Release Notes for Cisco ONS 15454 Release 8.5

Release notes address closed (maintenance) issues, caveats, and new features for the Cisco ONS 15454 SONET multiplexer. For detailed information regarding features, capabilities, hardware, and software introduced with this release, refer to the "Release 8.5" version of the Cisco ONS 15454 DWDM Installation and Operations Guide; and the "Release 8.5" version of the *Cisco ONS 15454 Procedure Guide*; *Cisco ONS 15454 Reference Manual*; *Cisco ONS 15454 Troubleshooting Guide*; and *Cisco ONS 15454 SONET TL1 Command Guide*. For the most current version of the Release Notes for Cisco ONS 15454 Release 8.5, 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

Contents

Changes to the Release Notes

This section documents supplemental changes that have been added to the *Release Notes for Cisco ONS 15454 Release 8.5* since the production of the Cisco ONS 15454 System Software CD for Release 8.5.

Caveats

Review the notes listed below before deploying the Cisco ONS 15454. Caveats with tracking numbers are known system limitations that are scheduled to be addressed in a subsequent release. Caveats without tracking numbers are provided to point out procedural or situational considerations when deploying the product.

Alarms

CSCsl84329

The CTNEQPT-PBWORK/PROT alarm is raised instead of the SWMTXMOD-WORK/PROT alarm against the XC slot. This condition occurs when the logic component internal to the Working/Stdby (Slot8/10) cross-connect encounters OOF. Currently, there is no workaround to this issue. This issue will be resolved in Release 8.5.1.

CSCsj26750

Whenthe card type in CTC is changed from DS1_14 to DS1_E1_56 with DS1-14 physical card in the slot, the LED in DS1_14 card will show Act(Green) LED, instead of Fail(RED) LED. This issue will be resolved in a future release.

BLSR Functionality

CSCdv53427

In a two ring, two fiber BLSR configuration (or a two ring BLSR configuration with one two fiber and one four fiber ring) it is possible to provision a circuit that begins on one ring, crosses to a second ring, and returns to the original ring. Such a circuit can have protection vulnerabilities if one of the common nodes is isolated, or if a ring is segmented in such a way that two non-contiguous segments of the circuit on the same ring are each broken.

DWDM

CSCsg10008

Y-cable protection switch time is higher than 50 ms in XP-GE and XP-10GE cards under to the following conditions:

- RX fibers is extracted from client pluggable port module (PPM)
- the Trunk PPM status is OOS,DSBLD
- LOS (both LOS-P and SIGLOSS) when extracting the RX fiber on Trunk PPM port
- User command, *e.g.*, FORCE, is issued

There is no workaround for this issue.

CSCsg22669

There is a traffic hit of greater than 50ms but less than 60 ms on MXP-2.5G-10E in Y-cable configuration when a fiber cut occurs. This issue will be resolved in a future release.

CSCsf04299

When triggering the switch of optimized 1+1 protection and the failure is cleared, the WTR condition is raised, but once the WTR time expires the switch back of protection is not triggered. A workaround is to manually force back the protection. This issue will be resolved in a future release.

CSCse97200

On ADM-10G, attempts to preprovision local and express orderwire circuits on trunk port are not successful. E1/E2 orderwire is not supported. This issue will be resolved in a future release.

CSCei19148

When a port is placed in-service while the conditions necessary to squelch the port are present, as in when the trunk port on a DWDM card is OOS,DSBLD and a client port is placed in-service, the client will momentarily enable, emitting light, before squelching due to the trunk OOS,DSBLD condition. The pulse is approximately 500 ms. This issue will not be resolved.

CSCei87554

When using a 1GE payload over the TXP-MR-2.5G the IfInErrors counter does not report oversized, undersized, or CRC errored frames, but rather, reports frame coding only. This issue will not be resolved.

CSCsb47323

For MXP-MR-10DME-C and MXP-MR-10DME-L cards, an unexpected RFI condition might be raised along with an OTUk-BDI. When there is an LOS downstream, the node receives OTUk-BDI. Because of the placement of dual OTN and SONET wrappers, it can also receive an RFI. This issue will not be resolved.

CSCsb94736

After a fault condition (trunk LOS or Y-cable switch) an MXP_MR_10DME card might fail to detect the login message and traffic might not start for some minutes (after multiple login trials). This can occur in an N-F configuration with MDS switch and MXP_MR_10DME distance extension on, where test

equipment traffic is set to 2G Fibre channel (FC) full bandwidth occupancy and started. Stop traffic or keep bandwidth occupancy below 80% during the login phase to work around this issue. This issue will not be resolved.

CSCsc36494

Manual Y-cable switches with squelching turned off in the MXP-MR-10G card can cause a fibre channel link with Brocade switches to go down. SIGLOSS and GFP-CSF alarms are seen on the CTC. Cisco recommends you provision squelching to be on when interworking with brocade switches. If for some reason, squelching must be off with brocade switches, Cisco recommends you use a FORCE command to perform Y-cable switches. It is not known when or if this issue will be resolved.

CSCsc60472

CTC is not able to discover a TL1 OCHCC circuit provisioned over an ITU-T line card (ITU-T OC48/STM16 and ITU-T OC192/STM64). This issue can occur when, using the TL1 client interface, you create the OCHNC layer that will be used by the OCHCC circuit, then create the OCHCC connections that involve the ITU-T line cards. The result is an OCHNC and two OCHCC partial circuits, instead of an OCHNC and a single OCHCC complete circuit. This issue will not be resolved.

CSCee45443

The FICON bridge in the MXP-MR-2.5G card transitions to SERV MODE when FICON bridge does not receive the expected number of idle frames between the data packets. Workaround is not to use MXP-MR-2.5G card with FICON bridge. This issue will not be resolved.

Hardware

CSCei36415

When retrieving GBIC inventory for the FC_MR-4, nothing is returned for the CLEI code. In a future release, enhanced inventory information will be available for ONS GBICs. This will include the CLEI code. This issue will be resolved in a future release.

CSCdu82934

When you auto-route a VT circuit on an ONS 15454 node, a path is computed based on the availability of STSs on the nodes involved. This selection process, when combined with a lack of VT matrix (or STS-VT connections) on an auto-route selected node, can result in the VT circuit creation failing with the message "unable to create connection object at node." To correct this situation, manually route VT circuits in cases when auto-routing fails. The error message will indicate which node is at issue.

CSCeb36749

In a Y-Cable configuration, if you remove the client standby RX fiber; a non-service affecting LOS is raised, as expected. However, if you then remove the trunk active RX fiber; a non-service affecting LOS-P is raised, but the previously non-service affecting LOS on the client port is now escalated to a service affecting alarm, in spite of no traffic having been affected. This issue will not be resolved.

CSCsk48116

The traffic on CE-MR card is dropped when a loopback is applied on any member of the LCAS circuit. Applying loopback potentially affects other members of the LCAS circuit as the differential delay threshold changes. This change in differential delay causes other members in the LCAS circuit to exceed the differential delay threshold raising the VCG-LOA alarm. The workaround is to assign OOS,OOG state for any member of LCAS circuit before applying loopback.

Maintenance and Administration

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Caution VxWorks is intended for qualified Cisco personnel only. Customer use of VxWorks is not recommended, nor is it supported by Cisco's Technical Assistance Center. Inappropriate use of VxWorks commands can have a negative and service affecting impact on your network. Please consult the troubleshooting guide for your release and platform for appropriate troubleshooting procedures. To exit without logging in, enter a Control-D (hold down the Control and D keys at the same time) at the Username prompt. To exit after logging in, type "logout" at the VxWorks shell prompt.

Note CTC does not support adding/creating more than 5 circuits in auto-ranged provisioning. This is as designed.

Note In releases prior to 4.6 you could independently set proxy server gateway settings; however, with Release 4.6.x and forward, this is no longer the case. To retain the integrity of existing network configurations, settings made in a pre-4.6 release are not changed on an upgrade to Release 7.x. Current settings are displayed in CTC (whether they were inherited from an upgrade, or they were set using the current GUI).

CSCsh02230

If IOS CLI is used to configure Timezone and DST rule configuration then the output shown in the show running config command and show clock detail differ from what was configured. To avoid this issue it is recommended to use CTC provisioning tab to configure clock related provisioning. This issue will be resolved in a future release.

CSCse38590

In the RPR topology, one station reports a "remote WTR" on a space, even though the neighboring station is not advertising WTR. This issue is observed after many XC pulls/switches, deleting and recreating circuits, and replacing cross connects completely. This issue does not appear to have any real impact to traffic, but can potentially complicate troubleshooting. This problem was seen after multiple XC-pulls, XC-side-switches, circuit-deletions and circuit-creations. The workaround is to configure a forced-switch on both ends of the problem span, and then remove the forced-switch from both ends.

CSCsd44081

A series of crashes and reboots may occur when a policy-map includes approximately 200 class-map entries and policers. This error appears to occur when the card is boots up, the FPGA process is attempting to download the new FPGA, the policy-map has at least 200 class-map entries, and traffic has been punted to the host. These conditions may trigger a provisioning-message timeout on the ML card that can lead to a crash. Since the system boots up in the same state, a continuous series of crashed and reboots may occur. A workaround is to remove the circuits and wait until the node boots up with the latest FPGA image before reconfiguring the circuits.

CSCse23518

The RPR SPAN-MISMATCH alarm is not reported correctly in some situations. After creating and deleting an East-to-East RPR circuit through TL-1 x-connects and creating a West-to-West RPR circuit through the TL-1 x-connects script, both within less than on second of the other, the RPR-SPAN-MISMATCH alarm is seen only on one side of the circuit and not on the other side. This problem does not occur when the operations are made manually. This alarm indicates mis-cabling or cross-connects created between two East spans or two West spans. A workaround is to ensure more than one second between the deletion of one circuit and creation of the another.

CSCse53133

RTRV-COND-STS does not display path alarms on BLSR protect path. When BLSR is switched onto protection and the protect paths have conditions on them, the TL1 retrieval command does not show those conditions on protection paths.

CSCsb88234

When a card is provisioned and a filler card is plugged in, a DBCHG with ENT-EQPT is sent, but when a filler card is plugged in without a prior provision there is no plug-in message. Similarly, there is no message upon removal of the filler card. The workaround for TL1-NONE, is to issue an inventory call and the filler card appears. For CTC, the card is displayed and removed when the card is removed.

CSCsg10963

Connections remain in OOS-AU,FLT after roll is cancelled. This occurs under the following conditions:

1. Create OC48/OC192 2F-BLSR ring among three Cisco ONS 15454 SDHs.

2. Create five STS1 2F-BLSR circuits from Cisco ONS 15454 Node 1 to Cisco ONS 15454 Node 2. All connections enter IS-NR state.

3. Perform bulkroll to roll all connections from East port to West port. Roll is not complete. UNEQ-P alarms are raised for rollTo paths. Connection states change to OOS-AU,FLT.

4. Cancel roll.

UNEQ-P alarms clear and connection states remain OOS-AU,FLT.

CSCsg16500

ROLL-PEND condition is seen for VT circuits on the CTC conditions pane.

1. Create a two-node OC12 unprotected setup among two Cisco ONS 15454 SDHs.

2. Create 1 VT circuit from Cisco ONS 15454 SDH node 1, OC3 card to Cisco ONS 15454 node 2, OC12 card.

3. Give autobulkroll to circuit on the OC12 span from STS#1 to STS#4.

4. Force the valid signal using ED-BULKROLL command to "true." Bulkroll completes and no rolls are present on any of the nodes.

The ROLL-PEND condition is now visible on VT circuits in CTC, TL1.

CSCsg32263

When DBCHG messages are turned on by using the ALW-MSG-ALL command, there is no DBCHG message when creating and then deleting a proxy firewall tunnel. This issue will be resolved in a future release.

CSCse91968

The AINS-to-IS transition on BLSR 4F Protect not functioning properly. When a BLSR 4fibre ring is used, the AINS-to-IS transition is not correct when protect is active (ring switched). Sometimes the wrong protect is transitioning at the IO. If the TSC is notified incorrectly, it becomes out of sync with the IO, and becomes stuck in AINS, even when the protect switch is released. The PCA is also being incorrectly notified of an AINS-to-IS transition. This issue will be resolved in a future release.

CSCsg43777

The number of rows added is inconsistent when a non-integer value is entered in the Add Rows field for the VLAN DB profile pane. Workaround is to enter a valid integer value in the Add Rows field. This will be fixed in a future release.

CSCsg42366

Traffic outage (120 sec) occurs when field-programmable gate array (FPGA) upgrade is done with manual switch on Y-cable and client port is in out of service.

To prevent traffic outage, follow the procedure for the FPGA upgrade:

1. Configure the following:

   – Near End node, 2 MXP-MR-10DME, Working and Protect, with the Working Active and the Protect Stdby for each protection group supported on the client ports

   – Same configuration on the Far End node

   – NE Working card trunk port connected to FE Working card trunk port

   – NE Protect card trunk port connected to FE Protect card trunk port

2. Ensure traffic is running on the Working cards, for each protection group is supported by the MXP-MR-10DME cards.

3. Issue a Lockout of Protect to ensure traffic does not switch to Protect. Perform this on both NE and FE protection groups.

4. Disable client ports on the Protect cards and complete Manual FPGA upgrade. The upgrade should be hitless since traffic is accommodated on the Working facilities.

5. Once the card has completed SW reset, move back client ports to IS-NR state. Ensure no unexpected alarm/condition is present on the Protect cards.

6. Release Lockout of Protection on both ends, on every protection group. This operation is not traffic affecting. Traffic is still carried on Working facilities.

7. Issue a Force to Protect on both NE and FE protection groups so that traffic switches from Working to Protect facilities. Do this on every protection group supported by these cards. The Force to Protect switching is affecting traffic(<50ms).

8. Disable client ports on the Working cards and complete Manual FPGA upgrade. The upgrade should be hitless since traffic is accommodated on the Protect facilities.

9. Once the card has completed SW reset, move back client ports to IS-NR state. Ensure no unexpected alarm/condition is present on the Working cards.

10. Release Force to Protect on both ends, on every protection group. If the protection group is revertive, this operation will revert traffic to Working facilities. Less than 50ms hits are expected. The operation will keep traffic on Protect facilities if the protection group is non-revertive, hitless.

Optical I/O Cards

CSCei26718

On the 15454-MRC-12, when a one way VT/VC circuit on path protection over 1+1 protection is created, the alarm behavior is not the same as in two way circuit creation. In particular, for the one way circuit creation, UNEQ-V and PLM-V alarms are reported, and the circuit state remains OOS. This issue will not be resolved.

CSCin29274

When configuring the same static route over two or more interfaces, use the following command:

ip route *a-prefix a-networkmask a.b.c.d*

Where *a.b.c.d* is the address of the outgoing gateway, or, similarly, use the command:

ip route vrf *vrf-name*

Do not try to configure this type of static route using only the interface instead of the address of the outgoing gateway. This issue will not be resolved.

Path Protection Functionality

CSCee53579

Traffic hits can occur in an unprotected to path protection topology upgrade in unidirectional routing. If you create an unprotected circuit, then upgrade the unprotected circuit to a path protection circuit using Unprotected to path protection wizard, selecting unidirectional routing in the wizard, the circuit will be upgraded to a path protection circuit. However, during the conversion, traffic hits on the order of 300 ms should be expected. This issue will not be resolved.

TL1

> **Note** To be compatible with TL1 and DNS, all nodes must have valid names. Node names should contain alphanumeric characters or hyphens, but no special characters or spaces.

CSCsc41650

Using a TL1 script to rapidly preprovision/delete various cards repeatedly in the same slot will reboot the TCC approximately 1 out of 10 times. Configure a delay of about 10 sec between preprovisioning/deletion cycles and the node will not reboot. This issue will be resolved in a future release.

Resolved Caveats for Release 8.5

This section documents caveats resolved in Release 8.5.

Alarms

CSCsb95918

When the Y-cable is connected on the set of ports having GFP-LFD on the MXP_MR_2.5G or MXP_MR_10DME card running 2GFC traffic, the standby port reports the GFP-LFD as a minor alarm and the active port reports it as a major alarm. This issue is resolved in Release 8.5.

CSCsc61804

The Power Fail Alarm is not cleared by the 32-DMX when the optical card is provisioned immediately after de-provisioning. The workaround is to do a soft reset (non traffic affecting) of the optical card.

CSCsc73208

MEA alarm is not reported when a CE card is inserted in a slot provisioned for ML card. This issue is resolved in Release 8.5.

CSCsd34776

FC-PM counts the alarm twice instead of once when LOS and LOF alarms are raised in the TXP-MR-10E card. This issue is resolved in Release 8.5.

CSCsf27329

The SIGLOSS alarm is raised instead of CARLOSS alarm and SYNCLOSS alarm is raised instead of GE-OOSYNCH alarm due to failure of GE ports in ADM-10G card. This issue is resolved in Release 8.5.

CSCsg58729

The Fast Automatic Protection Switching (FAPS) alarm demotes the LOS-P alarm when the ring protection switches traffic over a XP-GE or XP-10GE ring with the ring protection enabled. Workaround is to manually demote the FAPS alarm.

CSCsg26340

The names of the alarms that have more than 20 characters have to e changed for OSMINE. This issue is resolved in Release 8.5.

CSCsi78893

Fuse alarms are not checked and correctly for the "A" side power fuse when the fuse is blown on "A" side on the Standby TCC. This issue is resolved in Release 8.5.

CSCsg74523

The GEXP/10GEXP card raises the IMPROPRMVL alarm with critical severity instead of minor when all the ports are in DSBLD state. This issue is resolved in Release 8.5.

CSCsg58419

The GE-XP card in L2 mode raises the IMPROPRMVL alarm on trunk PPM wrongly as minor instead of critical severity when the operation is traffic affecting.

CSCsh30339

PMI/FDI alarm is reported when a network element with internal patch cords is created between optical sources (TXP) OCH ports and trunk ports in IS,AINS admin state. Workaround is to set the admin state of the transponder directly to IS state or to wait for AINS state to transition to IS state.

BLSR Functionality

CSCsg58422

The traffic goes down on some of the BLSR protected circuits when the ring switch happens when the traffic in the PCA circuit flows in the other direction in the ring. Workaround is to delete the PCA circuit and recreate once the ring is restored.

CSCei67965

A VT traffic hit up to 140 ms can occur when an intermediate node of the VT circuit is isolated. For example, if you have three nodes, A, B, and C, where the circuit is routed from A to C via B, when you isolate Node B, Nodes A and C perform STS-level 100 ms squelching as a part of the VT squelching process. However, the timer resolution on the cross connect card yields 16 2/3 ms accuracy, so the 100 ms timer sometimes (about 80% of the time, depending on the number of VT circuits on a ring) expires

approximately 17 ms delayed. This causes VT traffic to be squelched for slightly more than 100 ms. Due to system limitation of timer resolution accuracy and task scheduling delay, there is no further optimization available in the current 15454 BLSR design.

CSCea59342

DS3 PCA traffic may take up to 20 sec to recover after a BLSR switch is cleared. This can occur with DS3 PCA traffic on two-Fiber or four-Fiber BLSR configuration with XCVT cards in the same nodes as the DS3 cards. This issue is resolved in Release 8.5.

Common Control and Cross Connect Cards

CSCsc88466

The controller card (TSC, TCC, CTX) reboots when the NE updates the gateway setting received from a peer node. This is due to simultaneous changes occurring in the OSPF node list and traversal of the list in different tasks. This issue is resolved in Release 8.5.

CSCsg13470

TCC of SSC does not respond uring SSC software is download. This issue is resolved in Release 8.5.

CSCdw27380

Performing cross connect card switches repeatedly might cause a signal degrade condition on the lines or paths that can trigger switching on these lines or paths. If you must perform repeated cross connect card switches, lock out the corresponding span (path protection, BLSR, or 1+1) first. This issue is resolved in Release 8.5.

CSCsj66037

Active TCC on Node Controller resets while deleting subtending shelf when the subtending shelf is deleted within 1.5 sec from the last provisioning operation. Workaround is to wait for a minimum of 2 sec from the last provisioning operation on the node before deleting the subtending shelf.

CSCsi46924

The Active TCC of the Node Controller reloads when provisioning parameter of a specific subtended shelf is changed and immediately deleted. Workaround is to wait for a minimum of 5 sec before deleting the subtended shelf.

CSCsh28872

TCC reloads and software download fails in an MS NE with an AIC-I card. Workaround is to extract AIC-I card in single shelf node.

Data I/O Cards

CSCsg82147

The CE100T-8 card does not upgrade when the shelf is operating in the VUP state. Workaround is to manually reboot the CE100T-8 card once the shelf has upgraded to the new load.

CSCsb43596

The ML-100T cards send out about 5% of the frames with a bad CRC when:

- Autonegotiation is disabled; speed set to 100, duplex to Full
- ML startup configuration is saved on TCC and the ports are enabled
- Card is rebooted

Workaround is to disconnect and reconnect the cable or to issue **shut** or **no shutdown** command for the port.

CSCse66871

The CE-100T-8 card doe not report RMON TCA when the RMON TCA threshold is crossed. This issue is resolved in Release 8.5.

CSCsc11981

Under certain circumstances, E-series cards might learn invalid MAC addresses and temporarily lose well-known/static addresses, possibly resulting in high flood rates. This issue can occur when traffic flows through an E-series card and there are no MAC addresses currently in the MAC table for that E-series card (for instance, after you have cleared the complete MAC table, or when the node is just coming up). The chipset can cause the E-series card to learn invalid addresses in this scenario under high rates of flood traffic (multicast, broadcast, unknown) or PHY interface noise. Side-effects of clearing the MAC table when traffic is flowing can cause the E-series card to lose well-known/static MAC addresses along with dynamically learned MAC addresses. This can cause high flood rates (multicast, broadcast, unknown) possibly reaching the limitation described in the following field notice:

http://www-tac.cisco.com/Support_Library/field_alerts/fn13171.html

This issue can last for a few seconds (typically less). The workaround is to avoid issuing any operation (such as the "Clear all MAC" command) that clears the complete MAC table under heavy traffic loads. To recover from this issue, wait for a few seconds to let the invalid addresses age out, and to allow the software to restore the well-known/static MAC addresses.

CSCed96068

If an ML-Series card running Software Release 4.6.2 or later is interoperating with an ML-Series card running Software Release 4.6.0 or 4.6.1, then the **pos vcat resequence disable** command must be added to the configuration of the ML-Series card running R4.6.2 or later. This issue is resolved in Release 8.5.

CSCec51252

You must issue a "**shut**" on both ends of affected POS circuits before performing a maintenance action on those circuits. If a POS circuit is restored without first issuing the shut commands, one end of the circuits could come up before the other. During that time, traffic is lost because the other end is not up yet. This issue is resolved in Release 8.5.

DWDM

CSCsg14839

The average optics PM values are greater than the correspondent maximum values on the on TXP-MR-10E-C card during the first 15 mins. This issue is resolved in Release 8.5.

CSCsg35549

The ADM-10G card unexpectedly reloads continuously and CTC freezes when OTN TTI path is set to Manual mode. This issue is resolved in Release 8.5.

CSCsg43964

The trunk port cannot be viewed in the Provisioning tab after changing card-mode when provisioning or pre-provisioning GE-XP and 10GE-XP cards. Workaround is to change the CTC view level after changing the card mode to view the trunk port.

CSCsg47006

The "NullPointerException" error is displayed when provisioning PPC link without any trunk port and with at least one client port in ADM-10G card on a DWDM node running CTC software version 8.0. Workaround is to create a missing trunk port in the ADM-10G card.

CSCsg48876

The XP-GE card, configured as 10GE MXP mode, freezes not allowing to go to card level view when the card is inserted and removed from one or more PPMs on the card's slots. The workaround is to exit and relaunch the CTC.

CSCsg55307

The XP-10GE card raises the OTUK-BDI and ODUK-BDI-PM alarms on the port when TXP is configured in L2 mode and the port is set to IS status. This issue is resolved in Release 8.5.

CSCsg60038

The reporting of first period of utilization and history PMs are delayed on the XP-GE/XP-10GE card after the card is reset or when the card is provisioned for IS state. During this delay, the counter display is blank or displays zero. This issue is resolved in Release 8.5.

CSCsg62232

The "Select Affected Circuits" function does not select the circuits affected by the selected alarm/condition when the 10GE-XP card is provisioned in L2 mode, with one OCHTRAIL connecting trunk ports. The workaround is to argue the affected circuits by looking at the Source and Destination columns of the circuits table.

CSCsg64155

After the card mode is changed from 20x1 MXP to L2 Switch in the EXP unit, the 2nd Trunk port (PPM 22) does not turn on the laser required when the trunk status is set as IS. Workaround is to reset the EXP unit software after the mode is changed.

CSCsg69235

The traffic is lost on the ADM-10G card with protected VLAN when the VLAN state is changed to unprotected. Workaround is to remove the VLAN from the database.

CSCsg72700

One OCHCC circuit between two 10GE-XP cards in MXP mode is created with two different client port numbers. Workaround is to avoid creation of such OCHCC circuits and to maintain the same source and destination client port numbers.

CSCsg76312

Bulk PM for Interlink ports in ADM-10G card is not reported when browsing HTTP PM port. This issue is resolved in Release 8.5.

CSCsg80542

The client port link on the GE-XP card does not come up when the card mode is changed from MXP to L2, and autonegotiation mode is set to 1000 in MXP mode. The following is the workaround to bring up the client port:

- set all the client port state to OOS-DSBL and change the autonegotiation value to 1000
- set all the client port state back to IS-NR
- set all the client port state to OOS-DSBL and change the autonegotiation value to autonegotiation
- set all the client port state back to IS-NR

CSCsg83475

An ADM-10G card reloads in a peer group when OC48, OC3/OC12 SFP is provisioned and SONET line thresholds are changed. This issue is resolved in Release 8.5.

CSCsg90713

The lines related to some PPC links in the network map cannot be viewed when a DWDM node running CTC version 8.0 software with many PPC links configured. Workaround is to try to login to the same network on a different node.

CSCsg90793

The client link does not come up with electrical SFP after hard reset when XP-GE card is configured in L2 or 10GE MXP mode and electrical and optical SFPs are plugged into the card and connected to a client and autonegotiation is enabled on both SFP and the client. Workaround is to provision the client port where the electrical SFP is located in OOS and provision it back to IS status.

CSCsg98027

The changed MTU field value is not updated in the XP-10GE card switch processor if the MTU value is changed by a hardware reset or when the MTU value is changed by changing card mode from L2 mode to TXP mode. Workaround is to change card mode to 10GE-TXP.

CSCsh27605

The traffic over a GE-XP ring on a Cisco ONS 15454 is not restored even after one of the valid path is restored when both working and protected paths are disconnected. Workaround is to perform a software reset of the card that has both the paths disconnected.

CSCsh46637

The GCC related to TXP becomes invalid after a new GCC is created when the database is restored on one of the three interconnected nodes (A, B, C) where two nodes (A, B) have GCC up and running. When the database is restored on one of the nodes (A) that has previously configured GCC, and a provisioning GCC between node A and C, the GCC between nodes A and B becomes invalid. Workaround is to delete and recreate the GCC channels on node A to make all the GCC channels valid.

CSCsi30623

When LOS occurs on the client side of MXP-MR-2.5G card, the Y-cable protection switch does not occur and drops the traffic. The MXP-MR-2.5G will not report GFP alarms in far end for near end defects and in case of fiber channel client, the link recovery counter will not be incremented correctly. This issue is resolved in Release 8.5.

CSCsi78695

When LOS occurs on the client side of MXP-MR-2.5G card, the Y-cable protection switch does not occur and drops the traffic. The MXP-MR-2.5G will not report GFP alarms such as client signal fail (CSF) and in case of fiber channel client, the link recovery counter will not be incremented correctly. This issue is resolved in Release 8.5.

CSCsj92657

The TXP-MR-10E card reports GEE OOSYNC, LOSSYNC, and LOF alarms on the trunk port in a when the 10GE, 10GFC, and OC192 is configured and GCC provisioned or any provisioning is done on the card without affecting port state and the client ports already is in fault. Workaround is to change the status of the far end trunk port to IS state.

CSCsi85808

The TXP-MR-10E-L card increments FC-PM and FC-SM for errors (non-failure scenarios) when far end and near end bit errors are reported on OTN instead of incrementing FC-PM for failures like LOS-P/LOF/TTIM/LOM for near end and BDI failure for far end. This issue is resolved in Release 8.5.

CSCsg96295

The protected prots in ADM-10G will not restore its Active and Standby status when the ADM-10G card and TCC software reloads and the network element is connected after the ADM-10G card and TCC software reloads. This issue is resolved in Release 8.5.

CSCsg97798

The XP-GE card configured for VLAN protection reloads unexpectedly when the trunk ports are set to IS state. This issue is resolved in Release 8.5.

CSCsh10804

Traffic outage occurs in Y-cable configuration of MXP-MR-10DME cards, if a fiber is removed from the RX client. This issue is resolved in Release 8.5.

CSCsb79548

A long traffic hit can occur when an active TCC2/TCC2P resets while an MXP-MR-10DME-C or MXP-MR-10DME-L card is rebooting. OTUk/ODUk-SD, FEC Uncorrected word alarms are raised on the trunk port. Traffic goes down and does not recover until the MXP-MR-10DME card is able to come up. This issue is resolved in Release 8.5.

CSCsc14290

LOW communication between two nodes equipped with TXP-MR-10E and AIC-I cards does not work with TXP-MR-10E cards in line termination mode, G.709 enabled, GCC present on the trunk port, and LOW circuits created between the transponders and AIC-I; Cisco recommends that you use EOW instead. This issue is resolved in Release 8.5.

Electrical I/O Cards

CSCsg49012

On the DS3XM-12 the clearing of the FEAC DS3 LOF/LOS alarm is linked to Signal Degrade alarm instead of Signal Failure alarms. This issue is resolved in Release 8.5.

CSCsg55653

The status of all or few DS1 ports automatically change to IS when a STS-1 circuit is created on DS1 ports of a DS1-14 card to optical port of same node with circuit status of IS-AINS. This issue is resolved in Release 8.5.

CSCsh21109

The DS3-12E and DS3-48 cards adds DS3 AIS for incoming LOF conditions. This issue is resolved in Release 8.5.

CSCsh21128

The DS3-48 card does not respond to FEAC DS-3 loopback commands when the DS3 port is cross connected. This issue is resolved in Release 8.5.

CSCsg22610

The DS156 card with optical span cards does not increment far end CV-V errors for BIP errors when CV-V errors are caused on one side of the bi-directional VT circuit. This issue is resolved in Release 8.5.

CSCsg25085

The DS1 port of DS3-XM-12 card changes its status automatically to IS state from OOS,MT state when loopback is applied on DS1 port. This issue is resolved in Release 8.5.

CSCsg36779

The DS1-E1-56, provisioned with timing Ref-1 in 1:N protection group, does not allow other OCn cards to be provisioned as timing Ref-2 or Ref-3. Workaround is to provision DS1-E1-56 card with timing Ref-2 or Ref-3.

CSCsc65320 and CSCin92295

In a DS3-EC1-48 1:N protection group for which a path protection circuit drops onto a 1:N protected card, if you remove the card and then reseat it the switch time might exceed 60 ms. This issue is resolved in Release 8.5.

CSCei59527

When an XC switch occurs, LOF is driven to the line side. On a DS1-14 this can cause us to see long switch times that are related to hardware issues if the "Treat LOF as a Defect" flag has been set. To avoid this issue, do not set the "Treat LOF as a Defect" flag to true on DS1-14 cards. This issue is resolved in Release 8.5.

CSCeh43011

An LOS alarm is cleared when switching to protect when the working card is on opposite side of the shelf from the protect card (in portless configuration) in a DS3XM-12 1:N protection group. An electrical port brought into IS state on the portless only card produces an LOS alarm. If you then switch to protect, the alarm appears to clear. To avoid this issue, do not bring electrical ports into IS state on a portless only card. This issue is resolved in Release 8.5.

CSCdx40300

A transient WKSWPR condition is raised upon deletion of a DS3XM 1:1 protection group. This issue is resolved in Release 8.5.

CSCec39567

Deleting a DS3I 1:N protection group may leave the protect card LED in a standby state. This can occur in a DS3I 1:N protection group with a LOCKON applied to the working card (ONS 15454 ANSI chassis only). Upon deleting the protection group, the LED on the protect DS3I card and the CTC display are still in the standby state. Soft reset the protect card to update the LED on the card and in CTC. An alternative workaround is to remove the LOCKON before deleting the protection group. This issue is resolved in Release 8.5.

Hardware

CSCeh84908

A CTC client session can disconnect from an ONS node during simultaneous deletion of large numbers of VT level circuits (3000+). Connectivity to the node will recover without any user action. If the condition persists, restart the CTC session to reconnect. This issue is resolved in Release 8.5.

CSCee96164

The Wait To Restore (WTR) alarm does not appear to be raised for as long as the WTR timer is set for. The WTR is raised correctly, but the alarm is hidden for the first 12 seconds due to the clear soaking time for a CLDRESTART alarm. You can see this behavior if you set up a 1+1 bidirectional revertive protection group, remove the working card, and then reinsert the card. This issue is resolved in Release 8.5.

CSCef28522

When you inject errors on a splitter protection card in the node's working port, CVL and ESL are incremented for the working and protect far end ports. This issue is resolved in Release 8.5.

CSCef29516

The ALS pulse recovery minimum value is 60 instead of 100. If this occurs, increase the value to 100. This issue is resolved in Release 8.5.

CSCse74522

The LAN front panel LEDs of the standby TCC were switched OFF (i.e. no lights, port disabled). Multishelf MSTP with SSC connected to the Node Controller via Catalyst 3750. This issue is resolved in Release 8.5.

CSCsg35496

When slot 17 is switched in 1:N protection for the first time, slot 16 is switched. This issue was observed in Release 7.04 and occurs only at the first-time switch. This issue is resolved in Release 8.5.

CSCsi29405

The 15454-FTA3 Fan Tray Assemblies have an electrical noise problem that might cause communications failures between the fan tray and the controller cards. Eventually this condition causes fan tray alarms, and the controller card resets. Also, the LCD might display meaningless characters and the buttons on the LCD will not function normally. Running the fan tray at high speed decreases the noise and prevents the communication failure and the card reset. The workaround is to remove one of the fans, which will cause the fans to run at full speed. This issue is resolved in Release 8.5.

CSCsi64440

A traffic outage on the MRC-12, MRC-4, or DS3XM-12 could occur under certain conditions when upgrading to Cisco ONS 15454 Release 8.0.

Software upgrade from a release prior to Release 8.0 to Release 8.0 causes:

- Multi-second outage on the DS3XM-12 card in the Main slots 1, 3, 5, 12, 14, and16 when an XC or XCVT cross-connect cards are used.
- Complete outage on the DS3XM-12 card in the Protect slots 2, 4, 6, 13, 15, and 17 when an XC or XCVT cross-connect cards are used.
- Multi-second outage on the MRC-12 card when an XC or XCVT cross-connect card are used.

The MRC-4 card is first introduced in Release 8.0, so software upgrade does not apply.

Soft reset in 8.0 causes:

- Multi-second outage on the MRC-12 card when an XC or XCVT cross-connect cards are used.
- Multi-second outage on the MRC-4 card when an XC or XCVT cross-connect cards are used.
- Multi-second outage on the DS3XM-12 card in the Main slots 1,3,5,12,14,16 when the active XC or XCVT cross-connect cards is in slot 8.

- Total outage of the DS3XM-12 card in the Main slots 1,3,5,12,14,16 when the active XC or XCVT cross-connect cards is in slot 10. A hard reset will clear the problem, but a further soft reset will cause an outage again.

- Multi-second outage on the DS3XM-12 card in Protect slots 2, 4, 6, 13, 15, and 17 when the active XC or XCVT cross-connect card is in slot 10.

- Total outage of the DS3XM-12 card in Protect slots 2, 4, 6, 13, 15, and 17 when the active XC or XCVT cross-connect card is in slot 8. A hard reset will clear the problem, but a further soft reset will again cause an outage.

This issue has been resolved.

CSCsi78715

When loss of signal (LOS) occurs on the client side of MXP-MR-2.5G card, the Y-cable protection switch does not occur and drops the traffic. The MXP-MR-2.5G will not report generic framing procedure (GFP) alarms such as client signal fail (CSF) and in case of fiber channel client, the link recovery counter will not be incremented correctly.

Workaround is to manually switch the traffic away from the client experiencing LOS. This issue is resolved in Release 8.5.

Interoperability

CSCds13769

You cannot provision the FLM-150 and OC-3 Express in 1+1 revertive switching mode. The problem occurs when the Cisco ONS 15454 issues a user request in revertive mode to the protect channel. When the user request is cleared, the ONS 15454 issues a No Request. However, the FLM-150 and OC-3 Express issues a Do Not Revert, which causes traffic to remain on the protection channel. Based on Telcordia GR-253, section 5.3.5.5, the FLM-150 and the OC-3 Express should respond with a No Request.

Maintenance and Administration

CSCsg25979

CTC allows to set thresholds for LBC, OPT and OPR PMs on STM1 Electrical SFPs on MRC-12 cards when the STM1E SFP is plugged in a MRC card. This issue is resolved in Release 8.5.

CSCsc72568

The gfpStatsRxCIDInvalid counter does not display correct value with GFP framing when there are CID errors. This issue is resolved in Release 8.5.

CSCsc87051

The Card tab and the Shelf tab on the History pane does not display LOCN/DIRN information as the history retrieval for this information on the shelf and card tabs is not delivered to the interfaces. The Session tabs for both the LOCN and DIRN display the information. This issue is resolved in Release 8.5.

CSCse29775

The Recovery Pulse Interval field in the Maintenance pane for ADM-10G card in CTC does not accept values in the 60 sec-300 sec range for the Interlink ports. This issue is resolved in Release 8.5.

CSCse77517

The VOA attenuation on the 32WSS card cannot be changed when wavelength is already provisioned with output power lower than Pdark. The workaround is to apply VOA calibration and disable and enable the optical channel.

CSCsf13319

The HO HW-LCAS circuit reports error when a member from OOS,OOG to IS on CTC is added with a delay greater than the currently active most delayed member in service in a HO HW-LCAS circuit. For HO circuits, the duration of the errors is proportional to the difference in the delay between the member added to the previously most delayed member, *i.e.*, when a member with 20 ms of delay higher than the currently in service most delayed member will cause approximately a 20 ms delay. The errors are not reported in the HW-LCAS circuit when the newly added member has a lower delay than the active most delayed member. When the members are added in service regardless of the differential delay value will cause errors. Any addition of members in service to the LO HW-LCAS circuits causes errors regardless the differential delay value.

CSCsg26117

The Condition pane in CTC displays several alarms when the pre-provisioned ports in a 10GE-XP card is in IS state. This issue is resolved in Release 8.5.

CSCsg29553

CTC hangs when the user tries to go to shelf view after changing the XP-GE card mode from 10GE to 20GE. Workaround is to exit and relaunch CTC.

CSCsg55806

The color code of GFP port on the CTC Boards pane does not change to orange from green when a GFP alarm is raised by the port provisioned for GFP management on MXP-MR-10DME or MXPP-MR-25G board. This issue is resolved in Release 8.5.

CSCsg63686

The **RTRV-OCHNC** command duplicates the rows when AID is used as LINEWL-<shelf>-<slot>-ALL or CHAN-<shelf>-<slot>-ALL. The workaround is to consider only the first row created by the RTRV-OCHNC command.

CSCsg63854

The Trust "CoS" functionality does not work, and also the "CoS" column in the Ether Provisioning pane has its value "trust" overwritten to zero. This issue is resolved in Release 8.5.

CSCsg72727

An error occurs when you try to bring up the nodes of a network element with 8 sides. Workaround is to remove a side from the network element.

CSCsg78052

Some of the circuits appear as PARTIAL or UNKNOWN in the CTC when the database is restored from the backup. This issue is resolved in Release 8.5.

CSCsg78133

Some of the SFPs with Cisco Top Assembly Number (TAN) 10-1990-01, 10-1990-02, 10-1992-01, and10-1992-02 report an inaccurate optical power value without any optical power in the receiving port with LOS.

CSCsg80226

Retrieve Span Loss values are not updated in the node view when WDM Span Check pane is selected or **retrieve span loss values** command is issued and if side and OSC terminations are added. Workaround is to click on Refresh button or to select a different pane and then re-select the WDM Span Check pane to refresh the Retrieve Span Loss values or exit and relaunch CTC to display a new line of values in the WDM Span Check pane for the new side added.

CSCsg98056

The jumbo frame on GE-XP and 10GE-XP cards is not managed correctly when sending fixed packet size (>7 kb) on all interfaces of the card in full load traffic condition. This issue is resolved in Release 8.5.

CSCsh46644

The network elements connected with ADM-10G cards are not displayed in the CTC network map when the network scope is set as TDM type. This issue is resolved in Release 8.5.

CSCsi90888

CTC does not display the node view for multishelf network element when a disconnected subtended shelf with at least one equipment is deleted. Workaround is to reconnect, delete, and then disconnect the subtended shelf.

CSCef41867

Topology upgrade using the auto-routing will fail when the bandwidth for unprotected circuit is full and the circuit has more than two nodes. Workaround is to use manual routing for topology upgrade.

CSCsi08379

CTC automatically creates circuit names containing "::" when the circuit name field is not entered and the Circuit Name field contains ":". Workaround is to specify name while creating the circuit and not to enter ":" in the Circuit Name field.

CSCsg00090

There is no response when command "**RTRV-TH-STS1::all:1;**" is issued. Expected behavior is a DENY response with the correct error message or COMPLD response with the appropriate threshold values displayed.

CSCsg03334

After ML card is reset, system comes up with POS0=PSAS true. When nodes from Release 6.2 are activated with ML V-up enabled and there is a soft reset of the ML cards to clear SW-MISMATCH, the ML cards come up with PSAS on for POS 0. Consequently, the port does not report any alarms (only conditions) for eight hours. The NE Default is off for PSAS, so POS 0 should not have PSAS on. The workaround is to manually reset PSAS flag to FALSE.

CSCsh12170

The OSI tunnel cannot be created on a MSTP Multishelf node. This issue is fixed in Release 8.5.

CSCsg83297

The line thresholds does not roll back to the default values when you click on the Reset to Default button in the Line Thresholds pane of Provisioning tab in CTC card view for ADM-10G card.

CSCsg97909

The Payload PM pane for unprotected TXP-MR-2.5G incorrectly displays three columns when ONE-GE payload is applied. The workaround is to consider the third column as the correct column for ONE-GE payload.

CSCsc00811

Deleting a monitor circuit and its parent at the same time might result in a PARTIAL parent circuit. To avoid this, delete the monitor circuit before deleting the parent circuit. This issue is resolved in Release 8.5.

CSCsc36281

The software Activating progress popup window might fail to automatically close during multiple or parallel software activations. If this occurs you must manually close the popup window. The following error message might also be raised and need to be closed:

"EID-3251 Unable to complete requested action. Unable to activate because the working software version is newer than the protect one."

To ensure that all nodes are using the correct software version you should close and restart CTC. This issue is resolved in Release 8.5.

CSCse58432

Upgraded splitter OCHCC has OCHTRAILs shown as OOS[PARTIAL]. When upgrading a splitter-protected OCHCC 7.01 to 8.0, in 8.0 the OCHTRAIL circuits are reported as OOS[PARTIAL]. Indeed the two terminal nodes (Source and Destination) report state as OOS,DSBLD. TL1 and TCC report their states as IS-NR. This issue is resolved in Release 8.5.

Path Protection Functionality

CSCsg21615

Path protection selectors not corrected at CTC circuit panel when the ADM-10G card is removed from its slot and reinserted. The selectors for active path remain on the other card and consequently the alarms are wrongly evaluated. This issue is resolved in Release 8.5.

CSCsg43927

OTUK-TIM alarm CR, NSA does not switch path protection when nodes with ADM-10G cards are connected from trunk to trunk. This issue is resolved in Release 8.5.

TL1

CSCsh17616

The manufacturing parameters contain invalid TL1 characters when the **RTRV-INV TL1** command is issued on the card or pluggable modules. Workaround is to ignore the invalid characters.

CSCsg89300

The TL1 command to set drop power fails on 40-DMX-C. This issue is resolved in Release 8.5.

New Features and Functionality

This section highlights new features and functionality for Release 8.5. For detailed documentation of each of these features, consult the user documentation.

Common Hardware

CE-MR-10

The CE-MR-10 card is a 20 Gbps data module for use in the Cisco ONS 15454 SONET and Cisco ONS 15454 SDH platforms. It provides support for L1 packet mapping functions (Ethernet to SONET/SDH). The 10/100/1000 Mpbs Ethernet encapsulated traffic is mapped into SONET/SDH circuits. Each circuit has three main attributes: Low Order (LO) or High Order (HO)-based container size, contiguous (CCAT) or virtual (VCAT) concatenation, and GFP, LEX or PPP/HDLC based framing. It supports LCAS that allows hitless dynamic adjustment of SONET/SDH link bandwidth.

The CE-MR-10 is a Layer 1 (Ethernet Private Line) and Layer 1+ (Virtual Private Wire Services) mapper card with ten IEEE 802 compliant 10/100/1000 Mbps Ethernet ports that provide 1:1 mapping of Ethernet ports to circuits. It maps each port to a unique SONET/SDH circuit in a point-to-point configuration.

The CE-MR-10 card allows you to provision and manage an Ethernet private line service like a traditional SONET/SDH line. The CE-MR-10 card applications include providing carrier-grade Ethernet private line services and high-availability transport.

The CE-MR-10 card supports ITU-T G.707-based standards. It allows a soft reset, which is errorless in most cases. During the soft reset if there is a provisioning change, or if the firmware is replaced during a software upgrade process, the reset is equivalent to a hard reset.

GBICs, SFPs and XFPs Support

The following Gigabit Interface Converter (GBIC), Small Form-factor Pluggable (SFP), and 10 Gbps Small Form-factor Pluggable (XFP) optics modules are supported on the Cisco ONS 15454 nodes.

- ML-MR-10 and CE-MR-10 cards
  - ONS-SE-ZE-EL=
  - ONS-SI-GE-SX
  - ONS-SI-GE-LX
  - ONS-SI-GE-ZX
  - ONS-SI-100-FX
  - ONS-SE-100-BX10U
  - ONS-SE-100-BX10D
  - ONS-SI-100-LX10
- MRC-2.5G-4 and MRC-12 cards
  - ONS-SC-155-EL
- OC192/STM64 Any Reach (This card is designated as OC192-XFP or STM 64 XFP in CTC.)

- ONS-XC-10G-30.3= through ONS-XC-10G-61.4=
- MXP_2.5G_10E, MXP_2.5G_10E_L, and MXP_2.5G_10E_C cards
  - ONS-SC-2G-30.3= through ONS-SC-2G-60.6=
  - ONS-SC-Z3-1470= through ONS-SC-Z3-1610=
- MXP_MR_2.5G and MXPP_MR_2.5G cards
  - ONS-SC-Z3-1470= through ONS-SC-Z3-1610=
- TXP_MR_2.5G and TXPP_MR_2.5G cards
  - ONS-SC-2G-30.3= through ONS-SC-2G-60.6=
  - ONS-SC-Z3-1470= through ONS-SC-Z3-1610=
- MXP_MR_10DME_C and MXP_MR_10DME_L cards
  - ONS-SE-ZE-EL=
  - ONS-SI-GE-ZX=
- ADM-10G
  - ONS-SC-2G-30.3= through ONS-SC-2G-60.6=
  - ONS-SC-Z3-1470= through ONS-SC-Z3-1610=
- 10GE_XP card
  - ONS-XC-10G-I2=
- GE_XP card
  - ONS-SE-ZE-EL=
  - ONS-SC-2G-30.3= through ONS-SC-2G-60.6=
  - ONS-SC-Z3-1470= through ONS-SC-Z3-1610=

ML-MR-10 Card

The ML-MR-10 card is a Multi-Rate Layer 2 mapping module that provides 1:1 mapping of Ethernet ports to virtual circuits. The ML-MR-10 has ten SFP connectors that support IEEE 802.3 compliant Ethernet ports at the ingress offering 10 Mbps, 100 Mbps, or 1000 Mbps rates.SFP modules are offered as separate orderable products for flexibility.

OC-48 IR 1310 Card Support

The OC-48 IR 1310 card will be supported from the 8.5 release onwards.

RMON Support for ML-Series Card

ML-Series card can be configured for RMON by using the command-line interface (CLI) or an SNMP-compatible network management station. For the ML-MR-10 card, RMON can be configured using the CTC interface, as well. We recommend that you use a generic RMON console application on the NMS to take advantage of RMON's network management capabilities. You must also configure SNMP on the ML-Series card to access RMON MIB objects.

SNMP Support for ML-Series Card

The ML-Series card supports direct communication with SNMP agent and also through the Cisco ONS 15454 SONET/SDH and the SONET network. When the Cisco ONS 15454 SONET/SDH node relays the ML-Series card SNMP communication, the node uses a proxy agent to accept, validate, and forward get, getNext, and set requests to the ML-Series card. These ML-Series card requests contain the slot identification of the ML-Series card cards to distinguish the request from a general SNMP request for the Cisco ONS 15454 SONET/SDH node. The responses from the ML-Series card are then relayed by the Cisco ONS 15454 SONET/SDH node to the requesting SNMP agents.

MSTP Hardware

MSPP-on-a-Blade Card (ADM-10G)

The Multiservice Provisioning Platform (MSPP)-on-a-Blade card (also known as ADM-10G) operates on ONS 15454 SONET, ONS 15454 SDH, and DWDM networks to carry optical signals and Gigabit Ethernet signals over DWDM wavelengths for transport. The card aggregates lower bit-rate client SONET or SDH signals (OC-3/STM-1, OC-12/STM-4, OC-48/STM-16, or Gigabit Ethernet) onto a C-band tunable DWDM trunk operating at a higher OC-192/STM-64 rate. In a DWDM network, the ADM-10G card transports traffic over DWDM by mapping Gigabit Ethernet and SONET or SDH circuits onto the same wavelength with multiple protection options.

The ADM-10G card is a double-slot card that can be installed in Slots 1 through 5 or 12 through 16 in standard and high-density SONET shelves (15454-SA-ANSI or 15454-SA-HD), the ETSI ONS 15454 standard shelf assembly, or the ETSI ONS 15454 high-density shelf assembly. Installation is supported in any of these slots.

The card is compliant with ITU-T G.825 and ITU-T G.783 for SDH signals. It supports concatenated and nonconcatenated AU-4 mapped STM-1, STM-4, and STM-16 signals as specified in ITU-T G.707. The card also complies with Section 5.6 of Telcordia GR-253-CORE and supports synchronous transport signal (STS) mapped OC-3, OC-12, and OC-48 signals as specified in the standard.

OPT-AMP-C Card

The OPT-AMP-C card is a 20-dB output power, C-band, DWDM EDFA amplifier that can be used either as a pre-amplifier or as a booster amplifier. It contains mid-stage access loss for a Dispersion Compensation Unit (DCU). To control gain tilt, a Variable Optical Attenuator (VOA) is used. The VOA is also be used to pad the DCU to a reference value. The amplifier module also includes the OSC add (TX direction) and drop (RX direction) optical filters.

The OPT-AMP-C supports 80 channels at 50-GHz channel spacing in the C-band (that is, the 1529 nm to 1562.5 nm wavelength range). When an Cisco ONS 15454 has an OPT-AMP-C installed, an OSCM card is needed to process the OSC. You can install the OPT-AMP-C 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-AMP-C card as a preamplifier, and slots 1 and 17 are the default slots for provisioning the OPT-AMP-C card as a booster amplifier.

New Software Features and Functionality

The following new software features are added for Release 8.5.

Bit Error Rate Testing

The Bit Error Rate Testing (BERT) feature can be used to test the connectivity, error rate, and error count of the traffic running on an electrical IO card port. The BERT feature is currently supported for Cisco ONS 15454 DS1/E1-56 and DS3XM-12 electrical cards only.

BERT is broadly classified into two components—Test Pattern Generator (TPG) and Test Pattern Monitor (TPM), and is collectively called Test Pattern Generator Monitor (TPGM).

TPGM generates and monitors test patterns like PRBS15, PRBS20, PRBS23, QRSS and ATL1s0s (alternating ones and zeroes). TPGM can inject and monitor errors in the test pattern for both single bit and multirate (1.0E-3, 1.0E-4, 1.0E-5 and 1.0E-6) errors.

Card and Port Protection for ML-MR-10

The ML-MR-10 cards can be configured for Card and Port Protection (CPP) using a pair of identical ML-MR-10 cards located on the same Cisco ONS 15454 chassis and participating in the same IEEE 802.17b-based resilient packet ring (RPR-IEEE). Individual ports can be either CPP protected or unprotected. EtherChannels with or without LACP can be configured for CPP or may remain unprotected. In CPP, each Gigabit Ethernet port located at the front of an ML-MR-10 card is protected using the same port number of the protecting ML-MR-10 card. For example, Port 1 of Card A is protected by Port 1 of Card B. The ports must be configured in the same way; that is, their interfaces must have the same attributes, such as, link speed and mode (full or half duplex).

CTC Cache Installer

The CTC Cache Installer is an executable file, SetupCtc-<version>.exe, that is provided on Software Release 8.5 CDs for Cisco ONS products. The CTC cache installer is also available on Cisco.com. You can use CTC Cache Installer to install or reinstall the CTC JAR files into the CTC cache directory on your PC. This is useful when you are using a new CTC version and want to install or reinstall the CTC JAR files without logging into a node or using the StartCTC application (StartCTC.exe).

Disable Inactive User Privileges for Superuser

Users with superuser security privileges can provision security policies on the Cisco ONS 15454. If the superuser privileges are enabled in the NE defaults, superusers can be configured to override the inactive user timeout interval.

DWDM Functional View

DWDM Functional View offers a graphical view of the DWDM cards and the internal connections among them in an MSTP node. The Functional View also shows cards and connections for multidegree MSTP nodes (up to eight sides).

Ethernet Virtual Connection Services

The Ethernet Virtual Connection Services (EVCS) uses the concepts of Ethernet virtual circuits (EVCs) and service instances. An EVC is an end-to-end representation of a single instance of a Layer 2 service being offered by a provider to a customer. It embodies the different parameters on which the service is being offered. A service instance is the instantiation of an EVC on a given port on a given ML-MR-10 card.

Even Band Management

With the introduction of the following cards, it is now possible to transport 72, 80, 104, or 112 wavelength channels in the same network:

- 40-WSS-CE (40-channel Wavelength Selective Switch, C-band, even channels)
- 40-DMX-CE (40-channel Demultiplexer, C-band, even channels)

By using these new cards along with the 40-WSS-C and 40-DMX-C cards (which handle 40 C-band odd channels), the 32WSS and 32DMX cards (which handle 32 C-band odd channels), and the 32WSS-L and 32DMX-L (which handle 32 L-band odd channels), it is possible to cover 80 C-band channels (40 even and 40 odd channels) and 32 L-band odd channels, for a maximum of 112 channels. The following channel coverage combinations are possible:

- 72 C-band channels, using the 32WSS, 32DMX, 40-WSS-CE, and 40-DMX-CE cards
- 80 C-band channels, using the 40-WSS-C, 40-DMX-C, 40-WSS-CE, and 40-DMX-CE cards
- 104 channels (32 L-band odd channels and 72 C-band channels), using the 32WSS-L and 32DMX-L cards as a set to cover 32 L-band odd channels and the 32WSS, 32DMX, 40-WSS-CE, and 40-DMX-CE cards as a set to cover 72 C-band odd and even channels
- 112 channels (32 L-band odd channels and 80 C-band even channels), using the 32WSS-L and 32DMX-L cards as a set to cover 32 L-band odd channels and the 40-WSS-C, 40-DMX-C, 40-WSS-CE, and 40-DMX-CE, cards as a set to cover 80 C-band odd and even channels

Go-and-Return Path Protection Routing

The go-and-return path protection routing option allows you to route the path protection working path on one fiber pair and the protect path on a separate fiber pair. The working path will always be the shortest path. If a fault occurs, both the working and protection fibers are not affected. This feature only applies to bidirectional path protection circuits.

Microsoft Vista Support on CTC

The Microsoft Vista operating systems is supported on the Cisco Transport Controller (CTC) in Release 8.5.

Monitoring RPR-IEEE Topology in CTC

The topology of IEEE RPRs can be displayed from a network map in CTC. If there are circuits which make a logical ring, CTC can trace the ring and display the complete topology. The network map has a granularity going down to the ML card, because multiple ML cards within a single node can be used to make a RPR topology. RPR ring display is based only on the provisioned circuit state, as CTC is not updated with RPR failure cases or ML card in pass-through mode.

CTC also displays incomplete RPR topology in order to let user identify which segment of the RPR topology needs to be created. A maximum of 256 ML cards are supported in one RPR topology.

Multishelf Management Extension

Multishelf Management provides a single node name/TID/IP address for all the shelves belonging to an MSTP node. This feature allows centralized provisioning and management for a DWDM node, independently on the number of shelves and cards in the node, and is supported by a new CTC GUI, layered at node, rack, shelf, and unit level. Multishelf Management has been extended from 8 shelves to a maximum of 12 shelves for MSTP nodes.

Open-Ended Path Protection Circuits

If Cisco ONS 15454s are connected to a third-party network, you can create an open-ended path protection circuit to route a circuit through it. To do this, you create four circuits. One circuit is created on the source Cisco ONS 15454 network. This circuit has one source and two destinations, each destination provisioned to the Cisco ONS 15454 interface that is connected to the third-party network. The second and third circuits are created on the third-party network so that the circuit travels across the network on two diverse paths to the far end Cisco ONS 15454. At the destination node, the fourth circuit is created with two sources, one at each node interface connected to the third-party network. A selector at the destination node chooses between the two signals that arrive at the node, similar to a regular path protection circuit.

Open-Ended VCAT

An open-ended Virtual Concatenated (VCAT) circuit can have a data card at one end and one or more unique non-data card (OC-N/STM-N) destinations at the other end (that is, the open end). The open-ended VCAT circuits can originate or terminate on any pair of OC-N ports and you can route open-ended VCAT circuits using any of the cards and ports supported by VCAT.

Selective Auto Negotiation

The CE-100T-8 and CE-MR-10 cards support selective autonegotiation on the Ethernet ports. If selective autonegotiation is enabled, the port attempts to autonegotiate only to a specific speed and duplex. The link will come up if both the speed and duplex of the attached autonegotiating device matches that of the port. You cannot enable selective autonegotiation if either the speed or duplex of the port is set to auto.

STS Around the Ring

You can provision synchronous transport signal (STS) circuits with a source endpoint and a destination endpoint on the same node, and route the traffic around a ring. The circuit source and destination can be on the same card, but you must use two different ports on the card.

Manual routing is required for STS around the ring circuits and "Route Automatically" must be unchecked in the CTC circuit provisioning pane. STS around the ring circuits created using Transaction Language 1 (TL1) are discovered by CTC and the status "COMPLETE" is displayed. STS around the ring supports circuit sizes; STS-1, 3c, 6c, 9c, 12c, 24c, 36c, 48c, and 192cs. Both unidirectional and bidirectional circuits are supported, and STS around the ring circuits are CCAT only, VCAT is not supported. STS around ring circuits are linear circuits.

User Defined Alarm Types

User Defined Alarm Types allows you to dynamically add and delete the alarm types. In addition to the existing hard coded alarm type attributes, you can define up to 50 alarm types. These dynamically added alarm types can be associated, or disassociated, to any external alarm input and the added alarm type can use the same behavior as hard coded alarm type attributes.

Using a Mesh Node for Local Add/Drop Channel Management

Normally, a multidegree mesh node uses up to eight 40-WXC-C cards and a four- or eight-degree patch panel. Each of the 40-WXC-C cards uses a 40-MUX-C card to add wavelengths going to the span and a 40-DMX-C card to drop wavelengths coming in from the span. The 40-MUX-C and 40-DMX-C cards connect to their respective TXP or MXP cards. In this new local add/drop channel management configuration, at least one of the directions of a multidegree node can be used to manage local add/drop traffic. The advantage of this configuration is to consolidate all of the TXP, MXP, 40-MUX-C, and 40-DMX-C cards where they are needed for adding or dropping wavelengths locally.

TL1

New Card Support

The following new cards are supported:

- ADM-10G
- CE-MR-10

Note The CE-MR-10 card is supported only on Cisco ONS 15454 SONET and Cisco ONS 15454 SDH platforms.

- ML-MR-10
- OPT-AMP-C

TL1 Command Changes

New Commands

The following new TL1 commands are added:

- ENT-FTPSERVER
- RTRV-FTPSERVER
- DLT-FTPSERVER
- ED-FTPSERVER
- ENT-ALMTYPE
- DLT-ALMTYPE
- RTRV-ALMTYPE
- TST-INSERRBITS-MOD2

Command Syntax Changes

The syntax of the following commands is change:

- **ED-DS1** syntax changed from:

  ED-DS1:[<TID>]:<aid>:<CTAG>:::[TACC=<tacc>],[TAPTYPE=<taptype>],[AISONLPBK= <aisonlpbk>],[MODE=<mode>],[FMT=<fmt>];

  To:

  ED-DS1:[<TID>]:<aid>:<CTAG>:::[TACC=<tacc>],[TAPTYPE=<taptype>],[AISONLPBK= <aisonlpbk>],[MODE=<mode>],[FMT=<fmt>],[BERTMODE=<bertmode>],[BERTPATTERN= <bertpattern>],[BERTERRCOUNT=<berterrcount>];

- **ED-ETH** syntax changed from:

  ED-ETH:[<TID>]:<src>:<CTAG>:::[FLOW=<flow>],[EXPDUPLEX=<expduplex>],[EXPSPEE D=<expspeed>],[VLANCOS=<vlancosthreshold>],[IPTOS=<iptosthreshold>],[NAME=<name>], [CMDMDE=<cmdmde>],[SOAK=<soak>]:[<pst>[,<sst>]];

  To:

  ED-ETH:[<TID>]:<src>:<CTAG>:::[FLOW=<flow>],[EXPDUPLEX=<expduplex>], [SELECTIVEAUTO=<selectiveauto>],[EXPSPEED=<expspeed>],[VLANCOS=<vlancos>],[IPT OS=<iptos>],[NAME=<name>],[CMDMDE=<cmdmde>],[SOAK=<soak>]:[<pst>[,<sst>]];

- **ED-FSTE** syntax changed from:

  ED-FSTE:[<TID>]:<src>:<CTAG>:::[FLOW=<flow>],[EXPDUPLEX=<expduplex>], [EXPSPEED=<expspeed>],[VLANCOS=<vlancosthreshold>],[IPTOS=<iptosthreshold>], [NAME=<name>],[CMDMDE=<cmdmde>],[SUPPRESS=<suppress>],[SOAK=<soak>]: [<pst>[,<sst>]];

  To:

  ED-FSTE:[<TID>]:<src>:<CTAG>:::[FLOW=<flow>],[EXPDUPLEX=<expduplex>], [EXPSPEED=<expspeed>],[SELECTIVEAUTO=<selectiveauto>],[VLANCOS=<vlancos>], [IPTOS=<iptos>],[NAME=<name>],[CMDMDE=<cmdmde>],[SUPPRESS=<suppress>], [SOAK=<soak>]:[<pst>[,<sst>]];

- **ED-T1** syntax changed from:

  ED-T1:[<TID>]:<aid>:<CTAG>:::[LINECDE=<linecde>],[FMT=<fmt>],[LBO=<lbo>],[TACC= <tacc>],[TAPTYPE=<taptype>],[SOAK=<soak>],[SFBER=<sfber>],[SDBER=<sdber>], [SYNCMSG=<syncmsg>],[SENDDUS=<senddus>],[NAME=<name>],[CMDMDE=<cmdmde>], [AISONLPBK=<aisonlpbk>],[MODE=<mode>],[SYNCMAP=<syncmap>],[ADMSSM= <admssm>],[VTMAP=<vtmap>],[AISVONAIS=<aisvonais>],[AISONLOF=<aisonlof>], [INHFELPBK=<inhfelpbk>]:[<pst>[,<sst>]];

  To:

  ED-T1:[<TID>]:<aid>:<CTAG>:::[LINECDE=<linecde>],[FMT=<fmt>],[LBO=<lbo>],[TACC= <tacc>],[TAPTYPE=<taptype>],[SOAK=<soak>],[SFBER=<sfber>],[SDBER=<sdber>], [SYNCMSG=<syncmsg>],[SENDDUS=<senddus>],[NAME=<name>],[CMDMDE=<cmdmde>], [AISONLPBK=<aisonlpbk>],[MODE=<mode>],[SYNCMAP=<syncmap>],[ADMSSM= <admssm>],[VTMAP=<vtmap>],[AISVONAIS=<aisvonais>],[AISONLOF=<aisonlof>], [INHFELPBK=<inhfelpbk>],[BERTMODE=<bertmode>],[BERTPATTERN=<bertpattern>], [BERTERRCOUNT=<berterrcount>]:[<pst>[,<sst>]];

- **ED-T3** syntax changed from:

ED-T3:[<TID>]:<aid>:<CTAG>:::[FMT=<fmt>],[LINECDE=<linecde>],[LBO=<lbo>],
[INHFELPBK=<inhfelpbk>],[TACC=<tacc>],[TAPTYPE=<taptype>],[SOAK=<soak>],
[SFBER=<sfber>],[SDBER=<sdber>],[NAME=<name>],[AISONLPBK=<aisonlpbk>],
[CMDMDE=<cmdmde>]:[<pst>[,<sst>]];

To:

ED-T3:[<TID>]:<aid>:<CTAG>:::[FMT=<fmt>],[LINECDE=<linecde>],[LBO=<lbo>],
[INHFELPBK=<inhfelpbk>],[TACC=<tacc>],[TAPTYPE=<taptype>],[SOAK=<soak>],
[SFBER=<sfber>],[SDBER=<sdber>],[NAME=<name>],[AISONLPBK=<aisonlpbk>],
[CMDMDE=<cmdmde>],[BERTMODE=<bertmode>],[BERTPATTERN=<bertpattern>],
[BERTERRCOUNT=<berterrcount>]:[<pst>[,<sst>]];

- **ED-WDMANS** syntax changed from:

ED-WDMANS:[<TID>]:<aid>:<CTAG>:::[POWERIN=<powerIn>],[POWEROUT=<powerOut>
],[POWEREXP=<powerExp>],[NTWTYPE=<ringType>],[PPMESH=<ppmesh>],[DITHER=
<dither>];

To:

ED-WDMANS:[<TID>]:<aid>:<CTAG>:::[POWERIN=<powerIn>],[POWEROUT=<powerOut>
],[POWEREXP=<powerExp>],[POWEROSC=<powerOSC>],[NTWTYPE=<ringType>],
[PPMESH=<ppmesh>],[DITHER=<dither>];

Command Response Changes

The following TL1 command responses have changed:

- **RTRV-DS1** response changed from:

<AID>::[TACC=<tacc>],[TAPTYPE=<taptype>],[AISONLPBK=<aisonlpbk>],[MODE=<mode>
],[FMT=<fmt>

To:

<AID>::[TACC=<tacc>],[TAPTYPE=<taptype>],[AISONLPBK=<aisonlpbk>],[MODE=<mode>
],[FMT=<fmt>],[BERTMODE=<bertmode>],[BERTPATTERN=<bertpattern>],
[BERTERRCOUNT=<berterrcount>],[BERTERRRATE=<berterrrate>],
[BERTSYNCSTATUS=<bertsyncstatus>];

- **RTRV-ETH** response changed from:

<aid>::[<adminstate>],[<linkstate>],[<mtu>],[<flowctrl>],[<optics>],[<duplex>],[<speed>],
[<flow>],[<expduplex>],[<expspeed>],[<vlancosthreshold>],[<iptosthreshold>],[<name>],
[<soak>],[<soakleft>]:<pst>,[<sst>]

To:

<aid>::[<adminstate>],[<linkstate>],[<mtu>],[<flowctrl>],[<optics>],[<duplex>],[<speed>],
[<flow>],[<expduplex>],[<expspeed>],[<selectiveauto>],[<vlancosthreshold>],[<iptosthreshold>]
,[<name>],[<soak>],[<soakleft>]:<pst>,[<sst>]

- **RTRV-FSTE** response changed from:

<aid>::[<adminstate>],[<linkstate>],[<mtu>],[<flowctrl>],[<optics>],[<duplex>],[<speed>],
[<flow>],[<expduplex>],[<expspeed>],[<vlancosthreshold>],[<iptosthreshold>],[<name>],
[<suppress>],[<soak>],[<soakleft>]:<pst>,[<sst>]

To:

<aid>::[<adminstate>],[<linkstate>],[<mtu>],[<flowctrl>],[<optics>],[<duplex>],[<speed>], [<flow>],[<expduplex>],[<expspeed>],[<selectiveauto>],[<vlancosthreshold>],[<iptosthreshold>] ,[<name>],[<suppress>],[<soak>],[<soakleft>]:<pst>,[<sst>]

- **RTRV-T1** response changed from:

  <AID>::[LINECDE=<linecde>],[FMT=<fmt>],[LBO=<lbo>],[TACC=<tap>],[TAPTYPE= <taptype>],[SOAK=<soak>],[SOAKLEFT=<soakleft>],[SFBER=<sfber>],[SDBER=<sdber>], [NAME=<name>],[SYNCMSG=<syncmsg>],[SENDDUS=<senddus>],[RETIME=<retime>], [AISONLPBK=<aisonlpbk>],[AISVONAIS=<aisvonais>],[AISONLOF=<aisonlof>],[MODE= <mode>],[SYNCMAP=<syncmap>],[ADMSSM=<admssm>],[PROVIDESYNC=<providesync>], [VTMAP=<vtmap>],[INHFELPBK=<inhfelpbk>]:<PST>,[<SST>]

  To:

  <AID>::[LINECDE=<linecde>],[FMT=<fmt>],[LBO=<lbo>],[TACC=<tap>],[TAPTYPE= <taptype>],[SOAK=<soak>],[SOAKLEFT=<soakleft>],[SFBER=<sfber>],[SDBER=<sdber>], [NAME=<name>],[SYNCMSG=<syncmsg>],[SENDDUS=<senddus>],[RETIME=<retime>], [AISONLPBK=<aisonlpbk>],[AISVONAIS=<aisvonais>],[AISONLOF=<aisonlof>],[MODE= <mode>],[SYNCMAP=<syncmap>],[ADMSSM=<admssm>],[PROVIDESYNC=<providesync>], [VTMAP=<vtmap>],[INHFELPBK=<inhfelpbk>]:,[BERTMODE=<bertmode>],[BERTPATTER N=<bertpattern>],[BERTERRCOUNT=<berterrcount>],[BERTERRRATE=<berterrrate>], [BERTSYNCSTATUS=<bertsyncstatus>]:<PST>,[<SST>]

- **RTRV-T3** response changed from:

  <AID>::[FMT=<fmt>],[LINECDE=<linecde>],[LBO=<lbo>],[INHFELPBK=<inhfelpbk>], [TACC=<tap>],[TAPTYPE=<taptype>],[SOAK=<soak>],[SOAKLEFT=<soakleft>],[SFBER= <sfber>],[SDBER=<sdber>],[NAME=<name>],[AISONLPBK=<aisonlpbk>]:<PST>,[<SST>]

  To:

  <AID>::[FMT=<fmt>],[LINECDE=<linecde>],[LBO=<lbo>],[INHFELPBK=<inhfelpbk>], [TACC=<tap>],[TAPTYPE=<taptype>],[SOAK=<soak>],[SOAKLEFT=<soakleft>],[SFBER= <sfber>],[SDBER=<sdber>],[NAME=<name>],[AISONLPBK=<aisonlpbk>][BERTMODE= <bertmode>],[BERTPATTERN=<bertpattern>],[BERTERRCOUNT=<berterrcount>], [BERTERRRATE=<berterrrate>],[BERTSYNCSTATUS=<bertsyncstatus>]:<PST>,[<SST>]

TL1 ENUM Changes

The following sections highlight ENUM items changed (added or removed), by ENUM type.

BERT_ERR_RATE

The following BERT_ERR_RATE enums are added:

- BERT_ERR_RATE_NONE => "STOP"
- BERT_ERR_RATE_SINGLE => "SINGLE"
- BERT_ERR_RATE_TEN_POWER_MINUS_3 => "1E-3"
- BERT_ERR_RATE_TEN_POWER_MINUS_4 => "1E-4"
- BERT_ERR_RATE_TEN_POWER_MINUS_5 => "1E-5"

- BERT_ERR_RATE_TEN_POWER_MINUS_6 => "1E-6"

BERT_ERR_RATE is used in the following command:

- **TST-INSERRBITS-<MOD2>**

BERT_MODE

The following BERT_MODE enums are added:

- BERT_MODE_NONE => "NONE"
- BERT_MODE_TPGM_B => "TPGM-B"
- BERT_MODE_TPGM_L => "TPGM-L"
- BERT_MODE_TPG_B => "TPG-B"
- BERT_MODE_TPG_L => "TPG-L"
- BERT_MODE_TPM_B => "TPM-B"
- BERT_MODE_TPM_L => "TPM-L"

BERT_MODE is used in the following commands:

- **ED-DS1**
- **ED-T1**
- **ED-T3**

BERT_PATTERN

The following BERT_PATTERN enums are added:

- BERT_PATTERN_ALT_ONE_ALT_ZERO => "ALT-ONE-ALT-ZERO"
- BERT_PATTERN_NONE => "NONE"
- BERT_PATTERN_PRBS15 => "PRBS15"
- BERT_PATTERN_PRBS20 => "PRBS20"
- BERT_PATTERN_PRBS23 => "PRBS23"
- BERT_PATTERN_QRSS => "QRSS"

BERT_PATTERN is used in the following commands:

- **ED-DS1**
- **ED-T1**
- **ED-T3**

ENV_ALMTYPE

The following ENV_ALMTYPE enums are added:

- ENV_ALMTYPE_ALMTYPE_SYSTEMDEFINED => "SYSTEMDEFINED"
- ENV_ALMTYPE_ALMTYPE_USERDEFINED => "USERDEFINED"

ENV_ALMTYPE is used in the following command:

- **RTRV-ALMTYPE**

EQPT_TYPE

The following EQPT_TYPE enum is removed:

- EQPT_TYPE_EQPT_ID_CXC_STS => "SSXC"

The following EQPT_TYPE enum is added:

- EQPT_TYPE_EQPT_ID_CXC_STS => "CXC"

EQUIPMENT_TYPE

The following EQUIPMENT_TYPE enum is removed:

- EQUIPMENT_TYPE_ET_CXC => "SSXC"

The following EQUIPMENT_TYPE enum is added:

- EQUIPMENT_TYPE_ET_CXC => "CXC"

EQUIPMENT_TYPE is used in the following command:

- **CHG-EQPT**

OPTICAL_LINK_TYPE

The following OPTICAL_LINK_TYPE enum is added:

- OPTICAL_LINK_TYPE_OL_INTERLEAVER => "OTS-INTLEAV"

OPTICAL_LINK_TYPE is used in the following commands:

- **ED-LNK**
- **RTRV-LNK**

STM1E_MODE

The following STM1E_MODE enums are added:

- PAYLOAD_PT_DS3 => "DS3"
- PAYLOAD_PT_EC1 => "EC1"

STM1E_MODE is used in the following commands:

- **ED-FAC**

TL1 Alarm Changes

New Alarms

The following new alarms are added:

- BERT-ENBL
    - Default Severity: Not Alarmed (NA), Non-Service Affecting (NSA)
    - SONET Logical Object: DS1/DS3
    - The Bert Enabled alarm specifies that the bit error rate testing (BERT) feature is enabled.
- BERT-SYNC-FAIL
    - Default Severity: Not Alarmed (NA), Non-Service Affecting (NSA)

- SONET Logical Object: DS1/DS3

- The Bert Synchronization Fail alarm occurs when the errors injected by TPG reach TPM and connectivity fails.

TL1 Error Code Changes

New Error Codes

The following new error codes are added:

- ICNV
  - Cannot set Timer value if FTP server is not enabled
- IDNV
  - Alarm Type Exceeds Maximum Length Allowed
  - Invalid Enable Value
  - Invalid Timer Value
- IDRG
  - Invalid Trap Destination
- IIDT
  - Non-IP Hostname or Invalid TID In FTP URL
- IIFM
  - Invalid Alarm Type - Must Conform To TL1 Rules
- IPNC
  - Selective auto Negotiate Cannot be enabled
- NO
  - No Applicable PM Data
- SAIS
  - Connection In Service
- SROF
  - Alarm Type Not Found
  - Alarm type In Use
  - Cannot Delete System Defined Alarm Type
  - Duplicate Alarm Type Create Attempted
  - Duplicate FTP Server Create Attempted
  - FTP Server Not Found
  - Facility Not Part Of Appropriate BLSR
  - Facility Not Part Of Appropriate MSSPR
  - Maximum FTP server Creation Limit Exceeded
  - Maximum UserDefined Alarm Type Limit
  - OCH Client Connection Does Not Exist

Related Documentation

Release-Specific Documents

- *Release Notes for the Cisco ONS 15454 SDH, Release 8.5*
- *Release Notes for the Cisco ONS 15310-CL, Release 8.5*
- *Release Notes for the Cisco ONS 15310-MA, Release 8.5*
- *Cisco ONS 15454 Software Upgrade Guide, Release 8.5*

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 DWDM Installation and Operations Guide*
  Provides technical reference information for DWDM cards, nodes, and networks
- *Cisco ONS 15454 Troubleshooting Guide*
  Provides a list of SONET alarms and troubleshooting procedures, general troubleshooting information, and hardware replacement procedures
- *Cisco ONS SONET 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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