Release Notes for Cisco ONS 15454, ONS 15454 M2, and ONS 15454 M6 DWDM, Release 9.2

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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" version of the *Cisco ONS 15454 Procedure Guide*, *Cisco ONS 15454 Reference Manual*, *Cisco ONS 15454 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 9.2, visit the following URL:

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

Cisco also provides Bug Search Tool, a web resource for tracking defects. To access the Tool, visit this URL:

https://bst.cisco.com/bugsearch

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Important Package Information

In Release 9.2, 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)

The following table describes the packages in Release 9.2.

Package Name	Package Type	Supported Cards
15454TDM-0920-010E-0518.pkg	15454 MSPP SONET	All MSPP cards, Transponder and Muxponder cards, GE_XP, 10GE_XP, GE_XPE, 10GE_XPE cards, and Amplifier cards on ONS 15454 ANSI shelf.
15454TDMSDH-0920-010E-0518.pkg	15454 MSPP SDH	All MSPP cards, Transponder and Muxponder cards, GE_XP, 10GE_XP, GE_XPE, 10GE_XPE cards, and Amplifier cards on ONS 15454 ETSI shelf.
15454DWDM-0920-010E-0518.pkg	15454 MSTP SONET	All MSTP cards, which includes Transponder, Muxponder, ADM-10G, GE_XP, 10GE_XP, GE_XPE, 10GE_XPE cards, ROADM cards, on ONS 15454, ONS 15454 M2, and ONS 15454 M6 ANSI shelf.
15454DWDMSDH-0920-010E-0518.pkg	15454 MSTP SDH	All MSTP cards, which includes Transponder, Muxponder, ADM-10G, GE_XP, 10GE_XP, GE_XPE, 10GE_XPE cards, ROADM cards, on ONS 15454, ONS 15454 M2, and ONS 15454 M6 ETSI shelf.

Note Hybrid nodes are not supported in Release 9.2.

Software and Hardware Requirements

Before you begin to install Cisco ONS 15454 Software Release 9.2, 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.

- 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 9.2 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

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* since the production of the Cisco ONS 15454 System Software CD for Release 9.2.

Using the Bug ToolKit

In Cisco ONS 15454 Software Release 9.2 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 https://bst.cisco.com/bugsearch.

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 **9.20** to view the list of outstanding and resolved bugs in Cisco ONS 15454 Software Release 9.2.
- 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, 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).

New Features and Functionality

This section highlights new features and functionality for Release 9.2. For detailed documentation of each of these features, consult the user documentation.

Common Hardware

Cisco ONS 15454 Software Release 9.2 supports the following new hardware:

- Cisco ONS 15454 M6 Shelf Assembly, page 5
- Cisco ONS 15454 M2 Shelf Assembly, page 5

Cisco ONS 15454 M6 Shelf Assembly

The ONS 15454 M6 shelf assembly has 8 horizontal card slots numbered 1 to 8 that provide 10 to 40-Gbs interconnections. Slot 2 to Slot 7 house MSTP cards and Slot 1 and Slot 8, the timing and control cards (TNC or TSC cards). The ONS 15454 M6 system can be powered by redundant AC or DC power modules. A single power module (AC or DC) can be used to power up the entire ONS 15454 M6 system. The ONS 15454 M6 system contains backup flash memory that supports the database (DB) and image backup. The ONS 15454 M6 shelf assembly can be mounted on an ANSI or an ETSI rack using the mounting brackets or air deflectors. The air deflectors orient the air flow in a specific direction. The fiber or cable guide used in the ONS 15454 M6 shelf assembly provides improved fiber management. A single ONS 15454 M6 shelf assembly supports both ANSI and ETSI standards.

Cisco ONS 15454 M2 Shelf Assembly

The ONS 15454 M2 shelf assembly has 3 horizontal card slots numbered 1 to 3. Slot 2 to Slot 3 house MSTP cards that provide 10 to 40-Gbs interconnections and Slot 1, the timing and control card (TNC or TSC cards). The ONS 15454 M2 system can be powered by AC or DC power module. The ONS 15454 M2 system contains backup flash memory that supports the database (DB) and image backup. The ONS 15454 M2 shelf assembly can be mounted on an ANSI or an ETSI rack using the mounting brackets or air deflectors. The air deflectors orient the air flow in a specific direction. The ONS 15454 M2 shelf assembly can also be wall-mounted or desktop-mounted. A single ONS 15454 M2 shelf assembly supports both ANSI and ETSI standards.

80-WXC-C Card

The double-slot 80-channel Wavelength Cross-Connect C-band (80-WXC-C) card manages up to 80 ITU-T 100-GHz-spaced channels. Each channel can be selected from any input port to any output port. The card is optically passive and provides bidirectional capability. It can be installed in Slots 1 to 6 and 12 to 17.

The 80-WXC-C card provides the following functionalities:

- When used in the multiplexer or bidirectional mode, the 80-WXC-C card allows selection of a single wavelength or any combination of wavelengths from any of the nine input ports to the common output port.
- When used in the bidirectional mode, the output wavelength from the COM-RX port is split to manage the express and drop wavelengths.
- When used in the demultiplexer mode, the 80-WXC-C card, allows selection of a single wavelength or a combination of wavelengths from the common input port to any of the nine output ports.

The 80-WXC-C card can be used along with the 15216-MD-40-ODD and 15216-MD-40-EVEN (ONS 15216 40-channel mux or demux patch panel) in terminal, or ROADM nodes. The cards can be used in ring networks, linear networks, or mesh networks.

40G-MXP-C Card

The 40G-MXP-C card aggregates 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 40G-MXP-C card supports 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 40G-MXP-C card in Slots 1 to 5 and 12 to 16. The 40G-MXP-C card client port interoperates with all the existing TXP/MXP (OTU2 trunk) cards.

TNC

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

The TNC 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 TNC card can be provisioned in slots 1 and 8 and in ONS 15454 M2, the card can be provisioned in slot 1. The TNC 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 TNC 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 TNC and TSC cards in the same shelf.
- Downgrade procedures from TNC to TSC cards are not supported.

TSC

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

The TSC 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 TSC cards in slots 1 and 8. On the ONS 15454 M2 shelf, install the stand-alone TSC card in slot 1. The TSC 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 TSC 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.

TCC3

The Timing Communications Control Three (TCC3) card is an enhanced version of the TCC2P card. The primary enhancements include the increase in memory size and compact flash space.

The TCC3 card performs system initialization, provisioning, alarm reporting, maintenance, diagnostics, IP address detection/resolution, SONET SOH DCC/GCC termination, and system fault detection for the ONS 15454. The TCC3 also ensures that the system maintains Stratum 3 (Telcordia GR-253-CORE) timing requirements. It monitors the supply voltage of the system.

The TCC3 card supports multi-shelf management. The TCC3 card acts as a shelf controller and node controller for the ONS 15454. The TCC3 card supports up to 30 subtended shelves. In a multi-shelf configuration, the TCC3 card allows the 15454 node to be a node controller if an M6 shelf is subtended to it. It is strongly recommended to use TCC3 as a node controller when the number of subtended shelves exceeds 12.

SFPs and XFPs

The following table provides information on SFPs and XFPs:

SFP or XFP	Card name
ONS-XC-8G-SM	40G-MXP-C
ONS-SC-OSC-ULH	TNC
ONS-SE-155-xxxx	TNC

SFP or XFP	Card name
ONS-XC-10G-1470 to 1610	• 40G-MXP-C • ADM-10G • GE-XP • GE-XPE • 10GE-XP • 10GE_XPE • OTU2-XP
ONS-XC-10G-S1	40G-MXP-C
ONS-XC-10G-I2	40G-MXP-C
ONS-XC-10G-L2	40G-MXP-C
ONS-XC-10G-SR-MM	40G-MXP-C
ONS-XC-10G-C	40G-MXP-C
ONS-SI-2G-L1	MXP_2.5G_10G, MXP_2.5G_10E, MXP_2.5G_10E_C, MXP_2.5G_10E_L, and MXP_2.5G_10EX_C
ONS-SC-Z3-1470 to 1610	TNC
ONS-SC-E3-T3-PW	GE-XPE, CE-MR-10, CE-MR-6, ML-MR-10
ONS-SC-E1-T1-PW	GE-XPE, CE-MR-10, CE-MR-6, ML-MR-10
ONS-SC-EoP1	GE-XPE, CE-MR-10, CE-MR-6, ML-MR-10
ONS-SC-EOP3	GE-XPE, CE-MR-10, CE-MR-6, ML-MR-10

For more information, please refer to *Cisco ONS 15454 DWDM Reference Manual , Release 9.2*.

New Software Features and Functionality

The following new software features are added in Release 9.2:

Proactive Protection Regen

The Proactive Protection Regen feature triggers a Fast Reroute (FRR) restoration in the L3 layer to switch the traffic to a backup path before the FEC limit is reached. This results in a hitless switchover before the traffic is interrupted. This feature is supported on the OTU2_XP card ports when the card is used as a regenerator in Standard regen or Enhanced FEC mode. Proactive protection can also be configured during OCH trail circuit creation between two Cisco CRS-1 routers.

GE_XP, 10GE_XP, GE_XPE, and 10GE_XPE Card Enhancements

The following software enhancements are implemented on the GE_XP, 10GE_XP, GE_XPE, and 10GE_XPE cards in release 9.2:

- Link Aggregation Control Protocol (LACP) – Bundles several physical ports together to form a single logical channel.
- Resilient Ethernet Protocol (REP) – Controls network loops, handles link failures, and improves convergence time.
- Ethernet Connectivity Fault Management (CFM) – Facilitates proactive connectivity monitoring, fault verification, and fault isolation.
- Ethernet Operations, Administration, and Maintenance (Ethernet OAM) – Facilitates link monitoring, remote failure indication, and remote loopback.
- Storm control – Limits the number of packets passing through a port. You can define the maximum number of packets allowed per second for the following types of traffic: Broadcast, Multicast, and Unicast.
- Customer VLANs (CVLANs) rate limit – Applies Ingress rate limiting on CVLANs.
- Differentiated Services Code Point (DSCP) to class of service (CoS) mapping – Configures the CoS of the outer VLAN based on the incoming DSCP bits.
- Internet Group Management Protocol (IGMP) snooping on CVLAN – Configures IGMP snooping per CVLAN.
- PCLI support – Allows you to perform LACP, REP, CFM, and Ethernet OAM operations through PCLI.

ADM-10G Card Enhancement

The ADM-10G card operates on ONS 15454 SONET, ONS 15454 SDH, ONS 15454 M2, ONS 15454 M6, and DWDM networks to carry optical and Gigabit Ethernet signals over DWDM wavelengths for transport. The ADM-10G card supports the following features in Release 9.2:

- ADM-10G POS Encapsulation, Framing, and CRC
  The ADM-10G card supports Cisco EoS LEX (LEX) and generic framing procedure framing (GFP-F) encapsulation on 8 POS ports corresponding to 8 GigE ports (Port 1 to Port 8) in both single-card and double-card (ADM-10G peer group) configuration.

  You can provision framing on the ADM-10G card as GFP-F or LEX framing. With GFP-F framing, you can configure a 32-bit cyclic redundancy check (CRC) or none. LEX framing supports 16-bit or 32-bit CRC configuration.
- ADM-10G CCAT and VCAT Characteristics
  The ADM-10G card supports high-order (HO) contiguous concatenation (CCAT) and HO virtual concatenation (VCAT) circuits on 8 GigE ports (Port 1 to Port 8) in both single-card and double-card (ADM-10G peer group) configuration.

- Intermediate Path Performance Monitoring
  Intermediate path performance monitoring (IPPM) allows a node to monitor the constituent channel of an incoming transmission signal. You can enable IPPM for STS/VC-4s payload on OCn and Trunk ports of ADM-10G card. The IPPM is complaint with GR253/G.826.

Onboard Failure Logging

(ONS 15454 DWDM, ONS 15454 M6, and ONS 15454 M2 only) Onboard Failure Logging (OBFL) records events that occur during the card operation. In the event of a card failure, the event log assists in determining the root cause of failure.

The OBFL feature is supported on the following cards:

- 40G-MXP-C (from R9.2)
- 40G-TXP-C (from R9.2)
- 80-WXC-C (from R9.2)
- OPT-BST
- OPT-PRE
- 40-SMR1-C
- 40-SMR2-C

Wavelength Drifted Channel Automatic Shutdown

The wavelength drifted channel automatic shutdown feature detects wavelength instability or wavelength drift in a TXP Trunk-TX port 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.

The detection mechanism leverages on the repeated crossing of the embedded OPT-PWR-DEG-LOW threshold value associated to the port. When the card exceeds the OPT-PWR-DEG-LOW threshold value 16th time in 24 hours, the WL-DRIFT-CHAN-OFF alarm is raised.

Digital Image Signing (DIS)

(Cisco ONS 15454 M2 and ONS 15454 M6 only)

The DIS feature increases security and complies with new U.S. Government Federal Information Processing Standard (FIPS) 140-3 for all software provided on the Cisco ONS 15454 M6 and ONS 15454 M2 platforms. This standard requires software to be digitally signed and verified for authenticity and integrity prior to load and execution.

DIS feature automatically provides increased protection. DIS focuses on software security and provides increased protection from attacks and threats to Cisco ONS 15454 M2 and ONS 15454 M6 products. DIS verifies software integrity and provides assurance that the software has not been tampered with or modified. Digitally signed Cisco software provides counterfeit protection.

New controller cards, such as TNC/TSC, provide services that authenticate the origin of the software running on the Cisco ONS 15454 M2 and Cisco ONS 15454 M6 platforms. The signage and verification process is transparent until verification fails.

Raman Enhancements

The following enhancements have been made to the OPT-RAMP-C and OPT-RAMP-CE cards in Cisco ONS 15454 Software Release 9.2:

- Node layouts support SMR (40-SMR1-C and 40-SMR-2C) cards and Raman (OPT-RAMP-C and OPT-RAMP-CE) cards.
- The Raman installation wizard is enhanced to support probe signals connected to the 40-SMR1-C and 40-SMR-2C ADD-RX ports.

Multishelf Enhancements

The maximum number of shelves that can be aggregated under a single IP address is extended upto 30 shelves. It is recommended the use TCC3 or TNC cards in the node controller if the number of subtended shelves exceed 12 shelves.

Transaction Language 1 (TL1)

This section Contains list of new commands, 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:

CLR-CCDB-CFM	CLR-MEPSTATS-CFM	DLT-CHGRP
DLT-MA-CFM	DLT-MD-CFM	DLT-MDMAMAP-CFM
DLT-MEP-CFM	DLT-MIP-CFM	DLT-NNI-CHGRP
DLT-QNQ-CHGRP	DLT-REP	DLT-RMONTH-CHGRP
DLT-RMONTH-HDLC	ED-CFM	ED-CHGRP
ED-DSCP-CHGRP	ED-EFM	ED-LM-EFM
ED-MA-CFM	ED-MIP-CFM	ED-QNQ-CHGRP
ED-REP	ED-STCN-REP	ED-TRC-OTU2
ED-TRC-OTU3	ED-VLB-REP	ENT-CHGRP
ENT-MA-CFM	ENT-MD-CFM	ENT-MDMAMAP-CFM
ENT-MEP-CFM	ENT-MIP-CFM	ENT-NNI-CHGRP
ENT-QNQ-CHGRP	ENT-REP	ENT-RMONTH-CHGRP
ENT-RMONTH-GFP	ENT-RMONTH-HDLC	EX-SW-OC768
INIT-REG-CHGRP	INIT-REG-HDLC	OPR-LPBK-EFM
OPR-VLB-REP	RLS-LPBK-EFM	RTRV-ALM-CHGRP
RTRV-ALM-HDLC	RTRV-ALM-MSISC	RTRV-CFM
RTRV-CHGRP	RTRV-COND-CHGRP	RTRV-COND-HDLC
RTRV-COND-MSISC	RTRV-DSCP-CHGRP	RTRV-EFM

RTRV-L2-TOPO	RTRV-LM-EFM	RTRV-MA-CFM
RTRV-MD-CFM	RTRV-MDMAMAP-CFM	RTRV-MEPCCDB-CFM
RTRV-MEP-CFM	RTRV-MEPSTATS-CFM	RTRV-MIPCCDB-CFM
RTRV-MIP-CFM	RTRV-NE-IMGSIGN	RTRV-NE-KEYINFO
RTRV-NNI-CHGRP	RTRV-PM-CHGRP	RTRV-PM-HDLC
RTRV-PMSCHED-CHGRP	RTRV-PMSCHED-HDLC	RTRV-QNQ-CHGRP
RTRV-REP	RTRV-RMONTH-CHGRP	RTRV-RMONTH-GFP
RTRV-RMONTH-HDLC	RTRV-SRVTYPE	RTRV-TRC-OTU2
RTRV-TRC-OTU3	SCHED-PMREPT-CHGRP	SCHED-PMREPT-HDLC
SET-SRVTYPE	—	—

Command Syntax Changes

The syntax of the following commands have changed:

- ED-<GIGE_TYPE>
- ED-ALS
- ED-BITS
- ED-DSCP-ETH (Cisco ONS 15454 SONET only)
- ED-EQPT (Cisco ONS 15454 SONET only)
- ED-FSTE
- ED-L2-ETH
- ED-MCAST
- ED-<OCN_TYPE> (Cisco ONS 15454 SONET only)
- ED-OCH
- ED-OTU2
- ED-OTU3 (Cisco ONS 15454 SONET only)
- ED-TRC-OCH
- ED-VLAN-ETH
- ENT-EQPT
- OPR-WDMANS
- RTRV-DSCP-ETH (Cisco ONS 15454 SONET only)
- RTRV-VLAN-ETH

Command Response Changes

The following TL1 command responses have changed:

- RTRV-ALM-BITS
- RTRV-ALM-UCP (Cisco ONS 15454 SONET only)
- RTRV-ALS

- RTRV-BLSR (Cisco ONS 15454 SONET only)
- RTRV-EQPT
- RTRV-FSTE
- RTRV-GIGE
- RTRV-L2-ETH
- RTRV-MCAST
- RTRV-NE-WDMANS
- RTRV-OCH
- RTRV-VLAN-ETH
- RTRV-WDMANS

Related Documentation

Release-Specific Documents

- Release Notes for the Cisco ONS 15310-MA, Release 9.2
- Release Notes for the Cisco ONS 15310-MA SDH, Release 9.2
- Release Notes for Cisco ONS 15454 SONET and SDH, Release 9.2
- Cisco ONS 15454 Software Upgrade Guide, Release 9.2

Platform-Specific Documents

- *Cisco ONS 15454 Procedure Guide*
  Provides installation, turn up, test, and maintenance procedures
- *Cisco ONS 15454 Reference Manual*
  Provides technical reference information for SONET/SDH cards, nodes, and networks
- *Cisco ONS 15454 Troubleshooting Guide*
  Provides a list of SONET/SDH 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

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