RTRV Commands

This chapter provides retrieve (RTRV) commands for the Cisco NCS 2002 and Cisco NCS 2006.

23.1 RTRV-100GIGE

The retrive 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

<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>]

,[<SYNCMSG>],[<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,SYNCMSG=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	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.
<SOAK>	(Optional) Locked-Automatic In Service to Unlocked transition soak time as measured in 15-minute intervals. SOAK is an integer.
<SYNCMSG>	(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.
<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>,<DSTAID>,<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. Deafult 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. Paraneter 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 contraint 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,PRIMARY,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,PRIMARY,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,PRIMARY,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 than append at the end; • If action=REMOVE and position=0 than remove all matching items; • If action=REMOVE and position<>0 than hop values are ignored; • If action=MODIFY and position<>0 than replace the item in the position indicated; • If action=CLEARALL than 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>,<HOPNODE>,<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,PRIMARY,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,PRIMARY,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,PRIMARY,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,PRIMARY,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,PRIMARY,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,PRIMARY,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. SeeTable 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	Contant 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.

Table 23-2 Output Parameter Support

Parameter	Description
<LINKRCVRY>	(Optional) Link recovery. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• Y	Enable an attribute.
<DISTEXTN>	(Optional) Distance extension. The parameter type is DISTANCE_EXTENSION (distance extension).
• B2B	Buffer-to-buffer flow control
• NONE	No distance extension
<LINKCREDITS>	(Optional) Number of link credits. LINKCREDITS is an integer.
<MFS>	(Optional) Maximum frame size. MFS is an integer.
<ENCAP>	(Optional) Frame encapsulation type. The parameter type is ENCAP, which is the frame encapsulation type.
• 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
<NAME>	(Optional) Identifies the port name. NAME is a string.
<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.
<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
• 1529.55	Wavelength 1529.55
• 1529.94	Wavelength 1529.94
• 1530	Wavelength 1530
• 1530.33	Wavelength 1530.33

Table 23-2 Output Parameter Support

Parameter	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 23-2 Output Parameter Support

Parameter	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 23-2 Output Parameter Support

Parameter	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 23-2 Output Parameter Support

Parameter	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 23-2 Output Parameter Support

Parameter	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
• 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

Table 23-2 Output Parameter Support

Parameter	Description
• 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 tha 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=,SQUELCHMODE.]:<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.
• 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

Table 23-3 Output Parameter Support

Parameter	Description
• 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.
• 1310	Wavelength 1310
• 1470	Wavelength 1470
• 1490	Wavelength 1490
• 1510	Wavelength 1510
• 1528.77	Wavelength 1528.77
• 1529.55	Wavelength 1529.55

Table 23-3 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 23-3 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 23-3 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 23-3 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 23-3 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.
• 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

Table 23-3 Output Parameter Support

Parameter	Description
• 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.
• 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

Table 23-3 Output Parameter Support

Parameter	Description
• 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.
<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

Table 23-4 Output 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. 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>],
[SYNCMSG=<SYNCMSG>],[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,SYNCMSG=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.
<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>	(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_ONLPBK_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).

• 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, HOLDOFFTIMER, and SNCPPTHSTATE 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 and 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:FERNDALE: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.
<MSSPRPTHSTATE>	(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>],[SYNCMSG=<SYNCMSG>],[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,SYNCMSG=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,
FOREIGNIPADDRESS=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.
<SYNCMSG>	(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.

Table 23-7 Output Parameter Support

Parameter	Description
• 1E-5	SFBER is 1E-5.
<SDBER>	(Optional) An STM 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) STM port mode. Defaults to NCS. 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 STM port wavelength, expressed in nanometers. For example, WVLEN=1310.00 means it operates at 1310 nm in the NCS application. WVLEN is a float.
<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.

Table 23-7 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: • 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.
<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.

Table 23-7 Output Parameter Support

Parameter	Description
• 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
• 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

Table 23-7 Output Parameter Support

Parameter	Description
• 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

Table 23-7 Output Parameter Support

Parameter	Description
• 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

Table 23-7 Output Parameter Support

Parameter	Description
• 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

Table 23-7 Output Parameter Support

Parameter	Description
• 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 23-7 Output Parameter Support

Parameter	Description
• 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
• LR-2	Reach LR-2

Table 23-7 Output Parameter Support

Parameter	Description
• 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.
• 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

Table 23-7 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

23.11 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=CBR,SYNCMSG=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.
<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.

Table 23-8 Output Parameter Support

Parameter	Description
• 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
• 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

Table 23-8 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
• 1548.12	Wavelength 1548.12
• 1548.51	Wavelength 1548.51

Table 23-8 Output Parameter Support

Parameter	Description
• 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

Table 23-8 Output Parameter Support

Parameter	Description
• 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

Table 23-8 Output Parameter Support

Parameter	Description
• 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

Table 23-8 Output Parameter Support

Parameter	Description
• 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
• 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

Table 23-8 Output Parameter Support

Parameter	Description
<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, RPRIF, 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-ALRM-<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.
• 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.

Table 23-9 Input Parameter Support

Parameter	Description
• 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

Table 23-10 Output Parameter Support

Parameter	Description
• 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.
• 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

Table 23-10 Output Parameter Support

Parameter	Description
• 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
• 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.
<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.

Table 23-10 Output Parameter Support

Parameter	Description
• 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-SYNCN

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.

Table 23-12 Input Parameter Support

Parameter	Description
• 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

Table 23-13 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-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
• 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

Table 23-13 Output Parameter Support

Parameter	Description
• 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
• 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

Table 23-13 Output Parameter Support

Parameter	Description
<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
<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
<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
• 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

Table 23-15 Output Parameter Support

Parameter	Description
• 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
• 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

Table 23-15 Output Parameter Support

Parameter	Description
• 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.
• 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.
<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.

Table 23-16 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

"<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.

Table 23-17 Output Parameter Support

Parameter	Description
<OCRDAT>	(Optional) Date when the specific event or violation occurred, MM-DD.
<OCRTIM>	(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.
<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
• 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

Table 23-18 Output Parameter Support

Parameter	Description
• 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	Ringing generator major
• RINGGENMN	Ringing 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

Table 23-18 Output Parameter Support

Parameter	Description
• TEMP	High-low temperature
• TOXICGAS	Toxic gas
• TREPEATER	T-repeater shelf
• 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.
<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.

Table 23-19 Input Parameter Support

Parameter	Description
• 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.
<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

Table 23-20 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 alarm
• CHGRP	Channel group
• CLNT	Client facility for MXP/TXP cards
• COM	Common alarm
• DS3I	DS3i-N-12 alarm
• E1	E1 alarm
• 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

Table 23-20 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 23-20 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.
<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) 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.
<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,SYNCN: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
• 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

Table 23-22 Output Parameter Support

Parameter	Description
• 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
• 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

Table 23-22 Output Parameter Support

Parameter	Description
<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.
<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) 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.

Table 23-23 Input Parameter Support

Parameter	Description
• 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.
• 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.

Table 23-24 Output Parameter Support

Parameter	Description
• 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
• 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

Table 23-24 Output Parameter Support

Parameter	Description
• T1	T1/DS1 facility/line
• T3	T1/DS1 facility/line
• VT1	VT1 path
• VT2	VT2 path
<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	Ringing generator major
• RINGGENMN	Ringing 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	Ringing generator major
• RINGGENMN	Ringing 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.
<OCRTM>	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>],[AUTOSENSE=<AUTOSENSE>]"
;

Output Example

M 1 COMPLD
"VFAC-15-1-1,DETECTEDPAYLOAD=OC48,AUTOSENSE=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.
<AUTOSENSE>	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>],
   [SYNCMSG=<SYNCMSG>],[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,SYNCMSG=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
• ZBTSI	ZBTSI
<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.
<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.
<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

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

Table 23-42 Output Parameter Support

Parameter	Description
• 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 front end CE-MR-6 cards. 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
• 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. 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

Table 23-42 Output Parameter Support

Parameter	Description
• 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.
• 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, DVBASI, 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, RPRIF, 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, HDSDI, ISC3STP1G, ISC3STP2G, OTU1, or SDSDI (RTRV-COND-<MOD2ALM>) command retrieves the current standing condition and state associated with an entity.

Usage Guidelines

The command supports the modifiers 3GVIDEO, OTU1, SDSDI, HDSDI, 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.
<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
• 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

Table 23-45 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
• 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
• 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

Table 23-45 Output Parameter Support

Parameter	Description
• 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.
<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.
<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

Table 23-45 Output Parameter Support

Parameter	Description
• 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.

Table 23-46 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
"RPRIF-2-0,T3:MJ,FORCE-REQ,SA,01-01,16-00-20,NEND,RCV,\"FORCED SWITCH REQUEST\""
;

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

Table 23-47 Output Parameter Support

Parameter	Description
• 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
• 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

Table 23-47 Output Parameter Support

Parameter	Description
• 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.
• NSA	The condition is non-service affecting.
• SA	The condition is service affecting.

Table 23-47 Output Parameter Support

Parameter	Description
<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.

23.39 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.

Table 23-48 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
   "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
• 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

Table 23-49 Output Parameter Support

Parameter	Description
• 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
• 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

Table 23-49 Output Parameter Support

Parameter	Description
• 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
• 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
• 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

Table 23-50 Input Parameter Support

Parameter	Description
• 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
• 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	Ringing generator major
• RINGGENMN	Ringing 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

Table 23-50 Input Parameter Support

Parameter	Description
• 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>,[<OCRDAT>],[<OCRTM>],[<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.

Table 23-51 Output Parameter Support

Parameter	Description
• 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
• 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

Table 23-51 Output Parameter Support

Parameter	Description
• 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	Ringing generator major
• RINGGENMN	Ringing 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
<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.
<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
• 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

Table 23-53 Output Parameter Support

Parameter	Description
• 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
• 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

Table 23-53 Output Parameter Support

Parameter	Description
• 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.
• 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,SYNCN:MJ,FRNGSYNC,SA,01-01,16-02-15,,,
   \"FREE RUNNING SYNCHRONIZATION MODE\""
;
```

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 SYNCN. 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
• 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

Table 23-55 Output Parameter Support

Parameter	Description
• 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
• 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

Table 23-55 Output Parameter Support

Parameter	Description
• 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.
• 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

```
   SID DATE TIME
M  CTAG COMPLD
   "<EQPT>:PORT=<PORT>"
;
```

Output Example

```
   TID-000 1998-06-20 14:30:00
M  001 COMPLD
   "SLOT-2:PORT=ENABLED"
;
```

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

SID DATE TIME
M CTAG COMPLD
"<AID>::[QOSENABLED=<QOSENABLED>],[BW0=<BWO>],
[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>][:]"
;

Output Example

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:"
;

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.
<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.

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.
<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)

Table 23-59 Output Parameter Support

Parameter	Description
• 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
<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 SYNCSW" 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

Table 23-59 Output Parameter Support

Parameter	Description
<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.

Table 23-60 Output Parameter Support

Parameter	Description
• 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
• 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

Table 23-60 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	
• 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
• 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

Table 23-60 Output Parameter Support

Parameter	Description
<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

<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.
<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.

Table 23-62 Output Parameter Support

Parameter	Description
<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 MUL TIPLE. 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.
• 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 23-62 Output Parameter Support

Parameter	Description
• 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 PORT\":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.
• 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.

Table 23-63 Output Parameter Support

Parameter	Description
• 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
• 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.

Table 23-64 Output Parameter Support

Parameter	Description
• 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

<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>],[<SYNCMSG>],[<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\",SYNCMSG=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.
• 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.

Table 23-65 Output Parameter Support

Parameter	Description
• 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.
<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.

Table 23-65 Output Parameter Support

Parameter	Description
<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 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.
<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.
<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.
<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

Table 23-65 Output Parameter Support

Parameter	Description
• 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
• 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

Table 23-66 Output Parameter Support

Parameter	Description
• 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.
<AISONLPBK>	Indicates if AIS should be sent back in loopback.
• FACILITY	Facility
• 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.

Table 23-66 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) 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
<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

Table 23-67 Output Parameter Support

Parameter	Description
• 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.
<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.

Table 23-67 Output Parameter Support

Parameter	Description
<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.
• 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

Table 23-69 Output Parameter Support

Parameter	Description
• 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
• 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.

Table 23-69 Output Parameter Support

Parameter	Description
<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) 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

Table 23-69 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

23.56 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.

Table 23-70 Output Parameter Support

Parameter	Description
• 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
• 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

Table 23-70 Output Parameter Support

Parameter	Description
• 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
• 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/separator 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.

Table 23-70 Output Parameter Support

Parameter	Description
• 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.
<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.

Table 23-70 Output Parameter Support

Parameter	Description
<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
• 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

Table 23-70 Output Parameter Support

Parameter	Description
• 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.
• 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.

Table 23-70 Output Parameter Support

Parameter	Description
<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.
<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

Table 23-70 Output Parameter Support

Parameter	Description
<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.
<CRCSOAKCNT>	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.
• 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).

Table 23-72 Output Parameter Support

Parameter	Description
• 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
• 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 23-72 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>	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

Table 23-72 Output Parameter Support

Parameter	Description
• 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.
<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 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 EXPDUPLEX only.
• Y	Enable selective auto-negotiation.
• 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 queing 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.

Table 23-72 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.
<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
• DV6000	Video mode
• DVBASI	Digital Video Broadband Asynchronous Serial Interface (DVBASI) payload
• E4-FRAMED	E4-FRAMED payload mode for NCS STM1E-12 card

Table 23-75 Output Parameter Support

Parameter	Description
• 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)
• STM1	Optical Carrier Level 3 (155 Mbps)
• STM16	Optical Carrier Level 48 (2.4 Gbps)
<PROTID>	(Optional) Protection group name. PROTID is a string.

Table 23-76 Output 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. 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
• 3.0	3 seconds
• 4.0	4 seconds
• 5.0	5 seconds

Table 23-76 Output Parameter Support

Parameter	Description
• 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>],
[<OCRTM>],[<LOCN>],[<DIRN>]:[<DESC>]"

;

Output Example

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

M 001 COMPLD

"VFAC-1-1-1,VFAC-2-1-1::PROTTYPE=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.
<PROTTYPE>	(Optional) The type of facility protection. The parameter type is PROTTYPE, 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)
• 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

Table 23-78 Output Parameter Support

Parameter	Description
• 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
<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>::[PROTTYPE=<PROTTYPE>],[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::PROTTYPE=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.
<PROTTYPE>	(Optional) Protection group type. Applicable only to DWDM cards. The parameter type is PROTTYPE, 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
<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
<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

23.65 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

<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"
;
```

Output Parameters

<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>	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

SID DATE TIME
M CTAG COMPLD
“<AID>:[PTSYSID=<PTSYSID>],[FOGID=<FOGID>],[FOMEM=<FOMEM>],
[<PEERMEM=<PEERMEM>],[STATE=<STATE>],[QUEUEMODE=<QUEUEMODE>],[PBNAME=
<PBNAME>]”;

Output Example

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”

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 sate.
• 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

<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>],[<EXPDUPLEX>],[<EXPSPEED>],[<VLANCOSTHRESHOLD>],[<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
<MTU>	(Optional) Maximum transmission unit. MTU is an integer.
<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
<OPTICS>	(Optional) Optics. The parameter type is OPTICS, which is the type of Gigabit Ethernet optics being used.
• 1000_BASE_CX	1000BaseCX

Table 23-81 Output Parameter Support

Parameter	Description
• 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
• 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

Table 23-81 Output Parameter Support

Parameter	Description
• 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
• 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

Table 23-81 Output Parameter Support

Parameter	Description
• 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.
<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.

Table 23-81 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 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
<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]",ENABLE=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.
<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

Table 23-84 Output Parameter Support

Parameter	Description
• 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
• 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

Table 23-84 Output Parameter Support

Parameter	Description
<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
• 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

Table 23-84 Output Parameter Support

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
• 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
<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>],[<SYNCMSG>],[<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,MACADDR=08-E5-78-6C-02-7F,FREQ=USE-TWL1,LOSSB=AUTOPROV,SOAK=32,ACTDUPLEX=AUTO,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

Table 23-86 Output Parameter Support

Parameter	Description
• 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
<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

Table 23-86 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 23-86 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>	(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
• 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

Table 23-86 Output Parameter Support

Parameter	Description
• 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

Table 23-86 Output Parameter Support

Parameter	Description
• 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

Table 23-86 Output Parameter Support

Parameter	Description
• 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

Table 23-86 Output Parameter Support

Parameter	Description
• 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 23-86 Output Parameter Support

Parameter	Description
• 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
• 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

Table 23-86 Output Parameter Support

Parameter	Description
• 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
• 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

Table 23-86 Output Parameter Support

Parameter	Description
<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
• 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

Table 23-86 Output Parameter Support

Parameter	Description
• 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
• 40_GBPS	40 Gigabit per second
• AUTO	Automatic
• AUTO_FDX	Enable auto negotiation with full duplex.
<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
<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.
<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

Table 23-86 Output Parameter Support

Parameter	Description
<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
<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 that 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.
• 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

Table 23-88 Output Parameter Support

Parameter	Description
• 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
• 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.

Table 23-88 Output Parameter Support

Parameter	Description
• 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
• 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/separator 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

Table 23-88 Output Parameter Support

Parameter	Description
• 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
• 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

Table 23-88 Output Parameter Support

Parameter	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 23-88 Output Parameter Support

Parameter	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 23-88 Output Parameter Support

Parameter	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 23-88 Output Parameter Support

Parameter	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 23-88 Output Parameter Support

Parameter	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
<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.

Table 23-88 Output Parameter Support

Parameter	Description
<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.

Output Parameters

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>],[<ETHERSTYPE>],[<ALWMACADDR>],[<INHMACADDR>],[<BPDU>],[<BRIDGESTATE>],[<ACTBRIDGESTATE>],[<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,ETHERSTYPE=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.

Table 23-89 Output Parameter Support

Parameter	Description
<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
• 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 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 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

Table 23-89 Output Parameter Support

Parameter	Description
<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
• 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 DLFPC packet.
<DLFTHRES>	Indicates the DLFPC 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

```
TID-000 1998-06-20 14:30:00
M  001 COMPLD
"Interface Seg-id Type LinkOp Role
---------------------- ------ -------------- ----------- ----
Phy0 2 Primary Edge INIT_DOWN Fail
Phy1 2 Pref Edge   INIT_DOWN Fail
UUßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßß
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;
```

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.
• 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.

Table 23-93 Output Parameter Support

Parameter	Description
<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.
• 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.

Table 23-94 Output Parameter Support

Parameter	Description
• 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.
• 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.

Table 23-96 Output Parameter Support

Parameter	Description
<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).
• 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

Table 23-96 Output 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 23-96 Output 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
• 1548.11	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
• 1558.98	Wavelength 1558.98
• 1559.39	Wavelength 1559.39
• 1559.79	Wavelength 1559.79

Table 23-96 Output 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 23-96 Output 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 23-96 Output 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
• 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

Table 23-96 Output Parameter Support

Parameter	Description
• Loopback	Loopback
• MismatchofEquipment Alarm	Mismatch of equipment and attributes
• Maintenance	Maintenance mode
• OutOfGroup	Out of group
• SoftwareDownload	Software downloading
• 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.
<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.
<OCRTIME>	(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 Continuos 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>],[<IGMPONCVLAN>]:”;

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.

Table 23-101 Output Parameter Support

Parameter	Description
<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.
<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 Continuos 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>,
<LBRRCVDINORDER>,<LBRRCVDSEQERROR>,<LBRRCVDBADMSDU>";
"
;

Output Example

TID-000 1998-06-20 14:30:00
M 001 COMPLD
"SLOT-3,MDNAME=Domain_6,SVLANID=30,MPID=600,CCMTRANSMTD=801,CCMRCVDSEQ
ERR=0,CCRCVDSEQERR=0,LTRUNEXPDRCVD=0,LBRTRANSMTD=0,LBRRCVDINORDER=0,
LBRRCVDSEQERR=0,LBRRCVDBADMSDU=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.
<CCMTRANSMTD >	Indicates the transmission of continuity check messages.
<CCMRCVD>	Continuity check messages received.
<CCRCVDSEQER R>	Continuity check received with sequence errors.
<LTRUNEXPDRC VD>	Link trace reply received unexpectedly.
<LBRTRANSMTD >	Loopback reply transmitted.

Table 23-106 Output Parameter Support

Parameter	Description
<LBRRCVDINORDER>	Loopback reply received in order.
<LBRRCVDSEQERR>	Loopback reply received with sequence error.
<LBRRCVDBADMSDU>	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.
<ARCHIVETIMER>	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 MOD2O, 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>],[<IIOPPORT>],[<NTP>],[<NAME>],[<SWVER>],[<LOAD>],[<PROTSWVER>],[<PROTLOAD>],[<DEFDESC>],[<PLATFORM>],[<SECUMODE>],[<SUPPRESSIP>],[<MODE>],[<MSPUBVLANID>],[<MSINTLVLANID>],[<AUTOPM>],[<SERIALPORTECHO>],[<OSIROUTINGMODE>],[<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
IIOPPORT=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,AUTOPM=NO,SERIALPORTECHO=Y,OSIROUTINGMODE=ES,OSIL1BUFSIZE=512,OSIL2BUFSIZE=512"
;

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.
<IIOPPORT>	(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 1to 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 1to 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-SYNCN:[<TID>]:[<AID>]:<CTAG>[::::];

Input Examples

RTRV-NE-SYNCN: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>],[SYSTMN=<SYSTMN>]"
;
```

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,
  SYSTMN=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>],[<ACTOR>],[<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-NETYPE

The Retrieve Network Element Type (RTRV-NETYPE) command retrieves the NE's equipment-related information.

Usage Guidelines None

Category System

Security Retrieve

Input Format RTRV-NETYPE:[<TID>]::<CTAG>;

Input Example RTRV-NETYPE: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>],[<ACTWLEN>],[<ILOSS>],[<VOAMODE>],[<VOAATTN>],[<VOAPWR>],[<VOAREFATTN>],[<VOAREFPWR>],[<REFOPWR>],[<CALOPWR>],[<CHPOWER>],[<CHPOWERFLG>],[<ADDOPWR>],[<PORTNAME>],[<GCC>],[<GCCRATE>],[<DWRAP>],[<FEC>],[<PAYLOADMAP>],[<LBCLCURR>],[<OPTCURR>],[<OPRCURR>],[<OSFBER>],[<OSDBER>],[<SOAK>],[<SOAKLEFT>],[<LOSSB>],[<PEERID>],[<REGENNAME>],[<PORTMODE>],[<ODUTRANSMODE>],[<ERRORDECORRELATOR>],[<FCS>],[<PROACTPROTECTION>],[<TRIGGERTH>],[<REVERTTH>],[<TRIGWINDOW>],[<RVRTWINDOW>],[<OVRCLK>],[<MDLTFMT>],[<RXWLEN>],[<OSNR>],[<PMD>],[<CHROMDISP>],[<SYNCMSG>],[<SENDDUS>],[<ADMSSM>],[<PROVIDESYNC>]:<SQUELCHMODE>,[<FECALARMSUPRESS>],[<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,SYNCMSG=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 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.
<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.
<FECALARMSUPRESS>	FECALARMSUPRESS
<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-OCHCC:[<TID>]:<AID>:<CTAG>[::::];

Input Example RTRV-OCHCC: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

<AID>	Access identifier from the "27.4 BAND" section on page 27-10.

Output Format

```
   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>]"
;
```

Output Example

```
   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"
;
```

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

```
  SID DATE TIME
M  CTAG COMPLD
  "<AID>::[POWEROUT=<POWEROUT>],[POWERADD=<POWERADD>],
  [POWERPT=<POWERPT>]"
;
```

Output Example

```
  TID-000 1998-06-20 14:30:00
M  001 COMPLD
  "OPM-5-1530.33::POWEROUT=9.0,POWERADD=10.0,POWERPT=11.0:"
;
```

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

<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

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	Regenator mode between two 100G-LC-C cards.
• RGN-10G	Ginsu regerator 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>],[<EXPGAIN>],[<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	Swtich 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,,SQUELCHMODE=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 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.
• 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>	Indentifies 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, HDSDI, HDTV, ISC1, ILK, ISCCOMPAT, ISC3PEER2R, ISC3PEER1G, ISC3STP1G, ISC3PEER2G, ISC3STP2G, STM4, STM64, STM1, STM16, OCH, OMS, OTS, OTL, OTU1, OTU2, OTU3, OTU4, POS, SDSDI, 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
• 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 23-125 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 s	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
• 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

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 (DSXM-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)
• SESCPP	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 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>	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";
```

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 (DSXM-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)
• SESCPP	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-PMMODE-<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-PMMODE-<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-PMMODE 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-PMMODE-<VC_PATH>:[<TID>]:<SRC>:<CTAG>::<LOCN>;

Input Example RTRV-PMMODE-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, HDSDI, ISC3STP1G, ISC3STP2G, OTU1, or SDSDI (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

<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>,[<SWITCHTYPE>]"
;

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
<CROSSCONNECTID>	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,FRCDWKSWBK"
;
```

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.
<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 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)

23.137 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_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

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::MEDIAINDSTATSRXLCVERRORS,,,,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.
• 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

Table 23-151 Input Parameter Support

Parameter	Description
• 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 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

Table 23-151 Input 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
• ifInErrorBytePkts s	Receive Error Byte
• ifInErrors	The number of inbound packets (or transmission units) that contained errors
• ifInFramingError Pkts	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
• ifOutBroadcastPkt s	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
• ifOutMulticastPkt s	Number of multicast packets transmitted
• ifOutPayloadCrcE rrors	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

Table 23-151 Input Parameter Support

Parameter	Description
• 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
• 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

Table 23-151 Input Parameter Support

Parameter	Description
• 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
• 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>	(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

Table 23-151 Input 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. 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

Table 23-152 Output Parameter Support

Parameter	Description
• 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
• 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

Table 23-152 Output Parameter Support

Parameter	Description
• 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 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

Table 23-152 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
• 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

Table 23-152 Output Parameter Support

Parameter	Description
• 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
• SASCPP	Severely Errored Framing/AIS Second—CP-Bit Path
• SASP	Severely Errored Framing/AIS Seconds Path
• SEFS	Severely Errored Framing Seconds

Table 23-152 Output Parameter Support

Parameter	Description
• 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
<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

```
   SID DATE TIME
M  CTAG COMPLD
   "<FROM>,<TO>:RFROM=<RFROM>,RTO=<RTO>,RMODE=<RMODE>,
   VLDSIG=<VLDSIG>"
;
```

Output Example

```
   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"
;
```

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.

Table 23-153 Output Parameter Support

Parameter	Description
<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.

Table 23-154 Input Parameter Support

Parameter	Description
<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=39840F80FFFFFF0000DDDDAA000010CFB4910200,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,VOLTAGED=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-CHANNEL	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
• 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

Table 23-159 Output Parameter

Parameter	Description
• 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.
<SYNCMSG>	(Optional) Indicates if synchronization messaging is enabled or disabled. The parameter type is ON_OFF (disable or enable an attribute).
• N	Disable an attribute.
• 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.

Table 23-159 Output Parameter

Parameter	Description
• 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
<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

Table 23-159 Output Parameter

Parameter	Description
• SoftwareDownload	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 SYNCSW" section on page 27-35.
<REFVAL>	Value of a synchronization reference. Access identifier from the "27.28 SYN_SRC" section on page 27-34.

Table 23-160 Output Parameter Support

Parameter	Description
<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.
• 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.

Table 23-161 Output Parameter Support

Parameter	Description
• 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
• 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=39840FFFFFFFOOOODDDDAA01D00F0400000700"
;
```

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=39840FFFFFFFOOOODDDDAA01D00F0400000700"
;
```

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 29-1for 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 "27.1 ALL" 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. **Note** 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
• 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

Table 23-164 Input Parameter Support

Parameter	Description
• 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
• 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

Table 23-164 Input Parameter Support

Parameter	Description
• 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
• 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

Table 23-164 Input Parameter Support

Parameter	Description
• 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
• 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

Table 23-164 Input Parameter Support

Parameter	Description
• 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 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
• 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.

Table 23-164 Input Parameter Support

Parameter	Description
• 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

Table 23-165 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
• 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
• 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.

Table 23-165 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 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
• 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

Table 23-165 Output Parameter Support

Parameter	Description
• 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
• 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

Table 23-165 Output Parameter Support

Parameter	Description
• 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
• LBCN-HWT	Normalized Laser Bias Current—Higher Threshold

Table 23-165 Output Parameter Support

Parameter	Description
• 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
• 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

Table 23-165 Output Parameter Support

Parameter	Description
• 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 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
• OSNR-MIN	Minimum Optical Signal To Noise Ratio.

Table 23-165 Output Parameter Support

Parameter	Description
• 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:[<TID>]::<CTAG>::[<MONTYPE>],[<LOCATION>],[<TMPER>][::];

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
• 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

Table 23-166 Input Parameter Support

Parameter	Description
• 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
• 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

Table 23-166 Input Parameter Support

Parameter	Description
• 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 s	Receive Error Byte
• ifInErrors	The number of inbound packets (or transmission units) that contained errors
• ifInFramingError Pkts	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
• ifOutBroadcastPkt s	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
• ifOutMulticastPkt s	Number of multicast packets transmitted
• ifOutPayloadCrcE rrors	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

Table 23-166 Input Parameter Support

Parameter	Description
• 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
• 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

Table 23-166 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
• 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

Table 23-166 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.
<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 "27.2 AidUnionId" 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.

Table 23-167 Output Parameter Support

Parameter	Description
• 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
• 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

Table 23-167 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
• 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. 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

Table 23-167 Output Parameter Support

Parameter	Description
• 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
• 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

Table 23-167 Output Parameter Support

Parameter	Description
• 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 s	Receive Error Byte
• ifInErrors	The number of inbound packets (or transmission units) that contained errors
• ifInFramingError Pkts	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
• ifOutBroadcastPkt s	Number of broadcast packets transmitted
• ifOutDiscards	The number of outbound packets

Table 23-167 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	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

Table 23-167 Output Parameter Support

Parameter	Description
• 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
• 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

Table 23-167 Output Parameter Support

Parameter	Description
• 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.
• 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

Table 23-168 Output Parameter Support

Parameter	Description
• -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
• 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
<TMTYPE>	Identifies the time zone. TMTYPE 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 “27.17 IPADDR” 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 "27.17 IPADDR" 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-<STM_MSSPR>:[<TID>]:<AID>:<CTAG>;

Input Example

RTRV-TRC-STM16:CISCO:FAC-6-1:238;

Input Parameters

<AID>	Access identifier from the "27.15 FACILITY" 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
   "VC4-6-1-25::LEVEL=VC4,EXPTRC="EXPTRCSTRING",INCTRC="INCTRCSTRING",
   TRCMODE=AUTO,C2=0X04"
;
```

Table 23-170 Output Parameter Support

Parameter	Description
<AID>	Access identifier from the "27.32 VC" 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.
<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

Table 23-170 Output Parameter Support

Parameter	Description
• 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
• 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

Table 23-170 Output Parameter Support

Parameter	Description
• 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-<OCN_BLSR>:[<TID>]:<AID>:<CTAG>[::::];

Input Example

RTRV-TRC-OC48:CISCO:FAC-6-1:238;

Input Parameters

<AID>	Access identifier from the "27.15 FACILITY" 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 "27.32 VC" section on page 27-35.
<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 (STSn). 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:[<TID>]:<SRC>:<CTAG>::[<MSGTYPE>],[<TRCLEVEL>][::];

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 "27.7 CHANNEL" 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 "27.7 CHANNEL" section on page 27-12.
<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 "27.7 CHANNEL" 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;

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 23-175 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.

Usage Guidelines

- With the VALMODE parameter value as NONE, the VALZONE parameter is not applicable, and hence not displayed.

Category NCS

Security Provisioning

Input Format RTRV-UNICFG:[<TID>]:<src>:<CTAG>::[:];

Input Example 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>:<RVRSAID>,<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,VALZON
E=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.
<RVRSAID>	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>	Indentifies the restoration type on UNI configuration.

Table 23-177 Output Parameter Support

Parameter	Description
• 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.

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.
• 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 "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.

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 "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 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

Table 23-179 Output Parameter Support

Parameter	Description
• 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 **Note** 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.
• 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.

Table 23-179 Output Parameter Support

Parameter	Description
<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>],[IGMPENABLE=<IGMPENABLE>],[IGMPFASTLEAVE=<IGMPFASTLEAVE>],[IGMPSUPP=<IGMPSUPP>][:]”
;

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.
• 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 prot - 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.
• 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.

Table 23-182 Parameter Support

Parameter	Description
• 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”
<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 "27.15 FACILITY" section on page 27-23.

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 "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.

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:[<TID>]:<AID>:<CTAG>:[<WLEN>]:;

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=<TOTALPWRDBM>][LASTRUNDAT=<LASTRUNDAT>],[LASTRUNTM=<LASTRUNTM>][:]";

(For flex 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=<TOTALPWRDBM>],[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;

Input 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.

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}-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}-{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}-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}-{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 “27.15 FACILITY” section on page 27-23.

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:[<TID>]:<AID>:<CTAG>;

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],[SRC=<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