CALOPWR Not Supported

CALTILT Not Supported

CHPOWER Not Supported

CKTID Exceeds Maximum Length

CMDMDE Only Applicable when Creating/Deleting Protection Group

Calibration Power Not Allowed

Cannot Access DCC

Cannot Change Protection Type

Cannot Change XC Mode

Cannot Delete Dynamic TDC Entry

Cannot Edit NAME When ADM Peer Group Not Present

Cannot Edit NAME When Regeneration Group Not Present

Cannot Modify Circuit Size While Active Equipment

Cannot turn off proxy server or firewall while in secure mode

Card Does Not Support Synchronization/Timing Parameters

Card Mode Incompatible With Configured Payload Type

**Table 30-6 IDNV Errors (continued)****IDNV Error Messages**

|                                                       |
|-------------------------------------------------------|
| Command Not Valid On Protect Card                     |
| Configuration Does Not Support AUTO ALS Mode          |
| Current Interval Not Supported For RMON PMs           |
| DCC Not Supported In Transparent Term Mode            |
| DCC is in used                                        |
| DS1 Mode Not Supported                                |
| Data Rate Already Provisioned                         |
| Data Rate Already Provisioned                         |
| Description Too Long                                  |
| Description cannot be more than 32 characters         |
| Distance Extension Not Enabled                        |
| EXPGAIN Parameter Not Supported By Amplifier Facility |
| Edit FMT on an Invalid Card                           |
| Edit FMT with an Invalid Data                         |
| Edit Line Code Failed                                 |
| Edit Line Code on an Invalid Card                     |
| Equipment Does Not Support ADM Peer Group             |
| Equipment Does Not Support EXPWLEN                    |
| Equipment Does Not Support FCS                        |
| Equipment Does Not Support Fast Ring Protection Role  |
| Equipment Does Not Support Fast Ring Protection State |
| Equipment Does Not Support PROTID                     |
| Equipment Does Not Support PRTYPE                     |
| Equipment Does Not Support Payload Type               |
| Equipment Does Not Support RDIRN                      |
| Equipment Does Not Support RVRTV                      |
| Equipment Does Not Support RVTM                       |
| Equipment Does Not Support Regeneration Group         |
| Equipment Does Not Support SUPERBLKS                  |
| Equipment Incompatible For Regeneration Group         |
| Flow Control Value Not Supported                      |
| Frame Format Contains Invalid Data                    |
| Frame Format Not Supported On Equipment               |
| GCC Not Supported On CLNT Port                        |
| GFP Buffer Out Of Range                               |
| High Threshold Should Be Lower Than Extreme High      |

**Table 30-6 IDNV Errors (continued)**

| <b>IDNV Error Messages</b>                 |
|--------------------------------------------|
| Incompatible Equipment Type For Protection |
| Incompatible Equipment Type                |
| Incompatible New Equipment Type            |
| Incompatible Protect Slot For Protection   |
| Incorrect Raman Setup Configuration        |
| Input, Data Not Valid                      |
| Interval Out Of Range                      |
| Invalid AID For PCA Cross-Connection       |
| Invalid Alarm Message                      |
| Invalid Buffer Type                        |
| Invalid Card Mode For Equipment Type       |
| Invalid Committed Rate                     |
| Invalid Community                          |
| Invalid Data For 2F-MSSPR                  |
| Invalid Data Rate                          |
| Invalid Data Rate                          |
| Invalid Drop Path                          |
| Invalid Enable Value                       |
| Invalid Equipment Type                     |
| Invalid ESH Timer                          |
| Invalid Ethernet Frame Size                |
| Invalid Expected Path Trace Message        |
| Invalid Fast Ring Protection Role          |
| Invalid Fast Ring Protection State         |
| Invalid Holdoff Timer Value                |
| Invalid IIH Timer                          |
| Invalid Interval                           |
| Invalid ISH Timer                          |
| Invalid Log Name                           |
| Invalid MODE                               |
| Invalid MONLEV Value                       |
| Invalid MONTYPE Value                      |
| Invalid MTU Size                           |
| Invalid Mac Address                        |
| Invalid NI Mode                            |
| Invalid Next Hop                           |

**Table 30-6 IDNV Errors (continued)**

| <b>IDNV Error Messages</b>                              |
|---------------------------------------------------------|
| Invalid Notification Code                               |
| Invalid Nsap Value                                      |
| Invalid PDU4timer Value                                 |
| Invalid Pdu4onstart Value                               |
| Invalid Pduorigin Value                                 |
| Invalid PM Interval                                     |
| Invalid PPM Port                                        |
| Invalid Port Mode For Facility                          |
| Invalid Port Number                                     |
| Invalid Protect Group Identifier                        |
| Invalid Protid                                          |
| Invalid QNQ Mode                                        |
| Invalid Recovery Pulse Width                            |
| Invalid Reference                                       |
| Invalid Regeneration Group AID                          |
| Invalid Regeneration Group Configuration                |
| Invalid Report Interval                                 |
| Invalid ROLE                                            |
| Invalid RibType Value                                   |
| Invalid Side Role Specified                             |
| Invalid Start Time                                      |
| Invalid Static Route Destination                        |
| Invalid Switch Command                                  |
| Invalid Switch Type For MSSPR                           |
| Invalid TAP Number                                      |
| Invalid TXCOUNT Or RXCOUNT                              |
| Invalid TXCOUNT Or RXCOUNT                              |
| Invalid TXCOUNT                                         |
| Invalid Threshold Value Ordering                        |
| Invalid Time Offset                                     |
| Invalid Timer Value                                     |
| Invalid Trace Level                                     |
| Invalid User Name                                       |
| Invalid VCAT Group Name                                 |
| Invalid area id, format is nnn.nnn.nnn.nnn              |
| J0 Section Trace Not Supported In Transparent Term Mode |

**Table 30-6 IDNV Errors (continued)**

| <b>IDNV Error Messages</b>                                      |
|-----------------------------------------------------------------|
| Keyword All Not Allowed                                         |
| Line Code Not Supported                                         |
| Link Credit Out Of Range                                        |
| Link Recovery And Distance Extension are Mutually Exclusive     |
| Low Threshold Should Be Greater Than Extreme Low                |
| MAN TRCMODE Not Allowed with NULL EXPTRC                        |
| Maximum Number Of Protected VLAN Reached                        |
| Maximum Number Of Routes Reached                                |
| Maximum Number Of VLAN Reached                                  |
| Multiple AIDs Not Allowed                                       |
| Multiple PROTID Not valid                                       |
| Multiple Protection Group Card Slot Identifiers Not Allowed     |
| Multiple References Not Allowed                                 |
| Must Provide PROTID for Adding Working Modules                  |
| NEWSHELFID Required When Changing SHELFROLE To SC               |
| Next Hop Conflicts Default Router                               |
| Node Has Default GRE Tunnel                                     |
| Null Userid Or Range In Userid List Not Allowed                 |
| Number Of Reports Is Negative                                   |
| OSRI Not Supported                                              |
| Only One Trunk Required For Card Mode                           |
| PPM Does Not Exist                                              |
| PPM Type Parameter Not Supported By This Card                   |
| PRIVLVL Not Allowed When PAGE = 0                               |
| PRIVLVL Not Allowed Without PAGE, PCND, or TMOUT                |
| PRIVLVL Required With PAGE, PCND, Or TMOUT                      |
| Parameter Not Supported By Payload Type                         |
| Parameter Not Supported By This Optical Node Type               |
| Parameter Not Supported On Protect Trunk Port                   |
| Parameter Not Supported On Protect Trunk Port                   |
| Parameter Not Supported On Protect Trunk Port                   |
| Payload Mapping Type Incompatible With G.709 Settings           |
| Payload Type Does Not Support AUTO ALS Mode                     |
| Payload Type Does Not Support DCC                               |
| Payload Type Does Not Support unlocked-automaticInservice State |
| Payload Type Does Not Support OTN/FEC                           |

**Table 30-6 IDNV Errors (continued)**

| <b>IDNV Error Messages</b>                                  |
|-------------------------------------------------------------|
| Payload Type Not Supported                                  |
| Peer Card Not Present                                       |
| Peerid Must Be Different From Aid                           |
| Port Name Exceeds Maximum Length                            |
| Port Unsupported in Card Mode                               |
| Power Setpoint Adjust Failed                                |
| Protect Card Does Not Support Protection Type               |
| Protect Slot Not Provisioned                                |
| Protection Group Card Slot Identifier Field Required        |
| Protection Group Does Not Exist                             |
| Protection Group Name Cannot Be Null                        |
| Protection Group Name Exceeds Maximum Length                |
| QNG Entry Not Provisioned                                   |
| REFTILT Not Supported                                       |
| RMON Threshold Not Supported                                |
| Rate Capacity Exceeded                                      |
| Regeneration Group Name Exceeds Maximum Length              |
| Requested CRSTYPE Not Supported                             |
| Retime Not Supported                                        |
| Ring Lockout MSSPR Switching Is Not Supported               |
| SDCC is in use                                              |
| SHELFROLE Field Must Be SC With NEWSHELFID                  |
| Shelf Role Invalid For Equipment Type                       |
| Span Lockout of Working on MSSPR Switching Is Not Supported |
| Squelch Not Allowed With Current Setting                    |
| Static Route Cannot Be 255.255.255.255                      |
| Static Route Cannot Be Same As Class A Broadcast Address    |
| Static Route Cannot Be Same As Class B Broadcast Address    |
| Static Route Cannot Be Same As Class C Broadcast Address    |
| Static Route Cannot Be Same As Default Router Mask          |
| Static Route Cannot Be Same As Internal Network             |
| Static Route Cannot Be Same As Node Broadcast Address       |
| Static Route Cannot Be Same As Node IP                      |
| Static Route Cannot Be Same As Node Subnet                  |
| Static Route Cannot Be Same As Old Class E Address          |
| Static Route Cannot be Same As Local Net                    |

**Table 30-6 IDNV Errors (continued)**

| <b>IDNV Error Messages</b>                                   |
|--------------------------------------------------------------|
| Switch Type Is Not Allowed On 1+1                            |
| TID Name Exceeds Maximum Length                              |
| TMPER Type Not Supported                                     |
| Tap Out Of Range                                             |
| Term Mode Does Not Support Synchronization/Timing Parameters |
| Threshold Increment Invalid                                  |
| Threshold Value Out Of Range                                 |
| Trace Level Not Supported By Client Port                     |
| Trace Level Required                                         |
| Trace Not Supported In Transparent Term Mode                 |
| Transmitted Path Trace Message not supported                 |
| Transport Mode Invalid For Equipment Type                    |
| Unsupported Or Incompatible Termination Mode                 |
| Unsupported Protection Option                                |
| VLAN Name Exceeds Maximum Length                             |
| VLAN Out Of Range                                            |
| VOA Not Supported                                            |
| VOA Out Of Range                                             |
| Value Or Threshold Read Only                                 |

**Table 30-7 IDRG Errors**

| <b>IDRG Error Messages</b>          |
|-------------------------------------|
| DST Not Supported For The Time Zone |
| Difference Value Range Error        |
| Invalid DURAL Value                 |
| Invalid GFPBUF Value                |
| Invalid MXINV Value                 |
| Invalid MXINV or DURAL Value        |
| Invalid PAGE Value                  |
| Invalid PAGE or PCND Value          |
| Invalid PCND Value                  |
| Invalid PDIF Value                  |
| Invalid PINT Value                  |
| Invalid PJMON Value                 |
| Invalid POLD Value                  |



**Table 30-7 IDRГ Errors (continued)****IDRG Error Messages**

|                          |
|--------------------------|
| Invalid TMOUТ Value      |
| Invalid Threshold Value  |
| Invalid Time Zone        |
| Invalid Trap Destination |
| Invalid Trap Port        |
| Invalid UOUТ Value       |
| Invalid Watermark Value  |
| PJMON Out Of Range       |

**Table 30-8 IIAC Errors****IIAC Error Messages**

|                                                                 |
|-----------------------------------------------------------------|
| AID Does Not Match with Requested MSSPR Path Type               |
| AID PARSE ERROR                                                 |
| ALL AID Not Allowed                                             |
| ALL, Ranging and Grouping Are Not Supported for Hard Reset      |
| ALL, Ranging and Grouping Are Not Supported                     |
| Aid validation failed                                           |
| BERT Diagnostic Cross connection Source Must Equal Destination  |
| MSSPR East and West On Same Slot Not Allowed                    |
| MSSPR Time Slot Mismatch                                        |
| Bad Ring Id                                                     |
| CCT=1WAY Not Allowed For The Card                               |
| Can Not Create Schedule On Protect Card                         |
| Cannot Access One Plus One Protect Line                         |
| Cannot Make Changes To Protect Card                             |
| Cross-Connection Cannot Overlap PCA Boundary                    |
| Cross-Connection Cannot Use GIGE Ports When In Transponder Mode |
| Cross-connection PathWidth Not Supported by Card                |
| DS1 Out of Range                                                |
| EQPT Prot AID parse failed                                      |
| Equipment Can Not Be Provisioned On Low Speed Slot              |
| Equipment Does Not Match Request                                |
| Equipment Does Not Support This Type Of Cross-connection        |
| Expected Trace Not Supported On This Card Type                  |
| Expected Trace String Exceeds Max Length (62)                   |

**Table 30-8** *IIAC Errors (continued)*

| <b>IIAC Error Messages</b>                                     |
|----------------------------------------------------------------|
| Expected Trace String Exceeds Maximum Length                   |
| FAC parse failed                                               |
| Incoming Trace Not Supported On This Card Type                 |
| Incorrect Card Type                                            |
| Input, Invalid Access                                          |
| Invalid AID                                                    |
| Invalid Cross-connection Name                                  |
| Invalid Cross-connection Path Number                           |
| Invalid DRI Node Type                                          |
| Invalid DRI Topology                                           |
| Invalid DS1 AID                                                |
| Invalid FROM AID                                               |
| Invalid G1000 Facility Port                                    |
| Invalid Month Or Day                                           |
| Invalid Node Side                                              |
| Invalid NodeId                                                 |
| Invalid Operation On Drop AID                                  |
| Invalid PJMON Value                                            |
| Invalid PM Direction parameter                                 |
| Invalid Protect AID Or Working AID                             |
| Invalid Protect AID                                            |
| Invalid RFROM AID                                              |
| Invalid RFROMEND AID                                           |
| Invalid RFROMSTART AID                                         |
| Invalid RTO AID                                                |
| Invalid RTOSTART AID                                           |
| Invalid Reference                                              |
| Invalid RingId                                                 |
| Invalid Roll From And/Or Roll To AID                           |
| Invalid Source AID                                             |
| Invalid Source/Destination AID Count For Cross-Connection Type |
| Invalid TAP                                                    |
| Invalid TO AID                                                 |
| Invalid TPORT AID                                              |
| Invalid Time                                                   |
| Invalid VCG Member Number                                      |

**Table 30-8 IIAC Errors (continued)****IIAC Error Messages**

|                                                                  |
|------------------------------------------------------------------|
| Invalid Year                                                     |
| Invalid fac-n-m input                                            |
| J1 Trace Not Supported On This Card                              |
| List AID Not Allowed For ALL AID                                 |
| List Or All AID Not Supported                                    |
| Loopback type mismatch                                           |
| LpbkType Does Not Match                                          |
| Multiple AIDs Not Allowed With All AID                           |
| Multiple AIDs Not Allowed                                        |
| Multiple AIDs Not Supported                                      |
| Multiple Destination AID Exceeds Limit                           |
| Multiple Destinations Not Supported By Cross-Connection          |
| Multiple Source AID Exceeds Limit                                |
| Multiple TAP AIDs Not Supported                                  |
| Multiple AIDs Not Allowed                                        |
| No TPORT With ONE-PORT-BI TRANS Mode                             |
| No TPORT With Removing TRANS Mode                                |
| Not Allowed On 1+1 Protect Line                                  |
| Not Allowed On MSSPR Protect Line                                |
| Not Allowed On Protect Line                                      |
| Optional AIDs Are Not Supported                                  |
| Ranging and Grouping Are Not Supported for Soft Reset            |
| RingId Does Not Match with AID Number                            |
| TPORT Must Use The Same Slot As The Aid                          |
| TPORT Supports Only A Single AID                                 |
| Trace Format Not Supported On This Card Type                     |
| Trace Mode Not Supported On This Card Type                       |
| Trace Not Supported For Current Configuration                    |
| Trace String Exceeds Maximum Length                              |
| Transmit Trace Not Supported On This Card Type                   |
| SNCP Cross-Connections Not Allowed For The Facility Of Data Card |
| Use Of TPORT Argument Requires Use Of TRANS                      |

**Table 30-9 IICM Errors**

| <b>IICM Error Messages</b>            |
|---------------------------------------|
| Command not implemented yet...        |
| Command not supported in this release |
| Input, Invalid Command                |
| Input, Invalid MOD1                   |
| Input, Invalid MOD2                   |
| Input, Invalid VERB                   |
| Memory Allocation Error               |

**Table 30-10 IICT Error**

| <b>IICT Error Message</b> |
|---------------------------|
| Invalid Correlation Tag   |

**Table 30-11 IIDT Errors**

| <b>IIDT Error Messages</b>                                          |
|---------------------------------------------------------------------|
| '%xx' Encoding Error In URL Parsing                                 |
| 0 Sec Revertive Time Not Supported                                  |
| 2F-MSSPR Does Not Support SRVRTV/SRVTM/EASTPROT/WESTPROT Parameters |
| AUTO trace mode not supported                                       |
| CMDMDE Must Be FRCD                                                 |
| Can Not Delete A Schedule Which Does Not Exist                      |
| Cannot Activate To Older Software                                   |
| Cannot Add And Remove Drops Together                                |
| Cannot Create More RMON Threshold                                   |
| Cannot Edit OSPF When Both RS-DCC and MS-DCC are Enabled            |
| Cannot Revert From R2 To R1                                         |
| Cannot Revert To Newer Software                                     |
| Cannot Revert While In Permanent Secure Mode                        |
| Cannot Revert While In Secure Mode                                  |
| Command Already In Progress                                         |
| DEST Incompatible With RFR Type                                     |
| DEST Incompatible With SWDL Type                                    |
| DEST Required For RFBU Type                                         |
| Duplicate MSSPR Working/Protect Facilities                          |
| Duplicate Performance Monitoring Schedule                           |

**Table 30-11** *IIDT Errors (continued)*

| <b>IIDT Error Messages</b>                                      |
|-----------------------------------------------------------------|
| Duplicate RMON Threshold                                        |
| Duplicate Schedule                                              |
| Error Adding New Schedule                                       |
| FRCD mode not supported                                         |
| FTTD Host Cannot Be IP Address                                  |
| FTTD Is Not Supported. Only Direct File Transfers Are Supported |
| FTTD URL Missing                                                |
| Facility Already in OSC Group                                   |
| File Name Missing In URL                                        |
| Flash Manager Not Active                                        |
| Hostname Missing In URL                                         |
| IOS Config File Too Big                                         |
| Invalid 2 Fiber MSSPR Parameter                                 |
| Invalid Area Address                                            |
| Invalid Area Address Length                                     |
| Invalid Area Chars                                              |
| Invalid MSSPR Mode                                              |
| Invalid MSSPR Protect Facility                                  |
| Invalid MSSPR Working Facility                                  |
| Invalid Data Parameter                                          |
| Invalid East Protect Port                                       |
| Invalid East Working Port                                       |
| Invalid FTTD Host                                               |
| Invalid NSAP Character                                          |
| Invalid NSAP Length                                             |
| Invalid NSAP Selector                                           |
| Invalid NSAP                                                    |
| Invalid OSC Group Facility                                      |
| Invalid Phase Number                                            |
| Invalid Port In URL                                             |
| Invalid Revertive Time                                          |
| Invalid Router Number                                           |
| Invalid Shelf Id 1 For SC                                       |
| Invalid Software Switch Type                                    |
| Invalid State Transition Request                                |
| Invalid State Value                                             |

**Table 30-11 IIDT Errors (continued)**

| <b>IIDT Error Messages</b>                                      |
|-----------------------------------------------------------------|
| Invalid Type Value In FTP URL. Only 'a', 'i', or 'd' Is Allowed |
| Invalid West Protect Port                                       |
| Invalid West Working Port                                       |
| Invalid type= Syntax In FTP URL                                 |
| Loopback type not supported                                     |
| Mandatory FTP URL Not Provided                                  |
| Maximum Performance Monitoring Schedule Limit Reached           |
| Memory Out Of Range                                             |
| Missing/Invalid Destination                                     |
| Missing/Invalid Source                                          |
| NSAP FTTD Hosts Unsupported                                     |
| No TID matches FTTD hostname                                    |
| Non-IP Hostname In FTP URL                                      |
| Non-IP Hostname or Invalid TID In FTP URL                       |
| Null Outputs In URL Parsing                                     |
| Only unlocked PST Is Supported                                  |
| Only MAINT STATE Supported                                      |
| Only NORM CMD_MODE Is Supported                                 |
| Only locked PST Is Supported                                    |
| Only OVWRT of YES is Allowed For Uploads                        |
| Only Port 21 Is Supported                                       |
| Only SWDL Is Supported For The xfertype Argument                |
| Only Type 'a' Is Supported In The COPY-IOSCFG FTP URL           |
| Only Type 'i' Is Supported In The COPY-RFILE FTP URL            |
| OSPF Cannot Be Enabled On OSI Alone SDCC                        |
| Password Missing In URL                                         |
| Performance Monitoring Schedule Does Not Exist                  |
| Port Missing In URL                                             |
| RFBU Type Required With RFILE-LOG Aid                           |
| Reach Limits Of MAX Schedules Allowed. Can Not Add More         |
| SRC Incompatible With RFBU Type                                 |
| SRC Required For RFR Type                                       |
| SRC Required For SWDL Type                                      |
| SWDL Incompatible With RFILE-PKG Aid                            |
| Software Activate/Revert Failed                                 |
| Software Not Available For Switch                               |

**Table 30-11 IIDT Errors (continued)****IIDT Error Messages**

|                                                   |
|---------------------------------------------------|
| Terminal Loopback is not supported                |
| The URL Contains Unsafe Characters. Please Encode |
| Unknown Error Processing FTP URL                  |
| Unsupported Locn Value                            |
| Username Missing In URL                           |
| ftp:// Missing In FTP URL                         |
| fttd:// Missing In FTTD URL                       |

**Table 30-12 IIFM Errors****IIFM Error Messages**

|                                                |
|------------------------------------------------|
| Invalid AID Block. Invalid Data Format         |
| Invalid Alarm Type - Must Conform To TL1 Rules |
| Invalid Data Format                            |
| Invalid Password                               |
| Invalid Payload Block. Invalid Data Format     |
| Invalid User ID                                |

**Table 30-13 IIPG Errors****IIPG Error Messages**

|                                                              |
|--------------------------------------------------------------|
| Configuration Requires Transparent Termination Mode          |
| Equipment Payload Type Incompatible For Regeneration Group   |
| Payload Type Requires Squelch Card Mode                      |
| Payload Type Requires Transparent Termination Mode           |
| Transparent Termination Mode Required For Regeneration Group |

**Table 30-14 IISP Errors****IISP Error Messages**

|                                         |
|-----------------------------------------|
| Input, Garbage                          |
| Invalid AID Block. Extraneous ',' Found |

**Table 30-15 IITA Errors****IITA Error Messages**

GNE: Input, Invalid Target Identifier

Input, Invalid Target Identifier

**Table 30-16 INUP Errors****INUP Error Messages**

EXTRNG Configuration Is Not Supported

General Block Unsupported

Missing mandatory field

NODEID Configuration Is Not Supported

RNGID Configuration Is Not Supported

RNGMAPAUTO Configuration Is Not Supported

RNGWTR Configuration Is Not Supported

**Table 30-17 IPEX Errors****IPEX Error Messages**

Duplicate N/V field

Invalid Payload Block. Extra Parameters

**Table 30-18 IPMS Errors****IPMS Error Messages**

Invalid AID Block. Missing Mandatory Field

Invalid Payload Block. Missing Mandatory Field

Invalid syntax

Missing mandatory field

Parameter Missing

**Table 30-19 IPNC Errors****IPNC Error Messages**

Cannot Change Existing Protection Type

Cross-connect Doesn't Have SNCP Path Selector

Description Too Long

Expected Duplex Not Supported

Expected Speed Not Supported



**Table 30-19 IPNC Errors (continued)**

| <b>IPNC Error Messages</b>                 |
|--------------------------------------------|
| Invalid Auto Negotiate Value               |
| Invalid Encapsulation Type                 |
| Invalid Flow Control Value                 |
| Invalid Maximum Frame Size                 |
| Invalid Oprnominal Value                   |
| Invalid Parameter                          |
| Invalid Trans Value                        |
| Parameter Not Valid                        |
| Parameters Are Not Consistent              |
| Parameters Not Compatible                  |
| Selective auto Negotiate Cannot be enabled |

**Table 30-20 IPNV Errors**

| <b>IPNV Error Messages</b>                                    |
|---------------------------------------------------------------|
| AID or Condition Must Be Specified                            |
| Bad IP Configuration Parameter                                |
| Bad Parameter                                                 |
| Bad Reference                                                 |
| Cannot Set Expected Path Trace For Source Path                |
| Cannot Set Expected Path Trace In Auto Mode                   |
| Cannot Set Outgoing Path Trace For Drop Path                  |
| Cross-Connection Does Not Have SNCP Path Selector             |
| DRITYPE Not Supported For Connection Type                     |
| Empty parameter                                               |
| Exercise Is Not Allowed On Protected Facility                 |
| Expected Trace String Exceeds Max Length (62)                 |
| Facility Does Not Support Montype                             |
| Far End Loopback Type Not Supported In Current Framing Format |
| Far End Performance Monitoring Values Not Supported           |
| Holdoff Timer Not Supported For Non-DRI Cross-Connections     |
| INT Not Valid For BITS-OUT                                    |
| INVALID SAMPLE TYPE                                           |
| Internal-Ip Lookup Failed                                     |
| Internal-Network Nodes Lookup Failed                          |
| Invalid BITS Framing                                          |

**Table 30-20** *IPNV Errors (continued)*

| <b>IPNV Error Messages</b>                                      |
|-----------------------------------------------------------------|
| Invalid BITS Rate                                               |
| Invalid Clock Source                                            |
| Invalid Condition Type                                          |
| Invalid DRITYPE                                                 |
| Invalid Default Router Address                                  |
| Invalid IIOP Port number                                        |
| Invalid IP Address                                              |
| Invalid IP Configuration Parameter                              |
| Invalid IP Mask                                                 |
| Invalid IP Port Number                                          |
| Invalid IPV6 Prefix Length                                      |
| Invalid Link Termination Port                                   |
| Invalid MONLEV Value                                            |
| Invalid Ospf Cost                                               |
| Invalid PM register                                             |
| Invalid Parameter                                               |
| Invalid Payload Block. Empty Parameter                          |
| Invalid Report Interval                                         |
| Invalid SNTP Host Address                                       |
| Invalid Start Time                                              |
| Invalid Switch Command For Synchronization                      |
| Invalid Switch Type                                             |
| Invalid Threshold Value                                         |
| Invalid Why Parameter                                           |
| New Source Must Be Specified                                    |
| Node Name Exceeds Maximum Length                                |
| Number Of Reports Is Negative                                   |
| Optical Performance Monitoring Not Supported For This Card Type |
| PM Not Supported                                                |
| Parameter Not Valid                                             |
| Path is not associated with SNCP Path Selector                  |
| Payload Does Not Support Optics Montypes                        |
| Primary Reference Incompatible With Timing Mode                 |
| Protection Type Does Not Support Reversion Mode                 |
| Protocol Does Not Support This State                            |
| RMON PM History Not Supported                                   |

**Table 30-20 IPNV Errors (continued)****IPNV Error Messages**

|                                                             |
|-------------------------------------------------------------|
| Reference Type Not Supported                                |
| SPNWTR Parameter Not Supported                              |
| STARTUP TYPE MUST BE RISING FOR ABSOLUTE SAMPLE TYPE        |
| Secondary Reference Incompatible With Timing Mode           |
| Synchronization Source Already Defined For Protection Group |
| Synchronization Source Already Defined For The Slot         |
| TL1 Can Not Set Its Own Access Level                        |
| TMGREF Parameter Not Supported                              |
| Third Reference Incompatible With Timing Mode               |
| Time Period Not Applicable                                  |
| Timing Mode Not Compatible                                  |

**Table 30-21 NO Errors****NO Error Messages**

|                       |
|-----------------------|
| No Applicable PM Data |
| No Error              |

**Table 30-22 PICC Errors****PICC Error Messages**

|                                                                    |
|--------------------------------------------------------------------|
| AID Required                                                       |
| AID does not match this session UID                                |
| Bad Password Toggling - New Password Same As A Prior Password      |
| Can't logout if user is not logged in                              |
| Can't change own security level                                    |
| Can't login                                                        |
| Can't logout if user not logged in                                 |
| Command Not Available to this User Level                           |
| IP Address Display Is Suppressed                                   |
| Invalid User Access Privilege Value                                |
| Invalid User Identifier - Must Conform To TL1 Rules                |
| Invalid User Password - Must Conform To Provisioned Password Rules |
| Invalid User Password - Must Conform To TL1 Rules                  |
| Logout failed                                                      |
| New Password Too Similar To Old Password                           |
| Password Cannot Be Changed Before Minimum Wait Time Expires.       |

**Table 30-22 PICC Errors (continued)****PICC Error Messages**

|                                                |
|------------------------------------------------|
| Password Must Be Changed Before Continuing     |
| Password Recently Changed                      |
| Unexpected Default Case                        |
| Unknown CORBA Exception (Internal Error)       |
| Unknown User                                   |
| User Access Privilege Required                 |
| User Already Exists                            |
| User Identifier Exceeds Maximum Length Allowed |
| User Not Authorized                            |
| User Password Required                         |

**Table 30-23 PIMA Error****PIMA Error Message**

|                     |
|---------------------|
| Memory Out Of Range |
|---------------------|

**Table 30-24 PIUC Errors****PIUC Error Messages**

|                                                  |
|--------------------------------------------------|
| Cannot Delete The Logged In User                 |
| Cannot Remove The Last Superuser                 |
| Unauthorized change of PID                       |
| Unauthorized                                     |
| User Currently Logged Into Another Session       |
| User Is Not Superuser                            |
| User Not Allowed To Change User Access Privilege |
| User Not Allowed To Change User Password         |
| User Not Allowed To Disable/Enable Self          |
| User Not Allowed To Terminate Self               |
| User Not Logged In                               |

**Table 30-25 PLNA Error****PLNA Error Message**

|                  |
|------------------|
| Login Not Active |
|------------------|

**Table 30-26 RALB Errors****RALB Error Messages**

GNE: All ENE Connections in Use

Requested DCC In Use

**Table 30-27 RANB Error****RANB Error Message**

GNE: No Response from ENE - IENE

**Table 30-28 RNBY Error****RNBY Error Message**

Software upgrade in progress

**Table 30-29 RRNG Errors****RRNG Error Messages**

I/O Slot Out Of Range

Invalid Slot Number For SDH Electrical Cards

Invalid Slot Number

**Table 30-30 RTBY Errors****RTBY Error Messages**

Connection In Service

Side In Service

TAP Already In Use

TAP Number In Use

**Table 30-31 RTEN Errors****RTEN Error Messages**

Cannot Access VT

Cannot Change Access Mode

Cannot Set Access Mode

Invalid Access Mode

Invalid High Order Path TAP Number

Invalid TAP AID

**Table 30-31 RTEN Errors (continued)****RTEN Error Messages**

|                                   |
|-----------------------------------|
| Invalid TAP Mode                  |
| Invalid TAP Number                |
| Invalid Low Order Path TAP Number |
| Requested TAP Does Not Exist      |
| Requested Tap Busy                |
| TAP Not Found                     |

**Table 30-32 SAAL Error****SAAL Error Message**

|                 |
|-----------------|
| Already Allowed |
|-----------------|

**Table 30-33 SAAS Error****SAAS Error Message**

|                               |
|-------------------------------|
| Equipment Already Provisioned |
|-------------------------------|

**Table 30-34 SADC Errors****SADC Error Messages**

|                      |
|----------------------|
| Already Disconnected |
| GNE: ENE is down     |
| TAP Not Connected    |

**Table 30-35 SADS Error****SADS Error Message**

|                                      |
|--------------------------------------|
| Loopback Applied On Cross-connection |
|--------------------------------------|

**Table 30-36 SAIN Errors****SAIN Error Messages**

|                    |
|--------------------|
| Already Inhibited  |
| Already Locked On  |
| Already Locked Out |

**Table 30-37 SAIS Errors****SAIS Error Messages**

|                         |
|-------------------------|
| Connection In Service   |
| Port Already In Service |

**Table 30-38 SAMS Errors****SAMS Error Messages**

|                                      |
|--------------------------------------|
| Already In Clear Maintenance State   |
| Already In Force Maintenance State   |
| Already In Lockout Maintenance State |
| Already In Manual Maintenance State  |

**Table 30-39 SAOP Errors****SAOP Error Messages**

|                           |
|---------------------------|
| Control Already Operated  |
| Control Already Released  |
| Control Operated In Mntry |

**Table 30-40 SAOS Errors****SAOS Error Messages**

|                                             |
|---------------------------------------------|
| Port Already in unlocked-automaticInservice |
| Port Already In locked-maintenance          |
| Port Already Out Of Service                 |

**Table 30-41 SAPR Errors****SAPR Error Messages**

|                                                                        |
|------------------------------------------------------------------------|
| Cannot Provision Regeneration Group When A Protection Group Is Present |
| Card Already In A Regeneration Group                                   |
| Card Has Y Cable Protection                                            |
| Entity Already In A Regeneration Group                                 |
| Peer Card Already In A Regeneration Group                              |
| Peer Card Has Y Cable Protection                                       |
| Peer Entity Already In A Regeneration Group                            |
| Peer Entity Has Y Cable Protection                                     |

**Table 30-42 SARB Errors****SARB Error Messages**

|                                                    |
|----------------------------------------------------|
| GNE: All Gateways in Use                           |
| System Memory Exhausted. Retry A Few Seconds Later |

**Table 30-43 SCAT Errors****SCAT Error Messages**

|                                      |
|--------------------------------------|
| Connection Already In Loopback       |
| Connection Already In Test Access    |
| Connection Is Tapped                 |
| End Point Is Already Connected       |
| High Order Path Is Already Connected |
| Test Access Busy                     |
| Low Order Path Is Already Used       |
| Would exceed max number of drops     |

**Table 30-44 SDBE Errors****SDBE Error Messages**

|                                      |
|--------------------------------------|
| AID Parser Failed                    |
| Asymmetric VCG Not Supported         |
| Bad Parameter                        |
| Cannot Access Alarms                 |
| Cannot Access Conditions             |
| Cannot Access Controls               |
| Cannot Access Date/Time              |
| Cannot Access Defaults Description   |
| Cannot Access Default VLAN Profile   |
| Cannot Access Environmental Settings |
| Cannot Access Equipment              |
| Cannot Access Facility               |
| Cannot Access IP Configuration       |
| Cannot Access IP Display Suppression |
| Cannot Access Interface              |
| Cannot Access Node ID                |
| Cannot Access Node Name              |
| Cannot Access Object                 |



**Table 30-44 SDBE Errors (continued)**

| <b>SDBE Error Messages</b>                                     |
|----------------------------------------------------------------|
| Cannot Access Orderwire                                        |
| Cannot Access Protection Group                                 |
| Cannot Access Protection State                                 |
| Cannot Access SNMP Ip Addr                                     |
| Cannot Access SNTP Host                                        |
| Cannot Access High Order Path                                  |
| Cannot Access Security Mode                                    |
| Cannot Access Software Version                                 |
| Cannot Access Synchronization Configuration                    |
| Cannot Access Timezone                                         |
| Cannot Access Trace Information                                |
| Cannot Access Low Order Path Performance Monitoring Parameters |
| Cannot Access Low Order Path                                   |
| Cannot Configure Extension Byte For Current Configuration      |
| Cannot Configure SYNC                                          |
| Cannot Create 1+1 Protection Group                             |
| Cannot Edit High Order Path                                    |
| Cannot Get Line Information                                    |
| Cannot Get Synchronization Configuration                       |
| Cannot Set Date When Using SNTP                                |
| Cannot Set Date                                                |
| Cannot Set IP Configuration                                    |
| Cannot Set Node Name                                           |
| Cannot Set Pointer Justification Monitoring Parameter (PJMON)  |
| Cannot Set SNTP Host Configuration                             |
| Cannot Set Timezone                                            |
| Cannot Soft Reset System                                       |
| Card Type Not Supported                                        |
| DLT prg Failed                                                 |
| Delete Protection Group Failed                                 |
| Equipment Not Found                                            |
| Ethernet Port Not Provisioned                                  |
| Facility Does Not Exist                                        |
| Facility Does Not Match Request                                |
| Facility Does Not Support Mac Address                          |
| Facility Is Not Provisioned                                    |

**Table 30-44 SDBE Errors (continued)**

| <b>SDBE Error Messages</b>               |
|------------------------------------------|
| Facility Not Provisioned                 |
| File Transfer In Progress                |
| Get SDH Line Info Failed                 |
| Getting SDH sync configurations          |
| IOS Config Update In Progress            |
| IP Configuration Failed                  |
| Incompatible Parameter Values            |
| Incorrect Facility Type                  |
| Interface Does Not Exist                 |
| Interface Does Not Support Loopback Type |
| Internal Access Failed                   |
| Internal Database Error                  |
| Invalid Command                          |
| Invalid Cross Connect Type For VCG       |
| Invalid DCC                              |
| Invalid Mondat Format                    |
| Invalid Montm Format                     |
| Invalid Performance Monitoring Mode      |
| Invalid Protection Group                 |
| Invalid Time Period                      |
| Invalid Trace Mode for Card Type         |
| LCAS Not Supported By This Card          |
| Location Value Invalid                   |
| Loopback Is Invalid                      |
| Loopback Port In Service                 |
| Loopback type not supported              |
| Mac Address Not Supported By Payload     |
| No such interface                        |
| Node Name Configuration Failed           |
| Not a SDH interface                      |
| Object Already In Use                    |
| Object Not Provisioned                   |
| Object Not Supported                     |
| Operation Not Supported On EC1 Interface |
| Operation not supported by this card     |
| Optical Channel Not Provisioned          |

**Table 30-44 SDBE Errors (continued)**

| <b>SDBE Error Messages</b>                                                |
|---------------------------------------------------------------------------|
| Path Width Not Supported                                                  |
| Path loopback already exists                                              |
| Reach Not Supported With Current Configuration                            |
| SNTP Configuration Failed                                                 |
| SSM not supported on SDH                                                  |
| High Order Path Not Provisioned                                           |
| Synchronization Configuration Not Available                               |
| Synchronization Status Messaging (SSM) Not Supported On EC1 Interface     |
| Synchronization Status Messaging (SSM) Not Supported On SDH               |
| Synchronization::Sync not available                                       |
| System Timing Not Applicable For This Platform                            |
| Trace Not Applicable On This Card                                         |
| Used Frame Format Does Not Support Synchronization Status Messaging (SSM) |
| VLAN Not Provisioned                                                      |
| VLAN Profile Not Provisioned                                              |
| Low Order Path Not Provisioned                                            |
| Wavelength Not Supported With Current Configuration                       |
| Wrong Facility Type                                                       |
| Wrong Interface Type                                                      |
| bind failed for Sonet gen                                                 |
| getActiveRefSource failed                                                 |
| getRefSources failed                                                      |

**Table 30-45 SDLD Error**

| <b>SDLD Error Message</b> |
|---------------------------|
| Duplex Unit Locked        |

**Table 30-46 SDNA Errors**

| <b>SDNA Error Messages</b> |
|----------------------------|
| Active TCC Not Ready       |
| Standby TCC Not Ready      |

**Table 30-47 SDNR Error****SDNR Error Message**

Data Not Ready

**Table 30-48 SNCC Errors****SNCC Error Messages**

Cross connection does not exist

Path Roll Does Not Exist

Replace This Message When A SNCC message is needed

**Table 30-49 SNCN Errors****SNCN Error Messages**

Bad Quality

Cannot Switch To Bad Reference

Cannot Switch To Inferior Reference Source

Command Not Implemented

Cross-Connection Type Not Supported In TL1

Invalid Clock Source

Requested Direction Not Supported

High Order Path Rate Change Not Supported

Sync Switch Operation Failed, Reference In OOS

**Table 30-50 SNNS Error****SNNS Error Message**

Reference Not From Optical Card

**Table 30-51 SNOS Errors****SNOS Error Messages**

Cannot Change Card Wavelength With Port(s) Not In locked,disabled State

Cannot Change Payload With Port(s) Not In locked State

Cannot Change Payload With Port(s) Not In locked,disabled State

Cannot Change Termination Mode With Port(s) Not In locked State

**Table 30-52 SNPR Errors**

| <b>SNPR Error Messages</b> |
|----------------------------|
| Cannot Get Role Of Port    |
| Get Port Role Failed       |

**Table 30-53 SNVS Errors**

| <b>SNVS Error Messages</b>                                                                            |
|-------------------------------------------------------------------------------------------------------|
| Already Switched To Internal Reference Source                                                         |
| MSSPR East Operation Already Set                                                                      |
| MSSPR West Operation Already Set                                                                      |
| CCAT Cross Connect Exists                                                                             |
| Cannot Change BITS Configuration With Current State/Status                                            |
| Cannot Change Configuration When Trunk Ports (or Peer Ports, if any) Are Not In locked,disabled State |
| Cannot Change Parameter With Current State/Status                                                     |
| Cannot Change Payload For Port Used For Overhead                                                      |
| Cannot Change Payload When Port(s) Are Used As A Clock Source                                         |
| Cannot Change Revertive Behavior When A Protection Switch Is Active                                   |
| Cannot Change Synchronization Configuration With Current State/Status                                 |
| Cannot Change Termination Mode When Port(s) Are DCC Enabled                                           |
| Cannot Change Termination Mode When Port(s) Are Used As a Clock Source                                |
| Cannot Change Termination Mode With Trace Enabled                                                     |
| Cannot Change Timing Reference With Current State/Status                                              |
| Cannot Change or Delete Payload When Port(s) Are DCC Enabled                                          |
| Cannot Configure Port When J0 Section Trace Enabled                                                   |
| Cannot Delete Port Involved In Loopback                                                               |
| Cannot END An AUTO Roll                                                                               |
| Cannot Edit Facility When Not In locked State                                                         |
| Cannot Operate Loopback In Current Cross-connection State                                             |
| Cannot Operate Loopback In Current State                                                              |
| Cannot Provision Regeneration Group When A Protection Switch Operation Is Present                     |
| Cannot Provision Regeneration Group When Equipment Has Different FEC Settings                         |
| Cannot Provision Regeneration Group When Equipment Has Different G.709 Settings                       |
| Connection Already In Roll                                                                            |
| Cross Connect Exists                                                                                  |
| Facility Not Part Of MSSPR                                                                            |
| Invalid AINS Soak Time                                                                                |

**Table 30-53** *SNVS Errors (continued)*

| <b>SNVS Error Messages</b>                                |
|-----------------------------------------------------------|
| Invalid Admin State                                       |
| Invalid MSSPR Element                                     |
| Invalid Clock Source                                      |
| Invalid Equipment State                                   |
| Invalid Transponder Provisioning                          |
| Loopback Already In Progress                              |
| Loopback Not In Progress                                  |
| No Switch In Progress                                     |
| No Valid Roll Signal                                      |
| No loopback in progress                                   |
| Operation Can Not Be Completed. NE Is In Version UP State |
| Protection Group Does Not Exist                           |
| Protection Unit Active                                    |
| Provisioning Not Allowed On Protecting Card               |
| Roll Condition Does Not Exist                             |
| Roll is not controlled by TL1                             |
| Status, Not in Valid State                                |
| Unable To Complete Roll                                   |
| VCG Already Created                                       |
| Working Unit Already Active                               |
| Working Unit Already Standby                              |

**Table 30-54** *SOSE Error*

| <b>SOSE Error Message</b> |
|---------------------------|
| Unrecognized Message Type |

**Table 30-55** *SPFA Errors*

| <b>SPFA Error Messages</b>                |
|-------------------------------------------|
| Cannot Get Current Card Status            |
| Protection Unit Failed Or Missing         |
| Status, Protection Unit Failed or Missing |

**Table 30-56 SPLD Errors**

| <b>SPLD Error Messages</b>         |
|------------------------------------|
| Cannot Create 1+1 Protection Group |
| Cannot Delete Equipment            |
| Equipment In Use                   |
| FTP Task Is Busy                   |
| Facility Is Busy                   |
| Protection Unit Locked             |

**Table 30-57 SRAC Errors**

| <b>SRAC Error Messages</b>                |
|-------------------------------------------|
| Invalid Connection Type                   |
| Requested Access Configuration is Invalid |

**Table 30-58 SRCN Errors**

| <b>SRCN Error Messages</b>           |
|--------------------------------------|
| Already In Requested Mode            |
| Area already exists on lan interface |
| Cannot use backbone area, lan active |
| Protection Group Already Exists      |
| Requested Condition Already Exists   |

**Table 30-59 SROF Errors**

| <b>SROF Error Messages</b>                  |
|---------------------------------------------|
| 1+1 Protection Group Not Found              |
| 1WAYMON not supported                       |
| 2F MSSPR Pool Not Available                 |
| 4F MSSPR EastProtect Pool Is Not Available  |
| 4F MSSPR Pool Not Available                 |
| 4F MSSPR WestProtect Pool Is Not Available  |
| ADM Peer Group Does Not Exist               |
| ADM Peer Group Is Provisioned               |
| AID Does Not Match With Requested Roll Type |
| AID Listing Not Allowed                     |
| ALL Rolls Failed                            |
| ALS Mode Does Not Allow Laser Restart       |

**Table 30-59 SROF Errors (continued)**

| <b>SROF Error Messages</b>                                                |
|---------------------------------------------------------------------------|
| APC System Is Busy                                                        |
| APC System Is Not Enabled                                                 |
| Active Flash Not Ready                                                    |
| Alarm Type Not Found                                                      |
| Alarm type In Use                                                         |
| All DCCs In Use                                                           |
| All Link Terminations On Port Must Terminate On Same Remote Node          |
| All Rolls Failed to Cancel                                                |
| All Rolls Failed to Complete                                              |
| All Rolls Failed to Edit                                                  |
| Bandwidth Not Available                                                   |
| BFDL Mode Requires ESF Framing                                            |
| MSSPR In Use                                                              |
| MSSPR Pool Not Available                                                  |
| MSSPR Protect High Order Path List Is Empty                               |
| MSSPR Spans Are Not Locked                                                |
| Bridge And Roll Not Supported On Roll From And/Or Roll To                 |
| CKTID Does Not Match                                                      |
| CMDMDE Must Be FRCD To Create Protection Group With Pre-provisioned Cards |
| Can Not Get IOS Config Source Origin                                      |
| Cannot Access 1+1 Line                                                    |
| Cannot Access 1+1 Protected Line                                          |
| Cannot Access 2 Fiber MSSPR                                               |
| Cannot Access 4 Fiber MSSPR East Protection                               |
| Cannot Access 4 Fiber MSSPR West Protection                               |
| Cannot Access 4F MSSPR                                                    |
| Cannot Access Alarm Log                                                   |
| Cannot Access Audit Log                                                   |
| Cannot Access MSSPR 2 Wire Line                                           |
| Cannot Access MSSPR 2-Wire Line                                           |
| Cannot Access MSSPR                                                       |
| Cannot Access Cross-Connection                                            |
| Cannot Access DCC                                                         |
| Cannot Access Facility                                                    |
| Cannot Access PM Mode                                                     |
| Cannot Access Performance Monitoring Statistics                           |



**Table 30-59 SROF Errors (continued)****SROF Error Messages**

|                                                                |
|----------------------------------------------------------------|
| Cannot Access Protected Equipment                              |
| Cannot Access Protection Group Information                     |
| Cannot Access Protection Group Name                            |
| Cannot Access Protection Group Reversion Information           |
| Cannot Access Reversion Information                            |
| Cannot Access High Order Path                                  |
| Cannot Access TAP                                              |
| Cannot Access Unprotected Line                                 |
| Cannot Access Low Order Path                                   |
| Cannot Add Equipment                                           |
| Cannot Change Card Mode In SWDL State                          |
| Cannot Change Configuration With Port Having Connection        |
| Cannot Change Entity In A Protection Group                     |
| Cannot Change Equipment Type                                   |
| Cannot Change Ethernet IP With DHCP Provisioned                |
| Cannot Change Ethernet IP With OSPF Provisioned                |
| Cannot Change G.709 Setting On This Card                       |
| Cannot Change G.709 Setting With Port Having Connection        |
| Cannot Change Payload When Regeneration Group Exist            |
| Cannot Change Threshold Values On Protect Card                 |
| Cannot Change Timing Reference When User Switch Exists         |
| Cannot Change XTC Protection Group                             |
| Cannot Clear Performance Monitoring Statistics On Protect Card |
| Cannot Configure SYNC                                          |
| Cannot Create 1plus1 L2 Protection                             |
| Cannot Create Cross-Connection Between Incompatible Interfaces |
| Cannot Create OCHNC With Invalid NCS Network Type              |
| Cannot Create Protection Group                                 |
| Cannot Create Splitter Protection                              |
| Cannot Create TAP On Last Low Order Path                       |
| Cannot Create TAP                                              |
| Cannot Create Y cable Protection                               |
| Cannot Delete CCAT Cross-Connection In Forced Mode             |
| Cannot Delete Cross-Connection                                 |
| Cannot Delete Last Drop                                        |
| Cannot Delete Link Termination Having Active Circuit           |

**Table 30-59 SROF Errors (continued)**

| <b>SROF Error Messages</b>                                          |
|---------------------------------------------------------------------|
| Cannot Delete Protected Equipment                                   |
| Cannot Delete Protection Group                                      |
| Cannot Delete System Defined Alarm Type                             |
| Cannot Delete VCAT Group When Members Are In Group                  |
| Cannot Delete VCAT Group                                            |
| Cannot Delete VCAT Member When It Is In Group                       |
| Cannot Delete VCG Member In Current State                           |
| Cannot Disable DWRAP With FEC Enabled                               |
| Cannot Disable DWRAP With GCC Enabled                               |
| Cannot Disable DWRAP. Orderwire Circuit Exists                      |
| Cannot Disable DWRAP. Y-Cable Protection Exists                     |
| Cannot Edit Ethernet IP                                             |
| Cannot Edit High Order path                                         |
| Cannot Enable DWRAP With DCC Enabled                                |
| Cannot Enable FEC When G.709 Is Disabled                            |
| Cannot Enable FEC With DWRAP Disabled                               |
| Cannot Modify Protect Card                                          |
| Cannot Operate Terminal Loopback With AISONLPBK Enabled             |
| Cannot Perform ACO                                                  |
| Cannot Provision Equipment                                          |
| Cannot Provision Filler Equipment                                   |
| Cannot Provision Protection Equipment                               |
| Cannot Retrieve Performance Monitoring Statistics From Protect Card |
| Cannot Retrieve Threshold Values From Protect Card                  |
| Cannot Roll Hairpin Connection                                      |
| Cannot Set ALS Mode                                                 |
| Cannot Set Bidirectional Protection Group                           |
| Cannot Set DCC When Digital Wrapper Is Enabled                      |
| Cannot Set GCC When DWRAP Is Disabled                               |
| Cannot Set GCCRATE With GCC Disabled                                |
| Cannot Set GFP Buffer With AutoThresholdGfpBuf On                   |
| Cannot Set Linkcredits With AutoDetection On                        |
| Cannot Set Loopback In Current Mode                                 |
| Cannot Set NodeId                                                   |
| Cannot Set Payload Type                                             |
| Cannot Set Protection Group Name                                    |

**Table 30-59 SROF Errors (continued)****SROF Error Messages**

|                                                         |
|---------------------------------------------------------|
| Cannot Set RETIME, Port In Use                          |
| Cannot Set ROLE When WDM Is Disabled                    |
| Cannot Set RingId                                       |
| Cannot Set Span Revertive Mode Unless 4-Fiber Ring      |
| Cannot Set Span Revertive Time In Non-revertive Mode    |
| Cannot Set Span Revertive Time Unless 4-Fiber Ring      |
| Cannot Set Termination Mode                             |
| Cannot Set Wave Length                                  |
| Cannot Setup Connection With Port In locked-maintenance |
| Cannot Switch For Specified Connection Type             |
| Cannot Switch For Specified Path                        |
| Cannot Update AISONLPBK When Loopback In Progress       |
| Cannot Update Synchronization Reference List            |
| Cannot force 1way destination roll                      |
| Cannot modify cross connect right now                   |
| Card Mode Provisioning Failed                           |
| Clear PM Not Supported                                  |
| Command Not Supported                                   |
| Connection In Loopback                                  |
| Connection In Roll                                      |
| Connection In Test Access                               |
| Connection In Topology Upgrade                          |
| Connection Is Already In Roll                           |
| Connection Type Error                                   |
| Control Channel In Use                                  |
| Could Not Delete Protection                             |
| Could not provision area                                |
| Cross-Connection Creation Failed                        |
| Cross-Connection Does Not Exist                         |
| Cross-connection Was Not Found                          |
| Cross connection deletion failed                        |
| DCC Does Not Exist                                      |
| DCC In Use                                              |
| DCC Not In Use                                          |
| DCC Termination Is Required to Set OSPF                 |
| DWRAP Not Enabled                                       |

**Table 30-59 SROF Errors (continued)**

| <b>SROF Error Messages</b>                                 |
|------------------------------------------------------------|
| Data Link Using TE Link                                    |
| Data Not Available                                         |
| Database Is Busy                                           |
| Distance Extension And Directional Mode Are Not Compatible |
| Duplicate Alarm Type Create Attempted                      |
| Duplicate Area address                                     |
| Duplicate FTP Server Create Attempted                      |
| Duplicate IP Address Route                                 |
| Duplicate MAT                                              |
| Duplicate Remote Link Termination Information              |
| Duplicate Remote TE Link                                   |
| Duplicate Tunnel Create Attempted                          |
| Duplicate VLAN Create Attempted                            |
| East And West Ports Must Have Dcc Terminations             |
| Element Not Found                                          |
| Element not available                                      |
| End Facilities Are Using Different Wavelength              |
| End Facilities Do Not Have An Internal Path                |
| Equipment Does Not Match Request                           |
| Equipment Does Not Support 8B10B Montypes                  |
| Equipment Does Not Support Cross-connection Loopback       |
| Equipment Is Double Slot Sized                             |
| Equipment Provisioning Failed                              |
| Ethernet IP And Default Router IP Subnets Are Different    |
| Exceed Max Matrix Port Allowed For VC11 Path               |
| Exceed Max Matrix Port Allowed For VC12 Path               |
| Expected Trace Size Exceeds Trace Format Limit             |
| FTP Server Not Found                                       |
| Facilities Are Not On Boundary                             |
| Facilities Belong To Different Node Sides                  |
| Facilities Must Be On Different Node Sides                 |
| Facility Does Not Support Laser Restart                    |
| Facility Has Unknown Node Side                             |
| Facility Not Part Of Appropriate MSSPR                     |
| Facility Not Protected                                     |
| Fail To Add RTO                                            |

**Table 30-59 SROF Errors (continued)****SROF Error Messages**

|                                                     |
|-----------------------------------------------------|
| Flash Is Busy                                       |
| Force To Primary Not Allowed                        |
| Generation1 Does Not Support Given Quality Of RES   |
| Generic ios config upload failure message           |
| Get IOR Failed                                      |
| Has Valid Roll Signal Already                       |
| Hello Dead Less Than 3X Hello                       |
| Hello Dead Max Less Than Max                        |
| Hello Dead Max Less Than Min                        |
| Hello Dead Max Too Large                            |
| Hello Dead Min Less Than Min                        |
| Hello Dead Min Too Small                            |
| Hello Dead Out Of Range                             |
| Hello Max Less Than Min                             |
| Hello Max Too Large                                 |
| Hello Min Too Small                                 |
| Hello Out Of Range                                  |
| Host Not In IP Address Format                       |
| IPPM Not Supported By Equipment Type                |
| Impedance Not Applicable With Current Configuration |
| Insufficient Contiguous Bandwidth                   |
| Insufficient Path Width For Cross-Connection        |
| Insufficient Path Width For Test Access             |
| Insufficient Path Width on Roll Destination         |
| Internal Bind Error                                 |
| Interlink Port Does Not Exist                       |
| Internal Database Error                             |
| Internal Exercise Failure                           |
| Internal Facility Type Failure                      |
| Invalid AID                                         |
| Invalid ALS Recovery Interval                       |
| Invalid ALS Recovery Pulse Width                    |
| Invalid MS-SPRing DRI Drop                          |
| Invalid Broadcast Remote IP Address                 |
| Invalid Class A Remote IP Address                   |
| Invalid Class B Remote IP Address                   |

**Table 30-59 SROF Errors (continued)**

| <b>SROF Error Messages</b>                                |
|-----------------------------------------------------------|
| Invalid Class C Remote IP Address                         |
| Invalid Control Type (CONTTYPE) For AID                   |
| Invalid Cross Connect Type For VCG                        |
| Invalid Cross-Connection Path                             |
| Invalid Cross-Connection Type (CRSTYPE)                   |
| Invalid Cross-Connection Type For Drops                   |
| Invalid Drop Path                                         |
| Invalid Local Node ID                                     |
| Invalid Local Port                                        |
| Invalid Loopback Provision                                |
| Invalid Operation For Connection Type                     |
| Invalid Operation For Specified Path                      |
| Invalid Path                                              |
| Invalid Payload For LMP Data Link                         |
| Invalid Protection Group                                  |
| Invalid Protection Switch Operation                       |
| Invalid Provisioning For Current Configuration            |
| Invalid RMODE                                             |
| Invalid Reference Source for Timing                       |
| Invalid Remote Data Link ID                               |
| Invalid Remote Network Element                            |
| Invalid Remote TE Link ID                                 |
| Invalid SYNC entity                                       |
| Invalid State When Loopback Present                       |
| Invalid Subnet Mask                                       |
| Invalid Synchronization Source                            |
| Invalid SNCP Path                                         |
| Invalid Username/Password                                 |
| Invalid WDMANS PPMESH Parameter                           |
| Invalid type for this Cross connection                    |
| Is Not 1+1 Element Type                                   |
| J0 Section Trace Level Not Supported By 10GE Payload Type |
| LMP Data Link Using Port                                  |
| Laser Was Not Shutdown.Cannot Restart Laser               |
| Line Code Not Applicable With Current Configuration       |
| Link Does Not Exist                                       |

**Table 30-59 SROF Errors (continued)****SROF Error Messages**

|                                                                   |
|-------------------------------------------------------------------|
| Link Termination Does Not Exist                                   |
| Link Termination Id Already In Use                                |
| Local And Remote IP Addresses the Same                            |
| Location Incompatible With Loopback Type                          |
| Loopback Not Allowed On Drop Path                                 |
| Loopback Type Does Not Match                                      |
| MAA List Full, PAA Can Not Be Removed                             |
| MAT Entry Does Not Exist                                          |
| MAT Table MaxLimit Exceeded                                       |
| MIC Cards Cannot Be Reset                                         |
| Maximum Control Controls Provisioned                              |
| Maximum DIAG Cross connect Limit Reached                          |
| Maximum Data Links For TE Link Provisioned                        |
| Maximum Data Links Provisioned                                    |
| Maximum Drop Limit Reached                                        |
| Maximum FTP server Creation Limit Exceeded                        |
| Maximum Link Terminations On Port Reached                         |
| Maximum Subnet Already Exist                                      |
| Maximum TE Links Provisioned                                      |
| Maximum Tunnel Creation Limit Exceeded                            |
| Maximum User Limit Reached                                        |
| Maximum UserDefined Alarm Type Limit                              |
| Maximum Low Order Cross Connection Limit Reached                  |
| Multi-Shelf Mode Not Supported On This Equipment                  |
| Multi-Shelf Mode Not Supported On This Platform                   |
| Multi-Shelf disable not allowed                                   |
| No Path To Regulate                                               |
| No Start-Up IOS Config                                            |
| No clock and data copy information from Line cards and SSXC cards |
| Node::General not available                                       |
| Node::NetworkConfig not available                                 |
| Non Revertive Mode Does Not Allow to Set RVTM                     |
| Not Compatible With Protect                                       |
| Not Enough Path Width For TACC                                    |
| Number of Drops Exceed Allowable                                  |
| OCH Client Connection Already Exist                               |

**Table 30-59 SROF Errors (continued)**

| <b>SROF Error Messages</b>                          |
|-----------------------------------------------------|
| OCH Client Connection Does Not Exist                |
| OCHNC Connection Does Not Exist                     |
| One Plus One Line pool not available                |
| Operate Alarm Cutoff Failed                         |
| Operation Not Supported By XC Card                  |
| Operation Not Supported On Port                     |
| Operation Not Supported                             |
| Operation not Valid for Connection Type             |
| Operation not Valid for Path Specified              |
| OspfTopology::OSPFTopo not available                |
| PM Not Supported For Specified Path                 |
| Parameter Not Supported When DWRAP Is Enabled       |
| Path Already In Use                                 |
| Path Specified Is Not Valid                         |
| Path Used For Test Access                           |
| Payload Provisioning Failed                         |
| Payload Type Does Not Support Trace                 |
| Peer Equipment Attributes Do Not Match              |
| Peer Equipment Type Does Not Match                  |
| Peer Facility Has Loopback                          |
| Peer Facility Is unlocked                           |
| Peer Facility Not In locked-maintenance             |
| Peer Payload Type Does Not Match                    |
| Peer Termination Mode Does Not Match                |
| Platform Does Not Support Given AIS Threshold Value |
| Platform Does Not Support Given Frame-Format Value  |
| Platform Does Not Support Given Line Code Value     |
| Platform Does Not Support Given Quality Of RES      |
| Pool Does Not Exist                                 |
| Pool not available                                  |
| Port In Use                                         |
| Port Mode Configuration Not Supported               |
| Port Type Already Provisioned                       |
| Port Type Mismatch                                  |
| Port Type Not Provisioned                           |
| Protect Port Active                                 |



**Table 30-59 SROF Errors (continued)****SROF Error Messages**

|                                                    |
|----------------------------------------------------|
| Protection Group Busy                              |
| Protection Group Does Not Exist                    |
| Protection Switch In Progress                      |
| Protection Switching Failed                        |
| Protection Type Mismatch                           |
| Protection Type Not Compatible With Facility       |
| Provisioning Rules Failed                          |
| RMON Threshold Does Not Exist                      |
| ROLL TO Path Is Already In The Cross connection    |
| Regeneration Group Already Exist                   |
| Regeneration Group Does Not Exist                  |
| Remote IP Address Cannot Be Class D Or E           |
| Remote IP Address Cannot Equal The Node IP Address |
| Remote IP Address Cannot Equal The Node Mask       |
| Remote IP Address Has Invalid Host Portion         |
| Remote IP Address Is All Ones                      |
| Remote IP Address On Internal Net                  |
| Remote IP Address On Local Net                     |
| Requested Operation Failed                         |
| Requested Tap Busy                                 |
| Ring Reversion Failed                              |
| Roll Failed                                        |
| Roll To Path Not Aligned                           |
| SDBER Out Of Range                                 |
| RS-DCC creation failed                             |
| SFBER Out Of Range                                 |
| SSet PRG Reversion Failed                          |
| High Order Path Does Not Exist                     |
| High Order Path Does Not Have TAP                  |
| High Order Path Width Does Not Match               |
| Path Width Does Not Match                          |
| Path Rates Do Not Match                            |
| SaBit Not Applicable With Current Configuration    |
| Section Termination Mode Not Supported             |
| Security::General not available                    |
| Set PRG Bidirectional Failed                       |

**Table 30-59 SROF Errors (continued)**

| <b>SROF Error Messages</b>                                                    |
|-------------------------------------------------------------------------------|
| Set PRG Name Failed                                                           |
| Side Not Applicable To WDMANS Application                                     |
| Slot Does Not Support New Equipment Type                                      |
| Software Activation Failed                                                    |
| Software Download Failed                                                      |
| Software Error                                                                |
| Software Reversion Failed                                                     |
| Span Reversion Failed                                                         |
| Specified Operation Is Not Valid                                              |
| Standby Flash Not Ready                                                       |
| Sync Reference List Update Failed                                             |
| Synchronization Status Messaging (SSM) Not Supported In Current Configuration |
| Synchronization/Timing Parameters Not Supported With DWRAP Enabled            |
| TAP connected                                                                 |
| TARP Origination Is Disabled                                                  |
| TCC Type Does Not Support Given Framing Type                                  |
| TE Link In Use                                                                |
| TE Link Using Control Channel                                                 |
| TID exists in TADRMAP.                                                        |
| TTI Trace Not Allowed With G709 Disabled                                      |
| Tap Not Provisioned                                                           |
| Test Access Active                                                            |
| Test Access Not Supported On Card                                             |
| The Maximum number of TID-Address pairs has been reached                      |
| This Timer Not Applicable to Standard 1+1                                     |
| Trace Format Not Supported By J0 Section Trace                                |
| Trace Format Not Supported By TTI Section Trace                               |
| Trace Format Unsupported                                                      |
| Trace Message Size Exceeds Trace Format Limit                                 |
| Trace Mode Incompatible With Termination Mode                                 |
| Trace Mode Not Supported                                                      |
| Trap Destination Already Exists                                               |
| Trap Destination Does Not Exist                                               |
| Trap Table Full                                                               |
| Tunnel Not Found                                                              |
| SNCP Needed To Change Revertive Behavior                                      |

**Table 30-59 SROF Errors (continued)****SROF Error Messages**

|                                                     |
|-----------------------------------------------------|
| SNCP Selector Not Allowed On Non-Optical Ports      |
| Unable To Cancel Roll                               |
| Unknown Internal Error                              |
| Unprotected Line pool not available                 |
| Unprovisioning Rules Failed                         |
| Unsupported MSSPR High Order Path Operation         |
| Unsupported Command Type                            |
| Unsupported Element Type                            |
| VCG Does Not Exist                                  |
| VLAN Already In Use                                 |
| VLAN Not Applicable                                 |
| VLAN Profile Not Applicable                         |
| Low Order Cross-Connection Does Not Exist           |
| Low Order Path Does Not Exist                       |
| Low Order Path Does Not Have Tap                    |
| Low Order Path Width Does Not Match                 |
| WDMANS Not Regulated                                |
| WDMANS System Is Busy                               |
| Wavelength Value Not Supported                      |
| Working/Peer Card In Use                            |
| Wrong Interface Type                                |
| XC Card Does Not Support Low Order Cross-Connection |
| XC Card Not Present                                 |
| XCVXL Card Not Present                              |
| Y-Cable Protection Does Not Exist                   |

**Table 30-60 SRQN Errors****SRQN Error Messages**

|                                        |
|----------------------------------------|
| 1 Disabled #                           |
| 1 Enabled#                             |
| Admssm Not Allowed When SSM Enabled    |
| Area Address Does Not Exist            |
| Area Address is PAA Can Not Be Removed |
| MSSPR Creation Failed                  |
| MSSPR Deletion Failed                  |

**Table 30-60 SRQN Errors (continued)**

| <b>SRQN Error Messages</b>                           |
|------------------------------------------------------|
| MSSPR Does Not Exist                                 |
| MSSPR Editing Failed                                 |
| Cannot Be Disbaled Until Router                      |
| Cannot Be Enabled Until Router                       |
| Cannot Create Automatic Links                        |
| Cannot Edit ADMSSM On Protect Port                   |
| Cannot Edit HIWRMK While Port Is In Transponder Mode |
| Cannot Edit LOWRMK While Port Is In Transponder Mode |
| Cannot Edit MFS While Port Is In Transponder Mode    |
| Cannot Edit SENDDUS On Protect Port                  |
| Cannot Edit SYNCMSG On Protect Port                  |
| DCC Not Allowed In SDH Mode                          |
| DCC Not Allowed On Protect Port                      |
| DCC not enabled                                      |
| Data Access Request Failed                           |
| Invalid Mode For Current Configuration               |
| Invalid Request                                      |
| Maximum Limit For MAA Addition Reached               |
| OSC Group Already Exists                             |
| OSC Group Does Not Exist                             |
| Path loopback already exists                         |
| Protect Card Does Not Support Electrical Protection  |
| Protect Card Does Not Support Protection Type        |
| Router Cannot Be Enabled IN ES MODE                  |
| Router Not Enabled                                   |
| SDH Not Allowed On Protect Port                      |
| SDH Not Allowed With DCC                             |
| SDH Not Allowed With SENDDUS                         |
| SDH Not Allowed With SYNCMSG                         |
| SDH Not Allowed                                      |
| SECURITY CANNOT BE CHANGED                           |
| SENDDUS Not Allowed With SDH Mode                    |
| High Order Cross-Connection Does Not Exist           |
| SYNCMSG Not Allowed With SDH Mode                    |
| Sync Status Messaging(SSM) Not Allowed With SDH Mode |

**Table 30-60 SRQN Errors (continued)****SRQN Error Messages**

TCC CANNOT SUPPORT FRONT-END PORT

Low Order Cross-Connection Does Not Exist

**Table 30-61 SRTN Errors****SRTN Error Messages**

TAP Not Found

**Table 30-62 SSRD Errors****SSRD Error Messages**

Manual Switch Cannot Override Forced Switch

Switch Request Denied

**Table 30-63 SSRE Errors****SSRE Error Messages**

GNE: ENE Connection Closed

GNE: System Resources Exceeded - FD

GNE: System Resources Exceeded - Lock

GNE: System Resources Exceeded - Thread

Memory Resources Exceeded

Memory resource denial

**Table 30-64 SWFA Errors****SWFA Error Messages**

Status, Working Unit Failed or Missing

Working Unit Failed Or Missing

**Table 30-65 SWLD Error****SWLD Error Message**

Working Unit Locked

## 30.2 Echo

In order to improve Telnet functionality for automated systems, the echo function has been turned off. This change is transparent to users running standard UNIX-compliant Telnet clients; however, PC users might need to change their client setup to enable “local echo.” This is normally accomplished by a drop-down list or a preference attribute.

To test the local echo on your PC client, use the RTRV-HDR command. If you receive a response but no data, set the local echo to ON. Cisco recommends that you close any windows containing sensitive information after exiting a TL1 session.



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