Release Notes for Cisco ONS 15454, ONS 15454 M2, and ONS 15454 M6 DWDM, Release 9.3

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Release notes contain the new features and enhancements for the Cisco ONS 15454, Cisco ONS 15454 M2, and Cisco ONS 15454 M6 DWDM platforms. For detailed information regarding features, capabilities, hardware, and software introduced with this release, refer to the "Release 9.3" version of the *Cisco ONS 15454 DWDM Configuration Guide*, *Cisco ONS 15454 DWDM Troubleshooting Guide*, *Cisco ONS 15454 SDH TL1 Command Guide* and *Cisco ONS 15454 SONET TL1 Command Guide*. For the latest version of the Release Notes for Cisco ONS 15454 Release 9.3, visit the following URL:

http://www.cisco.com/en/US/products/hw/optical/ps2006/prod_release_notes_list.html

Cisco also provides Bug Toolkit, a web resource for tracking defects. To access Bug Toolkit, visit the following URL:

http://tools.cisco.com/Support/BugToolKit/action.do?hdnAction=searchBugs

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Changes to the Release Notes

This section documents supplemental information that has been added to the Release Notes for Cisco ONS 15454 Release 9.3 since the production of the Cisco ONS 15454 System Software CD for Release 9.3.

- Updated the section, "15454-M-RAMAN-CTP and 15454-M-RAMAN-COP cards".

Cisco ONS 15454 DWDM Software Packages

The Cisco ONS 15454 DWDM software is shipped in two separate packages:

- The Cisco ONS 15454 DWDM full package (15454DWDM*.pkg for ANSI and 15454DWDMSDH*.pkg for ETSI) contains all the controller card and DWDM card installs.
- The Cisco ONS 15454 DWDM lite package (15454DWDMLite*.pkg for ANSI and 15454DWDMLiteSDH*.pkg for ETSI) contains all DWDM cards and controller card installs except TNC, TNCE, TSC, and TSCE cards.

Caution Do not download or activate the Cisco ONS 15454 DWDM lite package on a Cisco ONS 15454 M2 and Cisco ONS 15454 M6 shelf. Doing so can damage the controller cards.

Note Do not download the Cisco ONS 15454 DWDM full package on a TCC2P card because the card does not have enough memory space to accommodate the full package. Doing so causes download to fail.

For more information, see the "Cisco ONS 15454 DWDM Software Packages" section in the *Upgrading the Cisco ONS 15454 to Release 9.3* or *Upgrading the Cisco ONS 15454 SDH to Release 9.3*.

Software and Hardware Requirements

Before you begin to install Cisco ONS 15454 Software Release 9.3, you must check if your system meets the minimum software and hardware requirements. This section describes the software and hardware requirements for Cisco ONS 15454 Software Release 9.3.

- Hardware—IBM-compatible PC with a Pentium IV or faster processor, CD-ROM drive, a minimum of 1 GB RAM, 20 Gb hard disk with 250 MB of available hard drive space
- Operating System:
  - Windows 2000 Professional, Windows XP Professional, Windows Vista, or Windows 7, Windows Server 2003 and 2008.
  - UNIX workstation with Solaris Version 9 or 10 on an UltraSPARC-III or faster processor, with a minimum of 1 GB RAM and a minimum of 250 MB of available hard drive space.
  - Apple Mac OS X, CTC Needs to be installed using the CacheInstaller available on CCO or the ONS CD.

  (Use the latest patch/Service Pack released by the OS vendor. Check with the vendor for the latest patch/Service Pack.)

- Supported Java Runtime Environment—Cisco ONS 15454 Software Release 9.3 requires that you install Java Runtime Environment Version 1.6.
- Supported Browser:
  - For PC—Internet Explorer 6.x, 7.x, 8.x
  - For UNIX Workstation—Mozilla 1.7
  - For MacOS-X PC—Safari

New Features and Functionality

This section highlights new features and functionality for Release 9.3. For detailed documentation of each of these features, consult the user documentation.

Common Hardware

Cisco ONS 15454 Software Release 9.3 supports the following new hardware:

Fabric Card, Line Card, and CPT 50 Panel

The Carrier Packet Transport (CPT) is released in 9.3. The fabric card, line card, and CPT 50 panel are supported on the CPT 200 and CPT 600 chassis.

The fabric card is a single slot card with two 10GE SFP+ ports and two 10GE XFP ports. The XFP ports on the fabric card support the Optical Transport Network (OTN) protocol. The fabric card runs the route processor version of IOS. The fabric card provides high availability and high switching capacity.

The line card has four 10GE SFP+ ports. The SFP+ ports on the line card serve as normal ports or InterConnect (IC) ports. The line card runs the line card version of IOS. The line card expands the I/O capacity of CPT 200 and 600 chassis by interconnecting with other line and fabric cards.

The CPT 50 panel has 4 10GE SFP+ ports and 44 GE SFP ports. The CPT 50 panel is not placed in the CPT 200 or CPT 600 shelf. The CPT 50 panel enables the number of ports to be scaled on the CPT system.

For more information, please refer to *Release Notes for Cisco CPT-CTC and Documentation Release 9.3 and Cisco IOS Release 15.1(01)SA* and *Cisco CPT Configuration Guide-CTC and Documentation Release 9.3 and Cisco IOS Release 15.1(01)SA*.

15454-M-RAMAN-CTP and 15454-M-RAMAN-COP Cards

(DWDM only) The 15454-M-RAMAN-CTP and 15454-M-RAMAN-COP cards are single-slot units that support counter and co-propagating Raman amplification on very long unregenerated spans. The counter-propagating 15454-M-RAMAN-CTP card is the master unit. The co-propagating 15454-M-RAMAN-COP card is the slave unit and can be used only when the counter-propagating unit is present. The 15454-M-RAMAN-CTP and 15454-M-RAMAN-COP units must be installed in adjacent slots (Slots 2 and 3, 4 and 5, or 6 and 7) in the ONS 15454 M6 chassis and Slots 2 and 3 in the ONS 15454 M2 chassis. The cards manage up to 96 ITU-T 50-GHz spaced channels over the C-band of the optical spectrum (wavelengths from 1528.77nm to 1566.72nm).

Use of 15454-M-RAMAN-CTP and 15454-M-RAMAN-COP cards require Cisco ONS 15454 MSTP R9.3.0.2 software. If your system is running a previous software version, see the *Upgrading the Cisco ONS 15454 to Release 9.3* or *Upgrading the Cisco ONS 15454 SDH to Release 9.3* document to upgrade the software to R9.3.02 .

OPT-EDFA-17 and OPT-EDFA-24 Cards

The OPT-EDFA-17 and OPT-EDFA-24 cards are a 20-dBm output power, C-band, DWDM EDFA amplifiers/preamplifiers. It does not contain mid-stage access loss for a Dispersion Compensation Unit (DCU). The OPT-EDFA-17 and OPT-EDFA-24 cards will share the same hardware platform and firmware architecture, but will differ only for the operative optical gain range which are 17dB and 24dB respectively.

The OPT-EDFA-17 and OPT-EDFA-24 cards support 96 channels at 50-GHz channel spacing in the C-band (that is, the 1528.77 nm to 1566.72 nm wavelength range). You can install the OPT-EDFA-17 or OPT-EDFA-24 card in Slots 1 to 6 and 12 to 17. Slots 2 to 6 and Slots 12 to 16 are the default slots for provisioning the OPT-EDFA-17 and OPT-EDFA-24 cards as a preamplifier, and slots 1 and 17 are the default slots for provisioning the OPT-EDFA-17 and OPT-EDFA-24 cards as a booster amplifier. You can install the OPT-EDFA-17 or OPT-EDFA-24 card in Slots 2 and 3 in ONS 15454 M2 chassis, and Slots 2 to 7 in ONS 15454 M6 chassis.

SFPs and XFPs

The ONS-XC-8G-MM XFP is supported on 40G-MXP-C, 40E-MXP-C, and 40ME-MXP-C cards. For more information, please refer to *Installing GBIC, SFP and XFP Optics Modules in Cisco ONS Platforms*.

TNCE

(Cisco ONS 15454 M6 and Cisco ONS 15454 M2 shelf assemblies only)

The TNCE card combines the functions of multiple cards such as TCC2P, OSCM, ISC, and AIC-I cards. The card has a similar look and feel to TCC2/TCC2P/TCC3 cards.

In ONS 15454 M6, the TNCE card can be provisioned in slots 1 and 8 and in ONS 15454 M2, the card can be provisioned in slot 1. The TNCE card must be provisioned as a master and slave in the ONS 15454 M6, and as a stand-alone card in the ONS 15454 M2 shelf.

The TNCE card performs the following functions:

- Acts as node controller and shelf controller.
- Supports two optical service channels (OSC) through two small-form factor pluggable (SFP) ports.
- Performs all the system-timing functions for the ONS 15454 M2 and ONS 15454 M6 shelf assemblies.
- Supports multishelf management of up to 30 shelves including the node controller.
- Provides 4 GB of non-volatile database storage (IDE Compact Flash Module) for communication, provisioning, and system control.
- Monitors both the AC/DC supply voltage inputs on the ONS 15454 M6 shelf. The ONS 15454 M2 shelf has single power supply.
- Provisions customer-defined (environmental) alarms and external controls on the ONS 15454 M6 shelf.

- Supports all the alarms supported by the TCC2P and AIC-I cards.

Note Do not install the TNCE and TSCE cards in the same shelf. Downgrade procedures from TNCE to TSCE cards are not supported.

TSCE

(Cisco ONS 15454 M6 and Cisco ONS 15454 M2 shelf assemblies only)

The TSCE card combines the functions of multiple cards such as TCC2P, ISC, and AIC-I cards. The card has a similar look and feel to TCC2/TCC2P/TCC3 cards.

On the ONS 15454 M6 shelf, install TSCE cards in slots 1 and 8. On the ONS 15454 M2 shelf, install the stand-alone TSCE card in slot 1. The TSCE card is provisioned as master and slave in the ONS 15454 M6 shelf, and as a stand-alone card in the ONS 15454 M2 shelf.

The TSCE card performs the following functions:

- Acts as a shelf controller.
- Performs all the system-timing functions for the ONS 15454 M2 and ONS 15454 M6 shelves.
- Supports multishelf management with support for up to 30 shelves including the node controller.
- Provides 4 GB of non-volatile database storage (IDE Compact Flash Module) for communication, provisioning, and system control.
- Monitors both the supply voltage inputs on the ONS 15454 M6 shelf. An alarm is generated if one of the supply voltage inputs has a voltage out of the specified range. The ONS 15454 M2 shelf has single power supply.
- Provisions customer-defined (environmental) alarms and external controls on the ONS 15454 M6 shelf.
- Supports all the alarms supported by the TCC2P and AIC-I cards.

New Software Features and Functionality

The following new software feature is added for Release 9.3:

- CPT Software Features, page 7
- IPoDWDM Enhancments, page 8
- Software Enhancements for Passive Units, page 8
- Transaction Language 1 (TL1), page 8

CPT Software Features

The Carrier Packet Transport (CPT) is released in 9.3. The software features supported by CPT are Ethernet Virtual Circuit (EVC), Multiprotocol Label Switching (MPLS), Multiprotocol Label Switching - Transport Profile (MPLS-TP), Quality of service (QoS), Resilient Ethernet Protocol (REP), Link Aggregation Group (LAG), MAC Learning, Multicast VLAN Registration (MVR), and IGMP Snooping.

For more information, please refer to *Release Notes for Cisco CPT-CTC and Documentation Release 9.3 and Cisco IOS Release 15.1(01)SA* and *Cisco CPT Configuration Guide-CTC and Documentation Release 9.3 and Cisco IOS Release 15.1(01)SA*.

IPoDWDM Enhancments

The following enhancements have been made for IPoDWDM:

- Link Management Protocol (LMP) can be configured on Cisco ASR 9000 routers
- OCH circuits can be provisioned between two ASR 9000 routers
- SRLG is supported on ASR 9000 routers

Software Enhancements for Passive Units

You can associate the following passive modules to the USB port of the Cisco ONS 15454 M2 and Cisco ONS 15454 M6 node:

- 15216-FLD-4
- 15216-MD-40-EVEN
- 15216-MD-40-ODD

The stored data can be retrieved through the USB port of the optical module by connecting it to the transport node controller card (TNC) of the Cisco ONS 15454 M2 and Cisco ONS 15454 M6 shelf assembly.

Transaction Language 1 (TL1)

This section contains list of Command Syntax Changes and Command Response Changes. For detailed information, please refer to *Cisco ONS SONET TL1 Command Guide and Cisco ONS SDH TL1 Command Guide.*

New Commands

The following new TL1 commands are added:

- DLT-FOG
- ED-FOG
- ENT-FOG
- RTRV-FOG
- RTRV-OPMOD-PTSYS
- RTRV-PTSYS
- SET-OPMOD-PTSYS

Command Syntax Changes

The syntax of the following commands have changed:

- ED-EQPT
- ED-GIGE
- ED-L2-ETH
- ENT-EQPT
- RTRV-EQPT
- RTRV-L2ETH

Command Response Changes

The following TL1 command responses have changed:

- RTRV-EQPT
- RTRV-L2-ETH
- RTRV-GIGE
- RTRV-OCH

Using the Bug ToolKit

In Cisco ONS 15454 Software Release 9.3 and later, use the Bug ToolKit to view the list of outstanding and resolved bugs in a release. This section explains how to use the Bug ToolKit.

Search Bugs

This section explains how to use the Bug ToolKit to search for a specific bug or to search for all the bugs in a specified release.

Step 1 Go to http://tools.cisco.com/Support/BugToolKit/action.do?hdnAction=searchBugs

You will be prompted to log into Cisco.com. After successful login, the Bug Toolkit page opens.

Step 2 Click **Launch Bug Toolkit**.

Step 3 To search for a specific bug, enter the bug ID in the **Search for Bug ID** field and click **Go** in the **Search Bugs** tab.

To search for bugs in a specific release, enter the following search criteria:

- Select Product Category—Select **Optical Networking**.
- Select Products—Select **Cisco ONS 15400 Series** from the list.
- Software Version—Select **9.3** or **9.302** to view the list of outstanding and resolved bugs in Cisco ONS 15454 Software Release 9.3.
- Search for Keyword(s)—Separate search phrases with boolean expressions (AND, NOT, OR) to search within the bug title and details.
- Advanced Options—You can either perform a search using the default search criteria or define custom criteria for an advanced search. To customize the advanced search, select **Use custom settings for severity, status, and others** and provide the following information:
  - Severity—Select the severity level.
  - Status—Select **Open**, **Fixed**, or **Terminated**.

    Select **Open** to view all the open bugs. To filter the open bugs, clear the Open check box and select the appropriate sub-options that appear below the Open check box. The sub-options are New, Held, More, Open, Waiting, Assigned, Forwarded, Postponed, Submitted, and Information Required. For example, if you want to view only new bugs in Cisco ONS 15454 Software Release 9.3, only select **New**.

    Select **Fixed** to view fixed bugs. To filter fixed bugs, clear the Fixed check box and select the appropriate sub-options that appear below the fixed check box. The sub-options are **Resolved** or **Verified**.

Select **Terminated** to view terminated bugs. To filter terminated bugs, clear the Terminated check box and select the appropriate sub-options that appear below the terminated check box. The sub-options are **Closed**, **Junked**, and **Unreproducible**. Select multiple options as required.

- Advanced—Select the **Show only bugs containing bug details** check box to view only those bugs that contain detailed information, such as symptoms and workarounds.
- Modified Date—Select this option if you want filter bugs based on the date on which the bugs were last modified.
- Results Displayed Per Page—Select the appropriate option from the list to restrict the number of results that appear per page.

Step 4 Click **Search**. The Bug Toolkit displays the list of bugs based on the specified search criteria.

Export to Spreadsheet

The Bug ToolKit provides the following options to export bugs to a spreadsheet:

- Click **Export All to Spreadsheet** link in the Search Results page under the Search Bugs tab. Specify file name and folder name to save the spreadsheet. All the bugs retrieved by the search will be exported.
- Click **Export All to Spreadsheet** link in the My Notifications tab. Specify file name and folder name to save the spreadsheet. All the saved bugs in all the groups will be exported.

If you are unable to export the spreadsheet, log into the Technical Support Website at http://www.cisco.com/cisco/web/support/index.html for more information or call Cisco TAC (1-800-553-2447).

Related Documentation

Release-Specific Documents

Use the *Release Notes for Cisco ONS 15454, ONS 15454 M2, and ONS 15454 M6 DWDM, Release 9.3* in conjunction with *Release Notes for Cisco CPT-CTC and Documentation Release 9.3 and Cisco IOS Release 15.1(01)SA* publication.

Platform-Specific Documents

- *Cisco ONS 15454 DWDM Configuration Guide*
  Provides installation, turn up, test, maintenance procedures, echnical reference information for SONET/SDH cards, nodes, and networks.
- *Cisco ONS 15454 DWDM Troubleshooting Guide*
  Provides a list of alarms and troubleshooting procedures, general troubleshooting information, and hardware replacement procedures.
- *Cisco ONS SONET TL1 Command Guide and Cisco ONS SDH TL1 Command Guide*
  Provides a comprehensive list of TL1 commands.

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, submitting a service request, and gathering additional information, see the monthly *What's New in Cisco Product Documentation,* which also lists all new and revised Cisco technical documentation, at:

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

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

This document is to be used in conjunction with the documents listed in the "Related Documentation" section.