Release Notes for Cisco ONS 15454, ONS 15454 M2, and ONS 15454 M6 DWDM, Release 9.40

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Release notes contain 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 R9.40, visit the following 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 *Cisco ONS 15454 DWDM Configuration Guide, Release 9.40*.

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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Revision History

Date	Notes
January 2013	Added the section Critical Bug Fixes in Release 9.4.0.3, page 2.
August 2012	Added the section Critical Bug Fixes in Release 9.4.0.2, page 3.
May 2012	• Added the section Critical Bug Fixes in Release 9.4.0.1, page 3. • Added the section 15454-M-RAMAN-COP and 15454-M-RAMAN-CTP Cards Support, page 5
November 2011	This is the first release of this publication.

Software and Hardware Requirements

Before you begin to install Cisco ONS 15454 Software Release 9.40, 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 9.40.

- 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.
  - Apple Mac OS X, CTC must be installed using the CacheInstaller available in 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.

  Use the latest patch or Service Pack released by the OS vendor.
- Supported Java Runtime Environment—Cisco ONS 15454 Software Release 9.40 requires that you install Java Runtime Environment Version 1.6.
- Supported Browser:
  - For PC—Internet Explorer 6.x, 7.x, 8.x, 10 for 9.4.0.3
  - For UNIX Workstation—Mozilla 1.7
  - For MacOS-X PC—Safari

Critical Bug Fixes in Release 9.4.0.3

Release 9.4.0.3 software addresses the following critical fixes:

- Incorrect attempt to create an OCH client connection (OCHCC) circuit on a utilized Optical Data Unit (ODU) and Time Slot (TS) on AR_XP and AR_MXP cards results in an invalid circuit creation and database corruption. This leads to control card reboot after the control card switch-over, software upgrade, or database restore.

- Inserting a non-licensed card after removing the licensed card, and switch-over of the control card causes reset of the control card and loss of active database.
- Creating Y-cable protection on any set of cards may cause the previously deleted splitter protection configuration to reappear on the AR_MXP or AR_XP cards.
- Deleting and reprovisioning of a subtended shelf that has AR-XP cards causes node controller reboot.
- Provisioning timing reference on the OC-768 port of the 40G-TXP cards causes node controller reset.
- The presence of splitter protection group on low numbered ports and creation of Y-cable protection on high numbered ports on AR_MXP and AR_XP cards causes TNC reboot that results in line card reboot.
- Automatic power calculation (APC) operation on WXC cards causes memory leak.
- Executing the **snmp-walk** command on the node results in TNC card reboot.
- The SNMP query on the Open Shortest Path First (OSPF) MIB is not functional.
- When enhanced FEC is configured on the trunk port of the 40G MXP card and overclock is in the ON state, traffic drops for approximately 1.5 seconds during the software upgrade from R9.2.x or R9.3.x to a later release.
- The subtending shelf controller (SSC) resets when L2 1+1 protection group is configured across shelves in MSM.
- During the software upgrade, the GE-XP, GE_XPE, 10GE-XP, or 10GE-XPE card with L2 1+1 protection group may reset and the pluggable laser may turn off.

Critical Bug Fixes in Release 9.4.0.2

Release 9.4.0.2 software addresses the following critical fixes:

- MAC flush does not happen on Resilient Ethernet Protocol (REP) segment restoration on the GE_XP, GE_XPE, 10GE_XP, and 10GE_XPE cards when MAC learning is enabled on the REP ports and VLAN load balancing (VLB) is enabled with VLB preempt delay is greater than zero.
- A traffic hit of 5 seconds occurs when there is an unidirectional failure on the RX side of the REP edge port while the other REP edge port is in alternate state on the GE_XP, GE_XPE, 10GE_XP, and 10GE_XPE cards.
- Fan tray and LCD inventory details are missing from the Inventory tab in CTC node view (single-shelf mode) or shelf view (multishelf mode) after the software is upgraded from an earlier release to R9.2.0.3, R9.2.1.1, or R9.4.0.
- The Edit Circuits window does not open when editing protected SVLAN circuits in some of the configurations on the GE_XP, GE_XPE, 10GE_XP, and 10GE_XPE cards.
- In a large network, the CTC or CTM tool is slow due to frequent OSPF topology updates.

Critical Bug Fixes in Release 9.4.0.1

Release 9.4.0.1 software addresses the following critical fixes:

- Traffic goes down for more than 50 ms when Y-cable switch is performed on AR-XP and AR-MXP cards only with licensed PIDs.

- OCH trail circuit cannot be created between Cisco CRS-1 router and ONS 15454 or ONS 15454 M6 nodes with PSM line protection.
- OCHCC circuit creation issue on colocated nodes.
- Traffic goes down when ISC3-STP 1G and ISC3-STP 2G payloads are configured on AR-XP and AR-MXP cards in TXP-MR-LOW operational mode.
- The RAMAN-CTP and RAMAN-COP cards do not boot up if the span loss exceeds 67 dB.
- ESMC-FAIL alarm is raised on SyncE port when GE port is deleted on the AR-XP card.
- EQPT-FAIL alarm is raised when the AR-MXP and AR-XP cards are inserted into card slots of the Cisco ONS 15454, Cisco ONS 15454 M2, or Cisco ONS 15454 M6 chassis.
- The OSPF Hello packets always have 24 bit subnet mask after upgrading the software to R9.40.
- The BKUPMEMP alarm is raised on TSC or TNC card due to CRC failure.
- Cisco CRS-1 routers are not discovered in CTC after configuring Link Management Protocol (LMP).
- Active and standby TNC cards provisioned in a multishelf node automatically resetting every 100 days.
- LAN subnet route not propagating to DCC nodes after TCC card is reset.

New Features and Functionality

The following sections highlight new features and functionality for R9.40. For detailed documentation of each of these features, consult the user documentation.

Common Hardware

AR-MXP and AR-XP Cards

The AR_MXP (Any-Rate Muxponder) and AR_XP (Any-Rate Xponder) cards provide a high degree of flexibility to the multiservice aggregation transport systems. The cards offer a variety of signals and interfaces for enterprise, metropolitan-area (metro), and regional service-provider networks. Multiple rates and aggregation over a dense wavelength-division multiplexing (DWDM) interface is provided using OTN technology resulting in huge operational savings.

The AR_MXP and AR_XP cards are supported on the Cisco ONS 15454, ONS 15454 M2, and ONS 15454 M6 platforms.

A single AR_MXP and AR_XP card can be configured to function in multiple operating modes. The cards are equipped with pluggables for client and trunk port options, and offer several configurations. The criteria used to select a particular operational mode is defined by the network level design. The Cisco Transport Planner helps by choosing the appropriate operational mode.

The AR_MXP and AR_XP card features include:

- Low and high trunk rates
- Auto-sensing
- Dynamic port configuration (N:1 mapping) with on-the-fly client port addition and removal
- I.4 and I.7 EFEC (G.975 Clauses) support

- High-speed GCC (400K OTU1 and 1.2M OTU2) support
- 8G FC transponder
- SyncE and OTN timing
- Video muxponder (native 3G-SDI, HD-SDI, and SD-SDI)
- Multiple card modes
- Licensing models and types

The AR_MXP card supports bandwidth of up to 10 Gbps, and the AR_XP card up to 20 Gbps. Both these cards aggregate a mix of client SAN services (FICON, ESCON, ISC3-STP, and Fiber Channel), Ethernet (GE, FE), OCn (OC3/STM-1, OC12/STM-4, and OC48/STM-16), OTU1, and video (SD-SDI, HD-SDI, and 3G-SDI) into one 10.0 Gbps signal on the trunk side.

For more information on AR-MXP and AR-XP cards, see the "Provision Transponder and Muxponder Cards" chapter in the *Cisco ONS 15454 DWDM Configuration Guide, Release 9.40*.

SFPs

SFPs supported in the Cisco ONS cards in R9.40 are as follows:

- ONS-SC-OSC-18.0= SFP is supported in the ONS TNC (Transport Node Controller) card.
- ONS-SC-HD3GV-TX= and ONS-SC-HD3GV-RX= SFPs are supported in the AR-MXP and AR-XP cards.
- ONS-SC-2G-37.4=, ONS-SC-2G-45.3=, and ONS-SC-2G-53.3= SFPs are supported in the MXP_2.5G_10E, MXP_2.5G_10E_L, MXP_2.5G_10E_C, TXP_MR_2.5G, TXPP_MR_2.5G, ADM-10G, GE_XP, GE_XPE, AR-MXP, and AR-XP cards.

For more information, see the Installing the GBIC, SFP, SFP+, XFP, CXP, and CFP Optical Modules in Cisco ONS Platforms document.

New Software Features and Functionality

The following new software features are added in R9.40:

- 15454-M-RAMAN-COP and 15454-M-RAMAN-CTP Cards Support
- Cisco ONS 15454 DWDM Software Packages
- GMPLS Optical Control Plane
- Licensing
- IPoDWDM Enhancement
- Perspective View
- Transaction Language 1 (TL1)

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

The 15454-M-RAMAN-COP and 15454-M-RAMAN-CTP cards are supported on Cisco ONS 15454 M2 and Cisco ONS 15454 M6, Release 9.4.01 and later releases only. These cards do not operate on systems running earlier versions.

After installing Release 9.4.01 software, reinstall the 15454-M-RAMAN-COP and 15454-M-RAMAN-CTP cards.

Cisco ONS 15454 DWDM Software Packages

The Cisco ONS 15454 DWDM R9.40 software is shipped in four separate packages:

- Cisco ONS 15454 DWDM full package with WSON (15454DWDM-w*.pkg for ANSI and 15454DWDMSDH-w*.pkg for ETSI) containing all the controller and DWDM card installs.
- Cisco ONS 15454 DWDM lite package with WSON (15454DWDMLite-w*.pkg for ANSI and 15454DWDMLiteSDH-w*.pkg for ETSI) containing all DWDM cards and some controller card installs. TNC, TNCE, TSC, and TSCE controller card installs are not included.
- Cisco ONS 15454 DWDM full package (15454DWDM*.pkg for ANSI and 15454DWDMSDH*.pkg for ETSI) containing all the controller and DWDM card installs.
- Cisco ONS 15454 DWDM lite package (15454DWDMLite*.pkg for ANSI and 15454DWDMLiteSDH*.pkg for ETSI) containing all DWDM cards and some controller card installs. TNC, TNCE, TSC, and TSCE controller card installs are not included.

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

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 9.40* or *Upgrading the Cisco ONS 15454 SDH to Release 9.40* documents.

GMPLS Optical Control Plane

The Generalized Multiprotocol Label Switching (GMPLS) based control plane is used to provision optical channels on the ONS 15454 DWDM platforms. The GMPLS optical plane performs the following functions:

- Identifies the network topology and the available network resources.
- Calculates the optical path using routing protocols, such as OSPF-TE and RSVP-TE.
- Validates and provisions the OCH circuits taking into account the optical impairments.
- Reroutes wavelengths to restore traffic on an alternate path.

The optical validation of the OCH circuits before provisioning ensures transmission of client traffic on the network. Bandwidth, network protection, traffic engineering, and optimal utilization of network resources are taken into consideration during path computation and provisioning.

The GMPLS control plane is supported on the Cisco ONS 15454, Cisco ONS 15454 M6, and Cisco ONS 15454 M2 platforms. This feature is available in the Cisco ONS 15454 DWDM full and lite packages with WSON. For more information, see the Cisco ONS 15454 DWDM Software Packages, page 6 section.

For more information on GMPLS Optical Control Plane, see the "Node Reference" and "Create Optical Channel Circuits and Provisionable Patchcords" chapters in the *Cisco ONS 15454 DWDM Configuration Guide, Release 9.40*.

Licensing

A license is a permit for specific features or ports to be functional on a device. The licensing feature implements the "pay as you grow" model to enable hardware and software upgrades, on a need basis, by using a license key. CTC helps in deploying licenses to the Cisco devices on the network, discovering the devices, and managing and viewing the inventory of licenses.

In R9.40, licenses are currently deployed on the following cards:

- 80-WXC-C
- 40-SMR1-C
- 40-SMR2-C
- AR-MXP
- AR-XP

License Models

The license models are classified as:

- Count-based licenses—Used to activate a certain number of ports or wavelengths on the card.
- Feature-based licenses—Used to activate some features on the card.

License Types

The licenses are of the following types:

- Permanent license—Provides required permissions to access licensed ports and provision licensed features on the device. This license must be procured from the Cisco Product License Registration portal.
- Evaluation license—Provides preinstalled licenses on the device and are used to evaluate a feature set on new hardware for a period of 60 days.
- Temporary license—Provides licenses for emergency use and are active for a limited period.

New or upgraded Cisco devices should have a product authorization key (PAK) to obtain licenses from Cisco Systems, Inc.

For more information on installing and managing licenses, see the *Cisco ONS 15454 DWDM Licensing Configuration Guide*.

IPoDWDM Enhancement

Integration with Cisco 7600 Routers

In R9.40, Cisco ONS 15454 DWDM nodes can be integrated with a Cisco 7600 router. This feature provides end-to-end circuit provisioning from one Cisco 7600 router to another Cisco 7600 router passing through an MSTP network without using GMPLS. CTC can be used to create an OCH trail circuit that includes Cisco 7600 nodes.

For more information on integrating a Cisco ONS 15454 DWDM node with a Cisco 7600 router, see the "*Management Network Connectivity*" chapter in the *Cisco ONS 15454 DWDM Configuration Guide, Release 9.40*.

Perspective View

The Perspective View feature enables customization of CTC tabs in the network, shelf, and card view. This helps in comparing different panes in CTC.

For more information on creating and deleting a perspective view, see the "NTP-G323 Create or Delete Perspective" procedure in the *Connect the PC and Log into the GUI* document.

For CTC menu and toolbar options related to perspective view and new frames, see the "CTC Menu and Toolbar Options" section in the *CTC Operation, Information, and Shortcuts* document.

Transaction Language 1 (TL1)

This section contains a list of new commands, command syntax changes, and Command response changes. For detailed information, please see the *Cisco ONS SONET TL1 Command Guide, Release 9.40* and *Cisco ONS SDH TL1 Command Guide, Release 9.40*.

New Commands

The following TL1 commands are added in R9.40:

Table 1 R9.40—New TL1 Commands

DLT-3GVIDEO	DLT-AUTO	DLT-CPS
DLT-FFP-3GVIDEO	DLT-FFP-HDSDI	DLT-FFP-ISC3STP1G
DLT-FFP-ISC3STP2G	DLT-FFP-OTU1	DLT-FFP-SDSDI
DLT-HDSDI	DLT-ISC3STP1G	DLT-ISC3STP2G
DLT-OPMODE	DLT-OTU1	DLT-RMONTH-HDSDI
DLT-RMONTH-ISC3STP1G	DLT-RMONTH-ISC3STP2G	DLT-RMONTH-OTU1
DLT-RMONTH-OTU2	DLT-RMONTH-SDSDI	DLT-SDSDI
ED-3GVIDEO	ED-AUTO	ED-CPS
ED-FFP-3GVIDEO	ED-FFP-HDSDI	ED-FFP-ISC3STP1G
ED-FFP-ISC3STP2G	ED-FFP-OTU1	ED-FFP-SDSDI
ED-HDSDI	ED-ISC3STP1G	ED-ISC3STP2G
ED-OPMODE	ED-OTU1	ED-SDSDI
ED-TRC-OTU1	ENT-3GVIDEO	ENT-AUTO
ENT-CPS	ENT-FFP-3GVIDEO	ENT-FFP-HDSDI
ENT-FFP-ISC3STP1G	ENT-FFP-ISC3STP2G	ENT-FFP-OTU1
ENT-FFP-SDSDI	ENT-HDSDI	ENT-ISC3STP1G
ENT-ISC3STP2G	ENT-OPMODE	ENT-OTU1
ENT-RMONTH-HDSDI	ENT-RMONTH-ISC3STP1G	ENT-RMONTH-ISC3STP2G
ENT-RMONTH-OTU1	ENT-RMONTH-OTU2	ENT-RMONTH-SDSDI
ENT-SDSDI	INIT-REG-3GVIDEO	INIT-REG-HDSDI
INIT-REG-ISC3STP1G	INIT-REG-ISC3STP2G	INIT-REG-OTU1
INIT-REG-SDSDI	OPR-CPS	OPR-LPBK-ISC3STP1G
OPR-LPBK-ISC3STP2G	OPR-LPBK-OTU1	OPR-PROTNSW-3GVIDEO

Table 1 R9.40—New TL1 Commands

OPR-PROTNSW-HDSDI	OPR-PROTNSW-ISC3STP1G	OPR-PROTNSW-ISC3STP2G
OPR-PROTNSW-OTU1	OPR-PROTNSW-SDSDI	RLS-CPS
RLS-LPBK-HDSDI	RLS-LPBK-ISC3STP1G	RLS-LPBK-ISC3STP2G
RLS-LPBK-OTU1	RLS-LPBK-SDSDI	RLS-PROTNSW-3GVIDEO
RLS-PROTNSW-HDSDI	RLS-PROTNSW-ISC3STP1G	RLS-PROTNSW-ISC3STP2G
RLS-PROTNSW-OTU1	RLS-PROTNSW-SDSDI	RMV-3GVIDEO
RMV-HDSDI	RMV-ISC3STP1G	RMV-ISC3STP2G
RMV-OTU1	RMV-SDSDI	RST-3GVIDEO
RST-HDSDI	RST-ISC3STP1G	RST-ISC3STP2G
RST-OTU1	RST-SDSDI	RTRV-3GVIDEO
RTRV-ALM-3GVIDEO	RTRV-ALM-HDSDI	RTRV-ALM-ISC3STP1G
RTRV-ALM-ISC3STP2G	RTRV-ALM-OTU1	RTRV-ALM-SDSDI
RTRV-ALMTH-3GVIDEO	RTRV-ALMTH-HDSDI	RTRV-ALMTH-ISC3STP1G
RTRV-ALMTH-ISC3STP2G	RTRV-ALMTH-OTU1	RTRV-ALMTH-SDSDI
RTRV-AUTO	RTRV-COND-3GVIDEO	RTRV-COND-HDSDI
RTRV-COND-ISC3STP1G	RTRV-COND-ISC3STP2G	RTRV-COND-OTU1
RTRV-COND-SDSDI	RTRV-CPS	RTRV-FFP-3GVIDEO
RTRV-FFP-HDSDI	RTRV-FFP-ISC3STP1G	RTRV-FFP-ISC3STP2G
RTRV-FFP-OTU1	RTRV-FFP-SDSDI	RTRV-HDSDI
RTRV-HOP-CPS	RTRV-ISC3STP1G	RTRV-ISC3STP2G
RTRV-OPMODE	RTRV-OTU1	RTRV-PM-3GVIDEO
RTRV-PM-HDSDI	RTRV-PM-ISC3STP1G	RTRV-PM-ISC3STP2G
RTRV-PM-OTU1	RTRV-PM-SDSDI	RTRV-PMSCHED-3GVIDEO
RTRV-PMSCHED-HDSDI	RTRV-PMSCHED-ISC3STP1G	RTRV-PMSCHED-ISC3STP2G
RTRV-PMSCHED-OTU1	RTRV-PMSCHED-SDSDI	RTRV-PROTNSW-3GVIDEO
RTRV-PROTNSW-HDSDI	RTRV-PROTNSW-ISC3STP1G	RTRV-PROTNSW-ISC3STP2G
RTRV-PROTNSW-OTU1	RTRV-PROTNSW-SDSDI	RTRV-RMONTH-HDSDI
RTRV-RMONTH-ISC3STP1G	RTRV-RMONTH-ISC3STP2G	RTRV-RMONTH-OTU1
RTRV-RMONTH-OTU2	RTRV-RMONTH-SDSDI	RTRV-SDSDI
RTRV-TH-3GVIDEO	RTRV-TH-HDSDI	RTRV-TH-ISC3STP1G
RTRV-TH-ISC3STP2G	RTRV-TH-OTU1	RTRV-TH-SDSDI
RTRV-TRC-OTU1	SCHED-PMREPT-3GVIDEO	SCHED-PMREPT-HDSDI
SCHED-PMREPT-ISC3STP1G	SCHED-PMREPT-ISC3STP2G	SCHED-PMREPT-OTU1
SCHED-PMREPT-SDSDI	SET-ALMTH-3GVIDEO	SET-ALMTH-HDSDI
SET-ALMTH-ISC3STP1G	SET-ALMTH-ISC3STP2G	SET-ALMTH-OTU1
SET-ALMTH-SDSDI	SET-HOP-CPS	SET-TH-3GVIDEO

Table 1 R9.40—New TL1 Commands

SET-TH-HDSDI	SET-TH-ISC3STP1G	SET-TH-ISC3STP2G
SET-TH-OTU1	SET-TH-SDSDI	—

Command Syntax Changes

The syntax of the following commands have changed:

- CHG-EQPT
- ED-<GIGE_TYPE>
- ED-<OCN_TYPE>
- ED-FSTE
- ED-OCH
- ED-<OTU>
- ENT-EQPT
- ENT-OCHCC

Command Response Changes

The command responses of the following commands have changed:

- RTRV-FSTE
- RTRV-GIGE
- RTRV-OCHCC

Using the Bug ToolKit

In Cisco ONS 15454 Software Release 9.40, 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 procedure 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://www.cisco.com/cgi-bin/Support/Bugtool/launch_bugtool.pl.

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, in the **Search Bugs** tab enter the bug ID in the **Search for Bug ID** field and click **Go**.

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 **Version > 9.40** or **9.401** or **9.402 > Search**. This lists outstanding and resolved bugs in Cisco ONS 15454 Software R9.40.
- 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, 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 9.40, 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 the following 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).

Related Documentation

Platform-Specific Documents

Use the *Release Notes for Cisco ONS 15454, ONS 15454 M2, and ONS 15454 M6 DWDM, Release 9.40* in conjunction with the following R9.40 publications:

- *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 Configuration Guide*
  Provides installation, turn up, test, maintenance procedures, technical reference information for SONET/SDH cards, nodes, and networks.
- *Cisco ONS 15454 DWDM Licensing Configuration Guide*
  Provides information about installing and managing Cisco ONS 15454 DWDM licenses.
- *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.