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

This Release Notes document contains information about new features and enhancements for the Cisco ONS 15454, Cisco ONS 15454 M2, and Cisco ONS 15454 M6 DWDM platforms. For the latest version of the Release Notes for Cisco ONS 15454, visit this URL:

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

For detailed information regarding features, capabilities, hardware, and software introduced with this release, see the guides listed in the section, Additional References, on page 7.

Cisco also provides Bug Toolkit, a web resource for tracking defects. To access Bug Toolkit, visit this URL: http://tools.cisco.com/Support/BugToolKit/action.do?hdnAction=searchBugs.

This chapter includes these topics:

Revision History

Date	Notes
July 2013	This is the first release of this publication.

Software and Hardware Requirements

Before you begin to install the Cisco ONS 15454 Software, you must check whether your system meets the minimum software and hardware requirements.

- 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.
- One of these Operating Systems:
  - Windows 2000 Professional, Windows XP Professional, Windows Vista, or Windows 7, Windows Server 2003 and 2008.
  - Apple Mac OS X, CTC must be installed using the CacheInstaller available at the Cisco Software Download page or the Cisco ONS CD.
  - 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.
  - Ubuntu 12.10

  Use the latest patch or service pack released by the OS vendor.
- Java Runtime Environment—JRE 1.7.
- Browser:
  - For PC—Internet Explorer 6.x, 7.x, 8.x, 9.x (R9.6 and later releases), 10 (R9.4.0.3, R9.6.0.3 and later releases), Mozilla Firefox 22 and Google Chrome 27
  - For UNIX Workstation—Mozilla 1.7
  - For MacOS-X PC—Safari

New Features and Functionality for Release 9.8

This section highlights new features and functionality for Release 9.8. For detailed documentation of each of these features, consult the user documentation.

Common Hardware

These hardware units have been introduced in Release 9.8:

Wire Speed Encryption Card

The Wire Speed Encryption (WSE) card is an optical line card that provides encryption capability, at the optical layer, to the Cisco ONS 15454 M2 and Cisco ONS 15454 M6 platforms. The card provides confidentiality and integrity of data sent over a fiber optic communication channel through next generation cryptography. The card also provides integrated transponder functionality.

The WSE card supports these key features:

- Security Features—These security features are supported on the card:
  - Secure Boot—This feature does a boot verification in hardware. It ensures that only authentic Cisco software boots up on the Cisco platform and provides tamper-and-cloning resistance.
  - Digital Image Signing—After the secure boot, the Digital Image Signing feature ensures the software that runs on Cisco devices is authentic. This maintains the integrity of the image that is loaded on the WSE card.
  - Key Exchange—Key exchange between authenticated peer cards happens over the GCC channel that is secured using Transport Layer Security (TLS). The Elliptic Curve Diffie Hellman Ephemeral (ECDHE) algorithm is used for key exchange.
  - Confidentiality of Data—The WSE card protects against cipher-text manipulation and cut-and-paste attacks. The card uses payload authentication to detect accidental corruption and unauthorized modifications of data.
  - Role Based Access Control—Access control is enforced to ensure that there is separation in managing the transport (provisioning) and the security features. A user can perform only certain operations depending on the role assigned.
- Card Authentication—The Secure Unique Device Identification (SUDI) certificate that is formatted as an X.509 certificate conforms to the IEEE 802.1 AR standard. It is signed using Cisco's Root Certificate Authority. This certificate carries a unique identifier used to authenticate that the peer card is a WSE card before the data is exchanged. Information cannot be exchanged with a card that is not authenticated.
- High Speed GCCs—The WSE card support the provisioning of GCC channel on OTN (OTU2/OTU2e) enabled client and trunk ports. A maximum of ten GCC channels on Cisco ONS 15454 M2 or Cisco ONS 15454 M6 shelf can be created. The bandwidth of GCCs is 1.2 Mbps.
- OCH-trail Protection—Provides protection for the DWDM signals through external optical switch units (Protection Switch Module [PSM]).
- Licensing—A licensed version of the card provides a cost-effective solution for customers who do not need to encrypt data on all the five streams. The licensed WSE card provides single stream encryption as a base functionality and the remaining streams (ports) can be used as unencrypted transponders. A pay as you grow software upgrade license needs to be purchased for each additional encrypted stream. For more information on licensing, see the Cisco ONS 15454 DWDM Licensing Configuration Guide.

For more information about the WSE card, see the Provision Transponder and Muxponder Cards chapter in the *Cisco ONS 15454 DWDM Configuration Guide, Release 9.8*.

Pluggable Port Modules Support

The Pluggable Port Modules (PPMs) supported on the WSE card are:

- ONS-SC+-10G-EP30.3= through ONS-SC+-10G-EP61.8=
- ONS-SC+-10G-30.3= through ONS-SC+-10G-61.8=
- ONS-SC+-10G-C=
- ONS-SC+-10G-ZR=
- ONS-SC+-10G-ER=
- ONS-SC+-10G-LR=

- ONS-SC+-10G-SR=

For more information about the Pluggable Port Modules support, see the Installing the GBIC, SFP, SFP+, and XFP Optical Modules in Cisco ONS Platforms document.

AC Power Module

The ONS 15454 M6 system can be powered by redundant AC power lines. The supported AC power modules on the ONS 15454 M6 shelf are 15454-M6-AC and 15454-M6-AC2. For the 15454-M6-AC2 power module, the power consumption of the ONS-15454-M6 shelf (including ancillaries, controller cards, and line cards) is limited to1200 W. If the power consumption of the shelf exceeds 1200 W, a new line card will not boot up when it is installed in the ONS-15454-M6 shelf. This is indicated by the PWR-CON-LMT alarm that is raised in CTC.

For more information about AC power module, see the Installing the ONS 15454 M6 Shelf chapter in the *Cisco ONS 15454 Hardware Installation Guide*.

New Software Features and Functionality

These new software features have been introduced in Release 9.8:

100G-LC-C, 10x10G-LC, and CFP-LC Cards

The software enhancements for 100G-LC-C, 10x10G-LC, and CFP-LC cards include:

- Support for Y-cable protection on the 10x10G-LC card configured in the TXP-10G or MXP-10G card mode for 10GE, 8G FC, 10G FC, OTU2, and OC192 (STM-64) payloads.
- Support for monitoring the temperature of the 100G-LC-C, 10x10G-LC, and CFP-LC cards using the OnBoard Failure Logging (OBFL) functionality.
- Support for calculation of the PRE FEC BER parameters for the OTU2 and OTU2e payloads on the 10x10G-LC card configured in the TXP-10G, RGN-10G, fanout-10x10G, or low latency mode.
- Support for calculation of the PRE FEC BER parameters for the OTU4 payload on the 100G-LC-C card configured in these card modes and card combinations:
  - CFP-TXP or CFP-MXP card mode in a 10x10G-LC and CFP-LC card combination
  - MXP-10x10G card mode in a 100G-LC-C and 10x10G-LC card combination
  - RGN-100G card mode in a 100G-LC-C and 100G-LC-C card combination

For more information about the 100G-LC-C, 10x10G-LC, and CFP-LC cards, see the Provision Transponder and Muxponder Cards chapter in the *Cisco ONS 15454 DWDM Configuration Guide, Release 9.8*.

Transaction Language 1 (TL1)

This section contains a list of new commands, command syntax changes, and command response changes that have been introduced in Release 9.8. For detailed information on TL1, see the Cisco ONS TL1 Command Guide.

New TL1 Commands

No new TL1 commands are added.

Command Syntax Changes

The syntax of these commands has changed:

- APPLY
- COPY-RFILE
- ED-NE-GEN
- ENT-FTPSERVER

Command Response Changes

The command responses of these commands have changed:

- RTRV-CMD-SECU
- RTRV-DFLT-SECU
- RTRV-USER-SECU

Limitations of USB Synchronization with TNC or TSC Cards

USB synchronization with TNC or TSC cards fails when the USB has the 9.8 package in either its active or protect volume and when the TNC or TSC card is inserted as a standalone card in the chassis.

Scenario 1: The USB has the 9.8 package in its active volume and any other package in its protect volume The TNC or TSC card having a package earlier than version 9.8, is loaded on the Cisco ONS 15454 M2 or Cisco ONS 15454 M6 chassis as a standalone card. The USB acts as the master and pushes the 9.8 package from its active volume on the TNC or TSC card. Despite several attempts, the package copy operation fails.

Scenario 2: The USB has any package earlier than version 9.8 in its active volume and the 9.8 package in its protect volume. The TNC or TSC card having a package earlier than version 9.8, is loaded on the ONS 15454 M2 or ONS 15454 M6 chassis as a standalone card. The USB acts as the master and pushes the package from its active volume on the TNC or TSC card. The card copies the package and resets. When the card boots up after reset, the USB pushes the 9.8 package from its protect volume on the TNC or TSC card. Despite several attempts, the package copy operation fails.

Workarounds:

- For release 9.3 and later releases, use TNC-E or TSC-E cards.
- For scenario 1, ensure that the TNC or TSC card has version 9.8 as the active package.
- For scenario 2, ensure that the protect and the active volumes of USB are the same.

Using the Bug ToolKit to Search Bugs

In Cisco ONS 15454 Software Release 9.0 and later releases, 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.

Procedure

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 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 these search criteria:

- Select Product Category—Select **Optical Networking**.
- Select Products—Select **Cisco ONS 15400 Series**.
- Software Version—Select **Version** > **9.8** > **Search**. This lists the outstanding and resolved bugs in Cisco ONS 15454 Software R9.8.
- 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 this 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, uncheck 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 9.8, select **New**.
    - Select **Fixed** to view fixed bugs. To filter fixed bugs, uncheck 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, uncheck 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—Check 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 to filter bugs based on the date that 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 3 Click **Search**. The Bug Toolkit displays the list of bugs based on the specified search criteria.

Export to Spreadsheet

The Bug ToolKit provides these options to export bugs to a spreadsheet:

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

Additional References

Related Documents

Use this document in conjunction with the other release-specific documentation listed in this table:

Link	Description
Cisco ONS Documentation Roadmap	Provides quick access to publications of Cisco ONS releases.
Cisco ONS 15454 DWDM Configuration Guide	Provides background and reference material, procedures for installation, turn up, provisioning, and maintenance of Cisco ONS 15454, Cisco ONS 15454 M2, and Cisco ONS 15454 M6 dense wavelength division multiplexing (DWDM) systems.
Cisco ONS 15454 DWDM Troubleshooting Guide	Provides general troubleshooting instructions, alarm troubleshooting instructions, and a list of error messages that apply to the Cisco ONS 15454, Cisco ONS 15454 M2, and Cisco ONS 15454 M6 dense wavelength division multiplexing (DWDM) systems.
Release Notes for Cisco ONS 15454, ONS 15454 M2, and ONS 15454 M6 DWDM	Provides information about new features and enhancements for the Cisco ONS 15454, Cisco ONS 15454 M2, and Cisco ONS 15454 M6 DWDM platforms.
Cisco ONS 15454 Hardware Installation Guide	Provides installation information of the Cisco ONS 15454 (ANSI and ETSI), ONS 15454 M2, and ONS 15454 M6 hardware.
Cisco ONS 15454 DWDM Licensing Configuration Guide	Provides information about installing and managing Cisco ONS 15454 DWDM licenses.
Cisco ONS TL1 Command Guide	Provides a comprehensive list of TL1 commands.

Link	Description
Installing the GBIC, SFP, SFP+, and XFP Optical Modules in Cisco ONS Platforms	Provides information about the Pluggable Port Modules support.

Technical Assistance

Link	Description
http://www.cisco.com/support	The Cisco Support website provides extensive online resources, including documentation and tools for troubleshooting and resolving technical issues with Cisco products and technologies. To receive security and technical information about your products, you can subscribe to various services, such as the Product Alert Tool (accessed from Field Notices), the Cisco Technical Services Newsletter, and Really Simple Syndication (RSS) Feeds. Access to most tools on the Cisco Support website requires a Cisco.com user ID and password.