



Release Notes for Cisco ONS 15454, ONS 15454 M2, and ONS 15454 M6 DWDM, Release 9.2.1

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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 9.2.1” version of the *Cisco ONS 15454 Procedure Guide*, *Cisco ONS 15454 Reference Manual*, *Cisco ONS 15454 Troubleshooting Guide*, *Cisco ONS 15454 SDH TLI Command Guide* and *Cisco ONS 15454 SONET TLI Command Guide*. For the latest version of the Release Notes for Cisco ONS 15454 Release 9.2.1, 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:

<https://bst.cisco.com/bugsearch>

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Important Package Information

In Release 9.2.1, the ONS 15454 package is split into two separate packages as follows:

- 15454 TDM—This package includes the Cisco ONS 15454 SONET and SDH Multiservice Provisioning Platform (MSPP)
- 15454 DWDM—This package includes the Cisco ONS 15454, Cisco ONS 15454 M2, and Cisco ONS 15454 M6 Multiservice Transport Platform (MSTP)


Note

Hybrid nodes are not supported in Releases 9.2 and later.

Software and Hardware Requirements

Before you begin to install Cisco ONS 15454 Software Release 9.2.1, 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 9.2.1.

- 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—JRE 1.7.
- Supported Browser for PC—Internet Explorer 6.x, 7.x, 8.x. For UNIX Workstation—Mozilla 1.7. For MacOS-X PC—Safari

Changes to the Release Notes

This section documents supplemental changes that have been added to the *Cisco ONS 15454, ONS 15454 M2, and ONS 15454 M6 DWDM, Release 9.2.1* since the production of the Cisco ONS 15454 System Software CD for Release 9.2.1.

The following is updated in the release notes for Release 9.2.1:

- Updated the section [New Features and Functionality, page 4](#).

Using the Bug Toolkit

In Cisco ONS 15454 Software Release 9.2.1 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.

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- Step 1** Go to <https://bst.cisco.com/bugsearch>
- Step 2** You will be prompted to log into Cisco.com. After successful login, the Bug Toolkit page opens.
- Step 3** Click **Launch Bug Toolkit**.
- Step 4** 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 **9.21**, **9.211**, or **9.213** to view the list of outstanding and resolved bugs in Cisco ONS 15454 Software Release 9.2.1.
- 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 9.2.1, 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 5 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).

New Features and Functionality

The latest version of Release 9.2.1 software addresses the following critical fixes:

- High CPU utilization when tOptSfpPm task is executed.
- Trunk port of the MXP_MR_10DME card not reporting LOS alarm when OTN is disabled.
- Traffic is not resuming after a hard reset of MXP_MR_10DME card or after power cycle of the node.
- Memory leak issues when the following TL1 commands are executed:
 - RST-STS
 - RMV-STS
 - ED-STS
 - RTRV-PROTNSW-STS::all
 - RTRV-PROTNSW-STS::all
 - RTRV-COND-STS
 - OPR-LPBK-STS
 - ENT-BITS
 - RTRV-BITS
 - ENT-SYNCN
 - OPR-SYNCN
 - RLS-SYNCN
 - RTRV-SYNCN
 - RTRV-ALM-SYNCN
 - DLT-FFP-OCN
 - ED-FFP-OCN
 - ENT-FFP-OCN
 - ENT-CRS-STS

- ED-CRS-STS
 - DLT-CRS-STS
 - RTRV-FFP-OC48
 - RTRV-PM-T1
 - RTRV-PM-STS1
 - RTRV-PM-VT1
 - RTRV-PM-T3
 - RTRV-PM-OC48
 - RTRV-T1
 - RTRV-EC1
 - RTRV-T3
 - RTRV-VT1
 - RTRV-COND-BITS
 - RTRV-COND-ALL
- Controller cards resetting when the tNetConf task is executed.
 - Memory corruption caused by HW-LCAS circuits created when POS ports are administratively down on the ML cards.

The following sections highlight new features and functionality for Release 9.2.1. For detailed documentation of each of these features, consult the user documentation.

Common Hardware

Cisco ONS 15454 Software Release 9.2.1 supports the following new hardware:

- [40E-MXP-C and 40ME-MXP-C Cards, page 5](#)
- [40E-TXP-C and 40ME-TXP-C Cards, page 6](#)
- [SFPs and XFPs, page 6](#)

40E-MXP-C and 40ME-MXP-C Cards

The 40E-MXP-C and 40ME-MXP-C cards aggregate a mix of client service inputs (GigabitEthernet, Fibre Channel, OTU2, OTU2e, and OC192) into one 40.0 Gbps OTU3/OTU3e signal on the trunk side. The 40E-MXP-C and 40ME-MXP-C cards support aggregation of the following signal types:

With overclock enabled on trunk port:

- 10-Gigabit Fibre Channel
- OTU2e

With overclock disabled on trunk port:

- 8-Gigabit Fibre Channel
- 10-GigabitEthernet LAN-Phy (GFP framing)
- 10-GigabitEthernet LAN-Phy (WIS framing)
- OC-192/STM-64

- OTU2

You can install and provision the 40G-MXP-C, 40E-MXP-C, and 40ME-MXP-C cards in a linear configuration in:

- Slots 1 to 5 and 12 to 16 in ONS 15454 DWDM chassis
- Slot 2 in ONS 15454 M2 chassis
- Slots 2 to 6 in ONS 15454 M6 chassis

40E-TXP-C and 40ME-TXP-C Cards

The 40E-TXP-C and 40ME-TXP-C cards process one 40-Gbps signal (client side) into one 40-Gbps, 50-GHz DWDM signal (trunk side). It provides one 40-Gbps port per card that can be provisioned for an STM-256/OC-768 very short reach (1550-nm) signal compliant with ITU-T G.707, ITU-T G.691, and Telcordia GR-253-CORE, 40G Ethernet LAN signal compliant with IEEE 802.3ba, or OTU3 signal compliant with ITU-T G.709.

The 40E-TXP-C and 40ME-TXP-C cards trunk port is tunable between 1529.55 nm through 1561.83 nm, ITU 50-GHz range.

You can install 40E-TXP-C and 40ME-TXP-C cards in Slots 1 to 5 and 12 to 16 in ONS 15454 DWDM chassis, Slot 2 in ONS 15454 M2 chassis, and Slots 2 to 6 in ONS 15454 M6 chassis and provision this card in a linear configuration.

SFPs and XFPs

ONS-XC-10G-EP30.3= through ONS-XC-10G-EP61.4= supported on OC192/STM64 Any Reach, 40G-MXP-C, 40E-MXP-C, 40ME-MXP-C, ADM-10G, 10GE_XP, 10GE_XPE, GE_XP, GE_XPE, and OTU2-XP cards. For more information, please refer to *Cisco ONS 15454 DWDM Reference Manual*, Release 9.2.1.

New Software Features and Functionality

The following new software features are added in Release 9.2.1:

- [Automatic Node Setup \(ANS\) for port in In-Service state](#), page 6
- [GE_XPE and 10GE_XPE Card Enhancements](#), page 7
- [Line Amplifier Configuration Using OPT-RAMP-C or OPT-RAMP-CE cards without Post Amplifier](#), page 7
- [Multishelf Enhancements](#), page 7
- [OTU2_XP Card Enhancements](#), page 7
- [Transaction Language 1 \(TL1\)](#), page 7
- [Wavelength Drifted Channel Automatic Shutdown](#), page 8

Automatic Node Setup (ANS) for port in In-Service state

Automatic Node Setup (ANS) parameters can be modified when the port is in In-Service (IS) state. When the port is in IS, you can create and edit optic thresholds, edit power setpoints, edit VOA attenuation setpoints, and edit the ANS parameters related to the amplifier card ports.

GE_XPE and 10GE_XPE Card Enhancements

The following software enhancements are implemented on the GE_XPE and 10GE_XPE cards in release 9.2.1:

- FAPS Switching on CRC Errors—FAPS occurs when the CRC error rate on the trunk port exceeds the threshold value for a configured number of times, continuously.
- QinQ translate operation—For the QinQ translate operation, the traffic egress two VLAN tags:
 - The inner tag is the ingress VLAN tag (CE-VLAN ID on ingress).
 - The outer tag is the egress VLAN tag (CE-VLAN ID on egress).

Two VLAN tags for egress traffic are supported for the first 384 entries (VLAN translate entries).

- REP and FAPS Configuration on the Same Port—You can configure REP and FAPS on the same port.

Line Amplifier Configuration Using OPT-RAMP-C or OPT-RAMP-CE cards without Post Amplifier

In Software Release 9.2.1, a new line amplifier configuration with OPT-RAMP-C or OPT-RAMP-CE cards is supported. In this configuration, post amplification of the optical signal is not required. This configuration is applicable when non-linear fiber is used or the span length is 13 to 22 dB.

Multishelf Enhancements

The ONS 15454 M6 multishelf node and the ONS 15454 M6 subtending shelves can be connected with simplex controllers. You can connect up to a maximum of 3 shelves in the multishelf configuration. The ONS 15454 M6 multishelf node and the ONS 15454 M6 subtending shelves can be connected in a ring topology. You can connect up to a maximum of 9 SSCs in the ring topology.

OTU2_XP Card Enhancements

- The OTU2_XP card supports Y-cable protection on client ports when provisioned in the Transponder or Standard Regen card configuration mode.
- The OTU2_XP card supports provisioning Squelch in Standard Regen card configuration mode.

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

No new TL1 commands are added in Release 9.2.1.

Command Syntax Changes

The syntax of the following commands have changed:

- ED-EQPT
- ED-L2-ETH

- ENT-EQPT

Command Response Changes

The following TL1 command responses have changed:

- RTRV-EQPT
- RTRV-L2-ETH

Wavelength Drifted Channel Automatic Shutdown

The wavelength drifted channel automatic shutdown feature detects wavelength instability or wavelength drift on the source port of the card connected to an MSTP multiplexer. The channel photodiode or optical channel monitor (OCM) associated with a variable optical attenuator (VOA) is used to detect the power fluctuation.

When the card exceeds the OPT-PWR-DEG-LOW threshold value 16 times in 24 hours, the WVL-DRIFT-CHAN-OFF alarm is raised. When the WVL-DRIFT-CHAN-OFF alarm is raised, the VOA associated to that port is moved to the automatic VOA shutdown (AVS) state, which shuts down the channel. From Release 9.2.1 onwards, you can enable or disable the wavelength drifted channel automatic shutdown feature for 40-SMR1-C, 40-SMR2-C, 80-WXC-C, 40-WXC-C, and 40-WSS-C cards.

Related Documentation

Release-Specific Documents

Use the Release Notes for Release Notes for Cisco ONS 15454, ONS 15454 M2, and ONS 15454 M6 DWDM, Release 9.2.1 in conjunction with the following referenced Release 9.2.1 publications:

- Release Notes for Cisco ONS 15310-MA, Release 9.2.1
- Release Notes for Cisco ONS 15310-MA SDH, Release 9.2.1
- Release Notes for Cisco ONS 15454 SONET and SDH, Release 9.2.1
- Release Notes for Cisco ONS 15600, Release 9.2.1
- Release Notes for Cisco ONS 15600 SDH, Release 9.2.1
- Upgrading the Cisco ONS 15454 to Release 9.2.1
- Upgrading the Cisco ONS 15454 SDH to Release 9.2.1

Platform-Specific Documents

- *Cisco ONS 15454 DWDM Procedure Guide*
Provides installation, turn up, test, and maintenance procedures.
- *Cisco ONS 15454 DWDM Reference Manual*
Provides technical 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.
- *Cisco ONS 15454 and Cisco ONS 15454 SDH Ethernet Card Software Feature and Configuration Guide*
Provides technical reference and configuration information for Ethernet cards.

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.

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