



Release Notes for Cisco ONS 15310-CL Release 8.0

January 04, 2008



Note

The terms "Unidirectional Path Switched Ring" and "UPSR" may appear in Cisco literature. These terms do not refer to using Cisco ONS 15xxx products in a unidirectional path switched ring configuration. Rather, these terms, as well as "Path Protected Mesh Network" and "PPMN," refer generally to Cisco's path protection feature, which may be used in any topological network configuration. Cisco does not recommend using its path protection feature in any particular topological network configuration.

Release notes address closed (maintenance) issues, caveats, and new features for the Cisco ONS 15310-CL. For detailed information regarding features, capabilities, hardware, and software introduced with this release, refer to Release 7.0 of the *Cisco ONS 15310-CL and Cisco ONS 15310-MA Procedure Guide*, *Cisco ONS 15310-CL and Cisco ONS 15310-CL and Cisco ONS 15310-MA Reference Guide*, and *Cisco ONS 15310-CL and Cisco ONS 15310-MA Troubleshooting Guide* and Release 8.0 of the *Cisco ONS SONET TLI Command Guide*.

For the most current version of the Release Notes for Cisco ONS 15310-CL Release 8.0, visit the following URL:

http://www.cisco.com/en/US/docs/optical/15000r8_0/release/notes/310RN80.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>



Corporate Headquarters:
Cisco Systems, Inc., 170 West Tasman Drive, San Jose, CA 95134-1706 USA

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Changes to the Release Notes

This section documents supplemental changes that have been added to the *Release Notes for Cisco ONS 15310-CL Release 8.0* since the production of the Cisco ONS 15310-CL System Software CD for Release 8.0.

Caveats

Review the notes listed below before deploying the ONS 15310-CL. 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.

Maintenance and Administration



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.

CSCse96077

In Release 7.2, when either you remove and then reinsert an I/O card, or a small burst of defects occurs for a very short period (less than 1 sec), false TCAs can be triggered that indicate line or traffic problems on an I/O port. Once triggered, the TCAs will be raised every 15 mins, after the 15 min pm report. There are no alarms for the associated ports. Traffic is not affected.

The cards affected are:

ONS 15454 DS1, DS1_E1_56, DS3 (including DS3, DS3N, DS3E, DS3NE), DS3_EC1, DS3XM, DWDM, E1, E1_42, OC3-8, OC12-4, MRC-12, OC192XFP; and ONS 15310-CL and ONS 15310-MA IO ports.

There are two workarounds:

1. Place the affected ports in OOS-DSBLD and then back to IS. This clears the problem for the specific port on the card, but the traffic will be down during the period of OOS-DSBLD.
2. Soft reset the card with problem ports. This clears the problem on all ports on the card. Soft reset might cause a protection switch if any port on that card or the card itself is in a protection group.

You can switch all protected ports away from the card that is to be soft-reset. In this case you can do manual switches away from the ports on that card, or in the case of an equipment switch, away from the equipment to be reset.

You can also perform a soft reset without any pre-action. This might result in protection switches of all active protected ports on that card. In the case of an equipment protection group resetting, the active equipment might incur a protection switch. The switch time will not exceed 60 ms.

For unprotected ports or card equipment, traffic will not be affected.

This issue will be resolved in a future release.

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 under investigation.

CSCse75851

Tracebacks are seen in "show tech" or "show ons alarm defect" output for ML100T-8 on the ONS 15310-CL after logging in through the CTC by way of the IOS CLI. This issue does not occur when these commands are issued through the console. The workaround is to ignore these tracebacks because they do not impact the functioning of the data card.

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.

Resolved Caveats for Release 8.0

The following items are resolved in Release 8.0.

Maintenance and Administration

CSCsd52120

Disabling a member circuit other than the first member of a VCAT VCG, does not bring the traffic down. This issue is resolved in Release 8.0.

New Features and Functionality

This section highlights new features and functionality for Release 8.0. For complete documentation of each of the features of the ONS 15310-CL, consult the user documentation.

New Hardware Features

The following sections describe new hardware features for Release 8.0.

FILLER Card

If a card slot is left empty, a filler card must be installed in the slot. The filler card serves three functions: it prevents exposure to hazardous voltages and currents inside the chassis, it eliminates electromagnetic interference (EMI) that might disrupt other equipment, and it directs the flow of cooling air through the chassis.

**Caution**

Do not operate the ONS 15310-CL or ONS 15310-MA system unless a card is plugged into each card slot.

The blank card is a printed circuit board (PCB) with a blank faceplate and two rear connectors that plug into receptacles at the back of the slot. CTC detects when a filler card is plugged in and displays it in node view.

The FILLER card is used to fill unused traffic card slots in the ONS 15310-CL and ONS 15310-MA shelves. The Cisco Transport Controller (CTC) graphical user interface (GUI) detects the filler card.

The CTX FILLER card is used to fill unused CTX2500 card slots in the ONS 15310-MA shelf. CTC detects the filler card.

Wall Mount Enclosure (WME)

The Cisco ONS 15310-CL can be integrated in numerous enclosures, that is, wall mount (indoors or outside plant, pad mount, or pole mount), and equipped with customer-approved third-party support components. These configurations are built and customized by a Cisco approved partner, PCI (PlastiComm Industries, Inc.).

The Cisco ONS 15310-CL Wall Mount Enclosure (WME), a secure, wall-mountable cabinet, addresses those important FTTB requirements cost-effectively so that service providers can take full advantage of this opportunity at a fraction of the cost, in a fraction of the time. The Cisco ONS 15310-CL WME offers a rectifier with redundant modules, 8 hours of battery backup capability, and a Cisco ONS 15310-CL Metro Edge Optical Transport Platform as a single, convenient solution.

The WME is designed to operate in a covered facility that may be exposed to outside air and contaminants. It is also designed with a separate battery cabinet enclosure for the battery backup. The Cisco ONS 15310-CL WME provides multiple alarm inputs, which can be used to collect information at a remote location and transmit it back to a management center. The enclosure comes with all components premounted and prewired (Cisco ONS 15310-CL cables are orderable) so that it can be installed, provisioned, and put into service in less than 4 hours.

SFP Modules

New small-form factor pluggables (SFPs) are available that can be used with the CE-MR-6, 15310-CL-CTX, and CTX2500 cards to provide optical interfaces. The 15310-CL-CTX card does not have a faceplate because it is located inside the chassis; therefore, the two SFP slots are located on the ONS 15310-CL faceplate, just to the left of the LAN connector. The SFP slots for the ONS 15310-MA are located at the bottom of the CTX2500 card. The CE-100T-8, ML-100T-8, and electrical cards do not use SFPs. The new SFPs are:

- ONS-SE-155-XXXX OC3/STM1, CWDM (where XXXX = 1470, 1490, 1510, 1530, 1550, 1570.1590, 1610 nm)
- ONS-SE-622-XXXX OC12/STM4, CWDM (where XXXX = 1470, 1490, 1510, 1530, 1550, 1570.1590, 1610 nm)

New Software Features and Functionality

ML-AINS and other Enhanced State Model (ESM) changes.

Several changes have been made to the Cisco ONS 15454 SONET alarms and transient conditions. See the *Cisco ONS 15310-CL and Cisco ONS 15310-MA Troubleshooting Guide* for more details.

PM Threshold Reset Button

In node view, you can double-click the card where you want to view PM thresholds, and click the Reset button in CTC to reset the values of all PM thresholds to the default threshold values saved on the NE.

CTC displays a confirmation dialog of the default threshold values in the applicable threshold panel when you click the one-button threshold reset.

CTC supports the one-button reset (reset to default thresholds) for all Electrical, SONET, SDH, and Optical PM thresholds.

CTC AINS Ethernet Ports

The Ethernet ports can be set to the ESM service states including the In-Service, Automatic In-Service (IS,AINS) administrative state. IS,AINS initially puts the port in the Out-of-Service and Autonomous, Automatic In-Service (OOS-AU,AINS) state. In this service state, alarm reporting is suppressed, but traffic is carried and loopbacks are allowed. After the soak period passes, the port changes to In-Service and Normal (IS-NR). Raised fault conditions, whether their alarms are reported or not, can be retrieved on the CTC Conditions tab or by using the TL1 RTRV-COND command.

Link Aggregation Control Protocol (LACP)

In Software Release 8.0.0, ML100T-12, ML1000-2, ML100T-8, and CE-100T-8 cards can utilize the link aggregation control protocol (LACP) to govern reciprocal peer packet transmission with respect to LACP's detection of flawed packets. The cards' ports transport a signal transparently (that is, without intervention or termination).

Passive Mode and Active Mode

Passive mode or active are configured for a port in IEEE 802.17 RPR mode. They differ in how they direct a card to transmit packets: In passive mode, the LACP resident on the node transmits packets only after it receives reciprocal valid packets from the peer node. In active mode, both peers transmit packets without determining the validity of what they receive.

LACP Functions

LACP performs the following functions in the system:

- Maintains configuration information in order to control aggregation
- Exchanges configuration information with other peer devices
- Attaches or detaches ports from the link aggregation group based on the exchanged configuration information
- Enables data flow when both sides of the aggregation group are synchronized

In addition, LACP provides the following benefits:

- Logical aggregation of bandwidth
- Load balancing
- Fault tolerance

SFP Management Completion

Supported services (rates, wavelengths, formats, reach, and so on) are encoded in the EEPROMs of SFPs and XFPs following industry standards. PPMs (SFPs or XFPs) that do not follow this standard cannot be read by the platform and are referred to as Unrecognized PPMs.

PPMs that are inserted into a card may be checked for the validity of an MD5 security code. PPMs failing this test are referred to as non-Cisco PPMs. PPMs passing this test as referred to in this document as Cisco PPMs.

Different cards are tested with a limited subset of Cisco PPMs. Customers are encouraged to use these PPMs, referred to as Qualified Cisco PPMs (for the particular card). Since each card supports different services (rates and formats), a PPM qualified for one card is not necessarily qualified for another. For example, a PPM qualified to work on a DWDM card may not be qualified to work on a SONET card. Cisco PPMs that are not recommended for use with a particular card are termed Unqualified Cisco PPMs (for the particular card).

**Note**

This feature may not be described in the Release 8.0 documentation

DISA Password Complexity, Max Password Length, Min Password Length.

The password length, by default, must be set to a minimum of six and a maximum of 20 characters. You can configure the default values in node view through Provisioning > NE Defaults > Node > security > passwordComplexity. The minimum length can be set to eight, ten or twelve characters, and the maximum length to 80 characters. The password must be a combination of alphanumeric (a-z, A-Z, 0-9) and special (+, #, %) characters, where at least two characters are nonalphanumeric and at least one character is a special character. For TL1 compatibility, the password must be 6 to 10 characters. The password must not contain the user name.

Required JRE Version is 5.0

JRE version 5.0 was optional in Release 7.0. It is required for release 8.0 that JRE be version 5.0.

Solaris 10 Supported.

Solaris 10 is supported in release 8.0

Mozilla 1.7 Supported on Solaris 9 with Java plug-in 5.0.

Mozilla 1.7 on Solaris 9 with Java plug-in 5.0 is supported in release 8.0.

IPv6

Cisco ONS 15xxx products can function in an IPv6 network when an internet router that supports Network Address Translation - Protocol Translation (NAT-PT) is positioned between the GNE, such as an ONS 15454, and the client workstation. NAT-PT is defined in RFC-2766. IPv4 and IPv6 nodes communicate with each other using NAT-PT by allowing both IPv6 and IPv4 stacks to interface between the IPv6 DCN and the IPv4 DCC networks.

NAT-PT binds addresses in IPv6 networks with addresses in IPv4 networks and vice versa to provide transparent routing for the packets traveling between address types. This requires no changes to end nodes and IP packet routing is completely transparent to end nodes. It does, however, require NAT-PT to track the sessions it supports and mandates that inbound and outbound datagrams pertaining to a session traverse the same NAT-PT router. Protocol translation is used to extend address translation with protocol syntax/semantics translation.



Note

Only Mozilla 1.7 is supported on clients interfacing with IPv6 networks.

CTC Launcher 8.0

The CTC Launcher application is an executable file, StartCTC.exe, that is provided on Software Release 8.0 CDs for Cisco ONS products. You can use CTC Launcher to log into multiple ONS nodes that are running CTC Software Release 3.3 or higher, without using a web browser.

CTC Launcher provides two connection options. The first option is used to connect to ONS network elements (NEs) that have an IP connection to the CTC computer. The second option is used to connect to ONS NEs that reside behind third party, OSI-based gateway network elements (GNEs). For this option, CTC Launcher creates a TL1 tunnel to transport the TCP traffic through the OSI-based GNE.

The TL1 tunnel transports the TCP traffic to and from ONS ENEs through the OSI-based GNE. TL1 tunnels are similar to the existing static IP-over-CLNS tunnels GRE and Cisco IP that can be created at ONS NEs using CTC. (Refer to the Cisco ONS product documentation for information about static IP-over-CLNS tunnels.) However, unlike the static IP-over-CLNS tunnels, TL1 tunnels require no provisioning at the ONS ENE, the third-party GNE, or DCN routers. All provisioning occurs at the CTC computer when the CTC Launcher is started.

TL1

RTRV-PM-ALL for FEND and NEND

The Retrieve Performance Monitoring All (RTRV-PM-ALL) command retrieves the values of all the performance monitoring parameters for the specified AID. When the ALL AID is used, the response will include the PM parameters for all cards and ports in the chassis.

The format for the NEND and FEND input parameters is:

- FEND: Action occurs on the far end of the facility
- NEND: Action occurs on the near end of the facility

TL1 Command Changes

New Commands

The following new TL1 commands are added for Release 8.0.

- LIST
- DLT-NNI-ETH
- DLT-QNQ-ETH
- DLT-RMONTH-MOD2-DATA
- DLT-VLAN
- DLT-WDMSIDE
- ED-COS-ETH
- ED-ETH
- ED-L2-ETH
- ED-LMP
- ED-OTU2
- ED-QNQ-ETH
- ED-VLAN
- ED-WDMSIDE
- ENT-NNI-ETH
- ENT-QNQ-ETH
- ENT-VLAN
- ENT-WDMSIDE

- LMP-CTRL
- LMP-DLINK
- LMP-TLINK
- RTRV-COS-ETH
- RTRV-ETH
- RTRV-L2-ETH
- RTRV-NNI-ETH
- RTRV-PATH-OCH-TYPE
- RTRV-PM-ALL
- RTRV-QNQ-ETH
- RTRV-VLAN
- RTRV-WDMSIDE
- RTRV-WLEN

Removed Commands

The following commands were removed in Release 8.0.

- DLT-OSC
- ED-OSC
- ENT-OSC
- RTRV-OSC

Command Syntax Changes

The syntax of the following commands is changed in Release 8.0.

CHG-EQPT syntax changed:

```
CHG-EQPT[:<TID>]:<aid>:<CTAG>::<new_eqpt_type>;
```

```
CHG-EQPT[:<TID>]:<aid>:<CTAG>::<new_eqpt_type>[:PPMTYPE=<ppmtype>],[PPMNUM=<ppmnum>],[PORTNUM=<portnum>],[PORTRATE=<portrate>];
```

ED-APC syntax changed:

```
ED-APC[:<TID>]::<CTAG>[::APCENABLE=<apcenable>][:];
```

```
ED-APC[:<TID>]:<aid>:<CTAG>[::APCENABLE=<apcenable>][:];
```

The syntax of the following commands was changed from the last release:

(ALW-SWTOPROTN-EQPT enum changes:

```
DIRECTION)
```

(ALW-SWTOWKG-EQPT enum changes:

```
DIRECTION)
```

(COPY-IOSCFG enum changes:

RFILE)

(DLT-RMONTH-MOD2-DATA enum changes

MOD2_DATA)

ED-APC syntax changed:

ED-APC[:<TID>]:<CTAG>[::APCENABLE=<apcenable>][:];

ED-APC[:<TID>]:<aid>:<CTAG>[::APCENABLE=<apcenable>][:];

(ED-BITS enum changes:

SYNC_CLOCK_REF_QUALITY_LEVEL)

(ED-E1 enum changes:

SYNC_CLOCK_REF_QUALITY_LEVEL)

ED-EQPT syntax changed:

ED-EQPT[:<TID>]:<aid>:<CTAG>[::PROTID=<protid>],[PRTYPE=<prtype>],[RVRTV=<rvrtv>],[RVTM=<rvtm>],[CARDMODE=<cardmode>],[PEERID=<peerid>],[REGENNAME=<regenname>],[CMDMDE=<cmdmde>],[RETIME=<retime>],[SHELFROLE=<shelfrole>],[NEWSHELFID=<newshelfid>][:<pst>[,<sst>]]];

ED-EQPT[:<TID>]:<aid>:<CTAG>[::PROTID=<protid>],[PRTYPE=<prtype>],[RVRTV=<rvrtv>],[RVTM=<rvtm>],[CARDMODE=<cardmode>],[PEERID=<peerid>],[REGENNAME=<regenname>],[PEERNAME=<peername>],[CMDMDE=<cmdmde>],[RETIME=<retime>],[SHELFROLE=<shelfrole>],[NEWSHELFID=<newshelfid>],[FRPROLE=<frprole>],[FRPSTATE=<frpstate>][:<pst>[,<sst>]]];

(ED-EQPT enum changes:

CARDMODE (454, 310MA, 310CL : Lotus20gCE2, Gt3CE2)

FRPROLE

FRPSTATE)

(ED-FAC enum changes:

PAYLOAD)

ED-FSTE syntax changed:

```
ED-FSTE[:<TID>]:<src>:<CTAG>[::FLOW=<flow>],[EXPDUPLICATE=<expduplex>],[EXPSPEED=<
expspeed>],[VLANCOS=<vlancostthreshold>],[IPTOS=<iptosthreshold>],[NAME=<name>],[CMDM
DE=<cmdmde>],[SOAK=<soak>][:<pst>[,<sst>]];
```

```
ED-FSTE[:<TID>]:<src>:<CTAG>[::FLOW=<flow>],[EXPDUPLICATE=<expduplex>],[EXPSPEED=<
expspeed>],[VLANCOS=<vlancostthreshold>],[IPTOS=<iptosthreshold>],[NAME=<name>],[CMDM
DE=<cmdmde>],[SUPPRESS=<suppress>],[SOAK=<soak>][:<pst>[,<sst>]];
```

ED-GIGE syntax changed:

```
ED-GIGE[:<TID>]:<aid>:<CTAG>:::[ADMINSTATE=<adminstate>],[LINKSTATE=<linkstate>],[M
TU=<mtu>],[FLOWCTRL=<flowctrl>],[AUTONEG=<autoneg>],[HIWMRK=<hiwmrk>],[LOWMRK
=<lowmrk>],[OPTICS=<optics>],[DUPLICATE=<duplex>],[SPEED=<speed>],[NAME=<name>],[CMD
MDE=<cmdmde>],[MACADDR=<macaddr>],[FREQ=<freq>],[LOSSB=<lossb>],[SOAK=<soak>][:
<pst>[,<sst>]];
```

```
ED-GIGE[:<TID>]:<aid>:<CTAG>:::[ADMINSTATE=<adminstate>],[LINKSTATE=<linkstate>],[M
TU=<mtu>],[FLOW=<flow>],[FLOWCTRL=<flowctrl>],[AUTONEG=<autoneg>],[HIWMRK=<hiw
mrk>],[LOWMRK=<lowmrk>],[OPTICS=<optics>],[DUPLICATE=<duplex>],[SPEED=<speed>],[NAM
E=<name>],[CMDMDE=<cmdmde>],[MACADDR=<macaddr>],[FREQ=<freq>],[LOSSB=<lossb>],[
SUPPRESS=<suppress>],[SOAK=<soak>],[SQUELCH=<squelch>],[CIR=<cir>],[CBS=<cbs>],[EBS
=<ebs>][:<pst>[,<sst>]];
```

(ED-G1000 enum changes:

ENCAP)

(ED-L2-ETH enum changes:

ETH_BRIDGESTATE

ETH_NIMODE

ETH_QNQMODE)

(ED-LMP enum changes:

OPSTATE

WDM_ROLE)

ED-NE-GEN syntax changed:

```
ED-NE-GEN[:<TID>]:<CTAG>[::NAME=<name>],[IPADDR=<ipaddr>],[IPMASK=<ipmask>],[D
EFRTR=<defrtr>],[IIOPPORT=<iioport>],[NTP=<ntp>],[PROXYSRV=<isProxyServer>],[FIREWA
LL=<isFireWall>],[SUPPRESSIP=<mode>],[MODE=<mode>];
```

```
ED-NE-GEN[:<TID>]:<CTAG>[::NAME=<name>],[IPADDR=<ipaddr>],[IPMASK=<ipmask>],[D
EFRTR=<defrtr>],[IIOPPORT=<iioport>],[NTP=<ntp>],[SUPPRESSIP=<mode>],[MODE=<mode>],
[[SERIALPORTECHO=<serialportecho>];
```

ED-NE-PATH syntax changed:

```
ED-NE-PATH[:<TID>]:<CTAG>[:::PDIP=<pdip>];
ED-NE-PATH[:<TID>]:<CTAG>[:::PDIP=<pdip>],[XCMODE=<xcmode>];
```

ED-OCH syntax changed:

```
ED-OCH[:<TID>]:<aid>:<CTAG>[:::RDIRN=<rdirn>],[EXPWLEN=<expwlen>],[VOAATTN=<voaattn>],[VOAPWR=<voapwr>],[CALOPWR=<calopwr>],[CHPOWER=<chpower>],[NAME=<portname>],[SFBER=<sfber>],[SDBER=<sdber>],[OSDBER=<osdber>],[COMM=<comm>],[GCCRATE=<gccrate>],[DWRAP=<drwrap>],[FEC=<fec>],[PAYLOADMAP=<payloadmap>],[MACADDR=<macaddr>],[SYNCMSG=<syncmsg>],[SENDDUS=<senddus>],[SOAK=<soak>],[OSPF=<ospf>],[MFS=<mfs>],[CMDMDE=<cmdmde>][:<pst>[,<sst>]];
```

```
ED-OCH[:<TID>]:<aid>:<CTAG>[:::EXPWLEN=<expwlen>],[VOAATTN=<voaattn>],[VOAPWR=<voapwr>],[CALOPWR=<calopwr>],[CHPOWER=<chpower>],[NAME=<portname>],[OSDBER=<sdber>],[GCC=<gcc>],[GCCRATE=<gccrate>],[DWRAP=<drwrap>],[FEC=<fec>],[PAYLOADMAP=<payloadmap>],[SOAK=<soak>],[CMDMDE=<cmdmde>][:<pst>[,<sst>]];
```

(ED-OCH enum changes:

```
RDIRN_MODE)
```

(ED-OCHCC enum changes:

```
MOD2)
```

ED-OCHNC syntax changed:

```
ED-OCHNC[:<TID>]:<src>,<dst>:<CTAG>[:::CKTID=<cktid>],[CMDMDE=<cmdmde>][:<pst>][,<sst>];
```

```
ED-OCHNC[:<TID>]:<src>,<dst>:<CTAG>[:::CKTID=<cktid>],[CMDMDE=<cmdmde>],[WLOPWR=<wlopwr>],[VOAATTN=<voaattn>][:<pst>][,<sst>];
```

ED-OMS syntax changed:

```
ED-OMS[:<TID>]:<aid>:<CTAG>[:::RDIRN=<rdirn>],[EXPBAND=<expband>],[VOAATTN=<voaattn>],[VOAPWR=<voapwr>],[CALOPWR=<calopwr>],[CHPOWER=<chpower>],[NAME=<name>],[SOAK=<soak>],[CMDMDE=<cmdmde>][:<pst>[,<sst>]];
```

```
ED-OMS[:<TID>]:<aid>:<CTAG>[:::EXPBAND=<expband>],[VOAATTN=<voaattn>],[VOAPWR=<voapwr>],[CALOPWR=<calopwr>],[CHPOWER=<chpower>],[NAME=<name>],[SOAK=<soak>],[CMDMDE=<cmdmde>][:<pst>[,<sst>]];
```

(ED-OMS enum changes:

RDIRN_MODE)

(ED-OTU2 enum changes:

PMODE

REACH)

(ED-POS enum changes:

ENCAP)

(ED-QNQ-ETH enum changes:

ETH_RULE)

(ED-T1 enum changes:

SYNC_CLOCK_REF_QUALITY_LEVEL)

ED-WDMANS syntax changed:

```
ED-WDMANS[:<TID>]:<aid>:<CTAG>[:::POWERIN=<powerIn>],[POWEROUT=<powerOut>],[PO
WEREXP=<powerExp>],[NTWTYPE=<ringType>];
```

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

(ED-WDMANS enum changes:

PPMESH)

(ENT-CKT-ORIG enum changes:

MOD_PATH)

(ENT-CKT-TERM enum changes:

MOD_PATH)

ENT-EQPT syntax changed:

```
ENT-EQPT[:<TID>]:<aid>:<CTAG>:::<aidtype>[:PROTID=<protid>],[PRTYPE=<prtype>],[RVRTV=
<rvrtv>],[RVTM=<rvtm>],[CARDMODE=<cardmode>],[PEERID=<protid>],[REGENNAME=<rege
nname>],[CMDMDE=<cmdmde>],[TRANSMODE=<transmode>],[RETIME=<retime>],[SHELFROL
E=<shelfrole>][:];
```

ENT-EQPT[:<TID>]:<aid>:<CTAG>:<aidtype>[:PROTID=<protid>],[PRTYPE=<prtype>],[RVRTV=<rvrtv>],[RVTM=<rvtm>],[CARDMODE=<cardmode>],[PEERID=<protid>],[REGENNAME=<regenname>],[CMDMDE=<cmdmde>],[TRANSMODE=<transmode>],[RETIME=<retime>],[SHELFROLE=<shelfrole>],[FRPROLE=<frprole>],[FRPSTATE=<frpstate>][:];

(ENT-EQPT enum changes:

CARDMODE (454, 310MA, 310CL : Lotus20GCE2, Gt3CE2)

EQUIPMENT_TYPE (454, 454 SDH,310MA, 310CL : Lotus20GCE2, Gt3CE2)

FRPROLE

FRPSTATE)

ENT-OCHNC syntax changed:

ENT-OCHNC[:<TID>]:<src>,<dst>:<CTAG>[:<wct>][:CKTID=<cktid>],[CMDMDE=<cmdmde>][:<pst>][:,<sst>];

ENT-OCHNC[:<TID>]:<src>,<dst>:<CTAG>[:<wct>][:CKTID=<cktid>],[CMDMDE=<cmdmde>],[WLOPWR=<wlopwr>],[VOAATTN=<voaattn>][:<pst>][:,<sst>];

(ENT-OCHNC enum changes:

WCT)

(ENT-QNQ-ETH enum changes:

ETH_RULE)

(INH-SWTOPROTN-EQPT enum changes:

DIRECTION)

(INH-SWTOWKG-EQPT enum changes:

DIRECTION)

(LMP-CTRL enum changes:

OPSTATE)

(LMP-DLINK enum changes:

DATALINK

OPSTATE)

(LMP-TLINK enum changes:

MUXCAP
OPSTATE)

OPR-APC syntax changed:

OPR-APC[:<TID>]:<CTAG>;
OPR-APC[:<TID>]:<aid>:<CTAG>;

RTRV-ALM-ALL syntax changed: (All platforms)

RTRV-ALM-ALL[:<TID>][:<aid>]:<CTAG>[:<ntfncde>],[<condtype>],[<srveff>][,.,,];

RTRV-ALM-ALL[:<TID>][:<aid>]:<CTAG>[:<ntfncde>],[<condtype>],[<srveff>],[<locn>],[<dirn>][,.,];

RTRV-ALM-ALL response changes:

[<aid>],[<aidtype>]:<ntfncde>,<condtype>,<srveff>,<ocrdat>,<ocrtm>,,:[<desc>],[<aiddet>]

[<aid>],[<aidtype>]:<ntfncde>,<condtype>,<srveff>,<ocrdat>,<ocrtm>,[<location>],[<direction>]:[<desc>],[<aiddet>]

(RTRV-ALM-ALL enum changes:

DIRECTION
MOD2B)

RTRV-ALM-BITS syntax changed: (All platforms)

RTRV-ALM-BITS[:<TID>]:<aid>:<CTAG>[:<ntfncde>],[<condtype>],[<srveff>][,.,,];

RTRV-ALM-BITS[:<TID>]:<aid>:<CTAG>[:<ntfncde>],[<condtype>],[<srveff>],[<locn>],[<dirn>][,.,];

RTRV-ALM-BITS response changes:

<aid>,[<aidtype>]:<ntfncde>,<condtype>,<srveff>,[<ocrdat>],[<ocrtm>],,:[<desc>],

<aid>,[<aidtype>]:<ntfncde>,<condtype>,<srveff>,[<ocrdat>],[<ocrtm>],[<location>],[<direction>]:[<desc>],

(RTRV-ALM-BITS enum changes:

DIRECTION
MOD2B)

RTRV-ALM-EQPT syntax changed: (All platforms)

```
RTRV-ALM-EQPT[:<TID>]:<aid>:<CTAG>[:<ntfncde>],[<condtype>],[<srveff>][,.,,];
```

```
RTRV-ALM-EQPT[:<TID>]:<aid>:<CTAG>[:<ntfncde>],[<condtype>],[<srveff>],[<locn>],[<dirn>][,.,];
```

RTRV-ALM-EQPT response changes:

```
[<aid>],[<aidtype>]:<ntfncde>,<condtype>,<srveff>,[<ocrdat>],[<ocrtm>],[<stringValue>]:<desc>],
```

```
[<aid>],[<aidtype>]:<ntfncde>,<condtype>,<srveff>,[<ocrdat>],[<ocrtm>],[<location>],[<direction>]:<desc>],
```

(RTRV-ALM-EQPT enum changes:

```
DIRECTION
MOD2B)
```

RTRV-ALM-SYNCN syntax changed: (All platforms)

```
RTRV-ALM-SYNCN[:<TID>]:<aid>:<CTAG>[:<ntfncde>],[<condtype>],[<srveff>][,.,,];
```

```
RTRV-ALM-SYNCN[:<TID>]:<aid>:<CTAG>[:<ntfncde>],[<condtype>],[<srveff>],[<locn>],[<dirn>][,.,];
```

RTRV-ALM-SYNCN response changes:

```
<aid>,[<aidtype>]:<ntfncde>,<condtype>,<srveff>,[<ocrdat>],[<ocrtm>],,,:<desc>],
```

```
<aid>,[<aidtype>]:<ntfncde>,<condtype>,<srveff>,[<ocrdat>],[<ocrtm>],[<location>],[<direction>]:<desc>],
```

(RTRV-ALM-SYNCN enum changes:

```
DIRECTION
MOD2B)
```

REPT^ALM^<MOD2ALM> response changes : (All platforms)

```
"<aid>:< ntfncde>,<condtype>,<srveff>,[<ocrdat>],[<ocrtm>]>],,,:<desc>],[<aiddet>]";
```

```
"<aid>:< ntfncde>,<condtype>,<srveff>,[<ocrdat>],[<ocrtm>]>],[<locn>,<dirn>,,:<desc>],[<aiddet>]";
```

REPT^ALM^BITS response changes: (All platforms)

```
"<aid>:<ntfncde>,<condtype>,<srveff>,[<ocrdat>],[<ocrtm>]:<desc>]";
```

"<aid>:<ntfncde>,<condtype>,<srveff>,[<ocrdat>],[<ocrtm>],<locn>,<dirn>:[<desc>]";

REPT^ALM^COM response changes: (All platforms)

"[<aid>]:<ntfncde>,<condtype>,<srveff>,[<ocrdat>],[<ocrtm>]:[<desc>]";

"[<aid>]:<ntfncde>,<condtype>,<srveff>,[<ocrdat>],[<ocrtm>],[<locn>],[<dirn>]:[<desc>]";

REPT^ALM^EQPT response changes: (All platforms)

"<aid>:<ntfncde>,<condtype>,<srveff>,[<ocrdat>],[<ocrtm>]:[<desc>],[<aiddet>]";

"<aid>:<ntfncde>,<condtype>,<srveff>,[<ocrdat>],[<ocrtm>],<locn>,<dirn>:[<desc>],[<aiddet>]";

Same response change applies to REPT^ALM^SYNCN

REPT^EVT^<MOD2ALM> response changes : (All platforms)

"<aid>:<condtype>,[<condeff>],,,[<monval>],[<thlev>],[<tmper>]:[<desc>],[<aiddet>]";

"<aid>:<condtype>,[<condeff>],,,[<locn>],[<dirn>],[<monval>],[<thlev>],[<tmper>]:[<desc>],[<aiddet>]";

REPT^EVT^BITS response changes: (All platforms)

"<aid>:<condtype>,[<condeff>],,,,,:[<desc>]";

"<aid>:<condtype>,[<condeff>],,,,,[<locn>],[<dirn>]:[<desc>]";

REPT^EVT^COM response changes: (All platforms)

"[<aid>]:<condtype>,[<condeff>],,,,,:[<desc>]";

"[<aid>]:<condtype>,[<condeff>],,,[<locn>],[<dirn>],,,:[<desc>]";

REPT^EVT^SECU response changes: (All platforms)

"<aid>:<condtype>,<condeff>,,,,:<security>:<msg>";

"<aid>:<condtype>,<condeff>,,,<locn>,<dirn>,,:<security>:<msg>";

REPT^EVT^EQPT response changes: (All platforms)

"<aid>:<condtype>,[<condeff>],,,,,:[<desc>],[<aiddet>]";

"<aid>:<condtype>,[<condeff>],,,,,[<locn>],[<dirn>]:[<desc>],[<aiddet>]";

Same response change applies to REPT^EVT^SYNCN

RTRV-APC syntax changed:

RTRV-APC[:<TID>]::<CTAG>[:::];

RTRV-APC[:<TID>]:<aid>:<CTAG>[:::];

RTRV-APC response changes:

```
::[<apcenable>],[<apcstate>]:
[<aid>]::[<apcenable>],[<apcstate>]:
```

RTRV-BITS response changes:

```
<aid>::[<linecde>],[<fmt>],[<lbo>],[<syncmsg>],[<aisthrshld>],[<saBit>],[<bitsfac>],[<admssm>]:[<pst>]
```

```
<aid>::[<linecde>],[<fmt>],[<lbo>],[<syncmsg>],[<aisthrshld>]
[<saBit>],[<impedance>],[<bitsfac>],[<admssm>] [ <pst>]
```

(RTRV-BITS enum changes:

```
SYNC_CLOCK_REF_QUALITY_LEVEL)
```

(RTRV-CKT-ORIG enum changes:

```
MOD_PATH)
```

(RTRV-CKT-TERM enum changes:

```
MOD_PATH)
```

RTRV-COND-ALL syntax changed:

```
RTRV-COND-ALL[:<TID>]:[<aid>]:<CTAG>[::<typereq>][,.,,];
RTRV-COND-ALL[:<TID>]:[<aid>]:<CTAG>[::<typereq>],[<locn>],[<dirn>][,.,,];
```

RTRV-COND-ALL response changes:

```
<aid>,[<aidtype>]:[<ntfcncde>],[<typerep>],[<srveff>],[<ocrdat>],[<ocrtm>],,,[<desc>]
```

```
<aid>,[<aidtype>]:[<ntfcncde>],[<typerep>],[<srveff>],[<ocrdat>],[<ocrtm>],[<location>],[<direction>]
,[<desc>]
```

(RTRV-COND-ALL enum changes:

```
DIRECTION
MOD2B)
```

RTRV-COND-BITS syntax changed:

```
RTRV-COND-BITS[:<TID>]:[<aid>]:<CTAG>[::<typereq>][,.,,];
RTRV-COND-BITS[:<TID>]:[<aid>]:<CTAG>[::<typereq>],[<locn>],[<dirn>][,.,,];
```

RTRV-COND-BITS response changes:

<aid>,[<aidtype>]:[<ntfcncde>],<typerep>,[<srveff>],[<ocrdat>],[<ocrtm>],,,[<desc>]

<aid>,[<aidtype>]:[<ntfcncde>],<typerep>,[<srveff>],[<ocrdat>],[<ocrtm>],[<location>],[<direction>],[<desc>]

(RTRV-COND-BITS enum changes:

DIRECTION
MOD2B)

RTRV-COND-EQPT syntax changed:

RTRV-COND-EQPT[:<TID>]:<aid>:<CTAG>[:<typereq>][,,,];
RTRV-COND-EQPT[:<TID>]:<aid>:<CTAG>[:<typereq>],[<locn>],[<dirn>][,];

RTRV-COND-EQPT response changes:

<aid>,[<aidtype>]:[<ntfcncde>],<typerep>,[<srveff>],[<ocrdat>],[<ocrtm>],,,[<desc>]

<aid>,[<aidtype>]:[<ntfcncde>],<typerep>,[<srveff>],[<ocrdat>],[<ocrtm>],[<location>],[<direction>],[<desc>]

(RTRV-COND-EQPT enum changes:

DIRECTION
MOD2B)

RTRV-COND-SYNCN syntax changed:

RTRV-COND-SYNCN[:<TID>]:<aid>:<CTAG>[:<typereq>][,,,];
RTRV-COND-SYNCN[:<TID>]:<aid>:<CTAG>[:<typereq>],[<locn>],[<dirn>][,];

RTRV-COND-SYNCN response changes:

<aid>,[<aidtype>]:[<ntfcncde>],<typerep>,[<srveff>],[<ocrdat>],[<ocrtm>],,,[<desc>]

<aid>,[<aidtype>]:[<ntfcncde>],<typerep>,[<srveff>],[<ocrdat>],[<ocrtm>],[<location>],[<direction>],[<desc>]

(RTRV-COND-SYNCN enum changes:

DIRECTION
MOD2B)

RTRV-DGN-EQPT response changes:

<aid>:

<slot>

(RTRV-E1 enum changes:

DIRECTION

SYNC_CLOCK_REF_QUALITY_LEVEL)

(RTRV-E4 enum changes:

PAYLOAD)

RTRV-EQPT response changes:

```
<aid>:<aidtype>,<equip>,<role>,<status>:[<protid>],[<prtype>],[<rvrtv>],[<rvtm>],[<cardname>]
,<ioscfg>,<cardmode>,<peerid>,<regenname>,<transmode>,<retime>,<shelfrole>]:<pst>,[
<sst>]
```

```
<aid>:<aidtype>,<equip>,<role>,<status>:[<protid>],[<prtype>],[<rvrtv>],[<rvtm>],[<cardname>]
,<ioscfg>,<cardmode>,<peerid>,<regenname>,<peername>,<transmode>,<retime>,<shelf
role>,<frprole>,<frpstate>]:<pst>,<sst>
```

(RTRV-EQPT enum changes:

CARDMODE (454, 310MA, 310CL : Lotus20gCE2, Gt3CE2)

FRPROLE

FRPSTATE)

RTRV-FSTE response changes:

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

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

RTRV-GIGE response changes:

```
<aid>:,<role>,<status>:[ adminstate>],[ linkstate>],[ mtu>],[ encap>],[
flowctrl>],[<autoneg>],[hiwmrk>],[<lowmrk>],[<optics>],[<duplex>],[<speed>],
[<name>],[<freq>],[<lossb>],[<soak>],[<soakleft>],[<sqlch>]:<pst>,<sst>;
```

```
<aid>:,<role>,<status>:[ adminstate>],[ linkstate>],[ mtu>],[ encap>],[<flow
>],[flowctrl>],[<autoneg>],[hiwmrk>],[<lowmrk>],[<optics>],[<duplex>],[<speed>],[<name>],[<freq
>],[<lossb>],[<suppress>],[<soak>],[<soakleft>],[<sqlch>],[<cir>],[<pbs>],[<pbs>]:<pst>,<sst>;
```

(RTRV-G1000 enum changes:

ENCAP)

RTRV-INV response changes:

<aid>,<aidtype>::[<pn>],[<hwrev>],[<fwrev>],[<sn>],[<clei>],[<twl1=nwl in
code>],[<pluginvendorid>],[<pluginpn>],[<pluginhwrev>],[<pluginfwrev>],[<pluginsn>],[<i lossref>],
[<productId>],[<versionId>],[<fpgaVersion>],[<vendorId>]

<aid>,<aidtype>::[<pn>],[<hwrev>],[<fwrev>],[<sn>],[<clei>],[<twl>],[<pluginvendorid>],[<plugin
n>],[<pluginhwrev>],[<pluginfwrev>],[<pluginsn>],[<i lossref>],[<productId>],[<versionId>],[<fpgaV
ersion>],[<vendorId>],[<moduletype>]

(RTRV-L2-ETH enum changes:

ETH_BRIDGESTATE

ETH_NIMODE

ETH_QNQMODE)

(RTRV-NE-APC enum changes:

MOD2)

RTRV-NE-GEN response changes :

[IPADDR=<ipaddr>],[IPMASK=<ipmask>],[DEFRTR=<defrtr>],[IIOPPORT=<iioport>],[NTP=<ntp
>],[ETHIPADDR=<ethipaddr>],[ETHIPMASK=<ethipmask>],[NAME=<name>],[SWVER=<swver>]
],[LOAD=<load>],[PROTSWVER=<protswver>],[PROTLOAD=<protload>],[DEFDESC=<defdesc>],[
PLATFORM=<platform>],[SECUMODE=<secumode>],[SUPPRESSIP=<suppressip>],[MODE=<mo
de>]

[IPADDR=<IPADDR>],[IPMASK=<IPMASK>],[DEFRTR=<DEFRTR>],

[IIOPPORT=<IIOPPORT>],[NTP=<NTP>],[ETHIPADDR=<ETHIPADDR>],

[ETHIPMASK=<ETHIPMASK>],[NAME=<NAME>],[SWVER=<SWVER>],[LOAD=<LOAD>],

[PROTSWVER=<PROTSWVER>],[PROTLOAD=<PROTLOAD>],[DEFDESC=<DEFDESC>],

[PLATFORM=<PLATFORM>],[SECUMODE=<SECUMODE>],[SUPPRESSIP=<SUPPRESSIP>],

[PROXYSRV=<PROXYSRV>],[FIREWALL=<FIREWALL>],[AUTOPM=<AUTOPM>],

[SERIALPORTECHO=<SERIALPORTECHO>

RTRV-NE-PATH response changes:

<rvtm>
<pdip>,<loxcmode>

RTRV-NE-SYNCN response changes:

[<aid>]:[<tmmd>],[<ssmgen>],[<qres>],[<rvrtv>],[<rvtm>]
[<aid>]:[<tmmd>],[<ssmgen>],[<qres>],[<rvrtv>],[<rvtm>],[<systemn>]

(RTRV-NE-SYNCN enum changes:

SYSTEM_TIMING)

RTRV-OCH response changes:

<aid>:.,[<role>],[<status>]:[<rdirn>],[<opticalPortType>],[<power>],[<expWlen>],[<actWlen>],[<iloss>],[<voamode>],[<voaattn>],[<voapwr>],[<voarefattn>],[<voarefpwr>],[<refopwr>],[<calopwr>],[<chpower>],[<portname>],[<sfber>],[<sdber>],[<comm>],[<gccrate>],[<dwrap>],[<fec>],[<payloadmap>],[<lbclcurr>],[<optcurr>],[<oprcurr>],[<osfber>],[<osdber>],[<macaddr>],[<syncmsg>],[<senddus>],[<soak>],[<soakleft>],[<ospf>],[<mfs>]:<pst>,<sst>

<aid>:.,[<role>],[<status>]:[<opticalPortType>],[<power>],[<expWlen>],[<actWlen>],[<iloss>],[<voamode>],[<voaattn>],[<voapwr>],[<voarefattn>],[<voarefpwr>],[<refopwr>],[<calopwr>],[<chpower>],[<chpowerFlg>],[<portname>],[<gcc>],[<gccrate>],[<dwrap>],[<fec>],[<payloadmap>],[<lbclcurr>],[<optcurr>],[<oprcurr>],[<osfber>],[<osdber>],[<soak>],[<soakleft>],[<lossb>]:<pst>,<sst>

(RTRV-OCH enum changes:

RDIRN_MODE
WDMANS_FLAG)

RTRV-OCHCC response changes:

[<aid>]:<payload>:[<pst>]
<aid>:[<payload>],[<cktId>]:<pst>,<sst>

(RTRV-OCHCC enum changes:

MOD1PAYLOAD)

RTRV-OCHNC response changes:

[<src>]:[<wct>]:[<pst>]
<aidsrc>,<aiddst>:<wct>:[<cktId>],[<wlopwr>],[<opwr>],[<voaattn>]:<pst>,<sst>

(RTRV-OCHNC enum changes:

WCT)

RTRV-OMS response changes:

```
<aid>::<rdirn>,<opticalPortType>,<power>,<expBand>,<actBand>,<iLoss>,<voamode>,<voattn>,<voapwr>,<voarefattn>,<voarefpwr>,<refopwr>,<calopwr>,<chpower>,<name>,<soak>,<soakleft>:<pst>,<sst>
```

```
<aid>::<opticalPortType>,<power>,<expBand>,<actBand>,<iLoss>,<voamode>,<voattn>,<voapwr>,<voarefattn>,<voarefpwr>,<refopwr>,<calopwr>,<chpower>,<chpowerFlg>,<name>,<soak>,<soakleft>:<pst>,<sst>
```

(RTRV-OMS enum changes:

RDIRN_MODE

WDMANS_FLAG)

RTRV-OPM response changes:

```
<aid>::<powerout>,<poweradd>,<powerpt>:
```

RTRV-OTS response changes:

```
<aid>::<rdirn>,<opticalPortType>,<power>,<iLoss>,<voamode>,<voattn>,<voapwr>,<voarefattn>,<voarefpwr>,<osri>,<amplmode>,<chpower>,<gain>,<expgain>,<refopwr>,<offset>,<reftilt>,<caltilt>,<aseopwr>,<dcLoss>,<awgst>,<heatst>,<name>,<soak>,<soakleft>:<pst>,<sst>
```

```
<aid>::<opticalPortType>,<power>,<iLoss>,<voamode>,<voattn>,<voapwr>,<voarefattn>,<voarefpwr>,<osri>,<amplmode>,<amplmodeFlg>,<chpower>,<chpowerFlg>,<gain>,<expgain>,<expgainFlg>,<refopwr>,<offset>,<reftilt>,<reftiltFlg>,<caltilt>,<aseopwr>,<dcLoss>,<awgst>,<heatst>,<name>,<soak>,<soakleft>:<pst>,<sst>
```

(RTRV-OTS enum changes:

RDIRN_MODE

WDMANS_FLAG)

(RTRV-PM-ALL enum changes:

DIRECTION)

(RTRV-QNQ-ETH enum changes:

ETH_RULE)

(RTRV-STM1E enum changes:
PAYLOAD)

(RTRV-TH-ALL enum changes:
MOD2B)

(RTRV-TRC-OC48 enum changes:
MOD_PATH)

(RTRV-TRC-OCH enum changes:
MOD2)

RTRV-VC syntax changed:
RTRV-VC[:<TID>]:<aid>:<CTAG>[::BLSRPHTHTYPE=<blsrphtype>][:];
RTRV-VC[:<TID>]::<CTAG>;

(RTRV-VC enum changes:
PRODUCT_TYPE)

(RTRV-WLEN enum changes:
WCT)

(SW-TOPROTN-EQPT enum changes:
DIRECTION)

(SW-TOWKG-EQPT enum changes:
DIRECTION)

TL1 ENUM Changes

TL1 ENUM Items Added or Removed

The following section highlights ENUM items changed (added or removed) for Release 8.0, by ENUM type.

AUTOPM_TMPER

AUTOPM_TMPER enum added with the following items in it (all platforms):
AUTOPM_TMPER_NONE

AUTOPM_TMPER_15MIN
 AUTOPM_TMPER_1DAY
 AUTOPM_TMPER_BOTH

CARDMODE

CARDMODE enum items added:

CARDMODE enum items added (454, 310 MA, 310 CL)
 CARDMODE_CEMR_AUTO => "CEMR-AUTO" (Lotus20gCE2,Gt3CE2)
 CARDMODE_CEMR_MANUAL => "CEMR-MANUAL" (Lotus20gCE2, Gt3CE2)

CARDMODE is used in the following commands (454, 310 MA, 310 CL):

ED-EQPT (Lotus20gCE2,Gt3CE2)
 ENT-EQPT (Lotus20gCE2,Gt3CE2)
 RTRV-EQPT (Lotus20gCE2,Gt3CE2)

DIRECTION

DIRECTION enum items added (454, 454 SDH, 310 MA, 310 CL, 600, 600 SDH):

DIRECTION_TD_NA => "NA"

DIRECTION is used in the following commands:

ALW-SWTOPROTN-EQPT
 ALW-SWTOWKG-EQPT
 EX-SW-OCN-BLSR
 INH-SWTOPROTN-EQPT
 INH-SWTOWKG-EQPT
 INIT-REG-MOD2
 OPR-PROTNSW-OCN-TYPE
 RLS-PROTNSW-OCN-TYPE
 RTRV-ALM-ALL
 RTRV-ALM-BITS
 RTRV-ALM-EQPT
 RTRV-ALM-MOD2ALM
 RTRV-ALM-SYNCN
 RTRV-COND-ALL
 RTRV-COND-BITS
 RTRV-COND-EQPT
 RTRV-COND-MOD2ALM
 RTRV-COND-SYNCN

RTRV-E1
 RTRV-PM-ALL
 RTRV-PM-MOD2
 SW-TOPROTN-EQPT
 SW-TOWKG-EQPT

ENCAP

ENCAP enum items added to (454, 454 SDH, 310 MA, 310 CL, 600 SDH):
 ENCAP_RPR_GFP_F => "RPR-GFP-F"

ENCAP is used in the following commands:

ED-G1000
 ED-POS
 RTRV-FC
 RTRV-G1000
 RTRV-POS

EQPT_TYPE

EQPT_TYPE enum items dropped:

EQPT_TYPE_EQPT_ID_ML2_EXIGE_MAPPER_CARD => "CE-100T-8"

EQPT_TYPE enum items added:

EQPT_TYPE_EQPT_ID_CEMR_310 => "CE-MR-6" (310 MA, 310CL: Gt3CE2)
 EQPT_TYPE_EQPT_ID_ML2_EXIGE_MAPPER => "CE-100T-8" (454, 454 SDH, 310 MA, 310CL)

EQUIPMENT_TYPE

EQUIPMENT_TYPE enum items dropped:

EQUIPMENT_TYPE_ET_ML2_EXIGE_MAPPER_CARD => "CE-100T-8"

EQUIPMENT_TYPE enum items added:

EQUIPMENT_TYPE_ET_CEMR_310 => "CE-MR-6" (310 MA, 310CL: Gt3CE2)
 EQUIPMENT_TYPE_ET_ML2_EXIGE_MAPPER => "CE-100T-8" (454, 454 SDH, 310 MA, 310 CL)

EQUIPMENT_TYPE

EQUIPMENT_TYPE is used in the following commands:

CHG-EQPT
 ENT-EQPT

ETH_RULE

ETH_RULE enum items added:

ETH_RULE_ADD => "ADD"

ETH_RULE_XLTE => "XLTE"

ETH_RULE is used in the following commands:

ED-QNQ-ETH

ENT-QNQ-ETH

RTRV-QNQ-ETH

MOD2

MOD2 enum items dropped:

MOD2_M2_OCHNC => "OCHNC"

MOD2 enum items added (454, 454 SDH):

MOD2_M2_ETH => "ETH" (454, 454 SDH, 310 MA, 310CL, Lotus20gCE2, Gt3CE2)

MOD2 is used in the following commands:

ED-OCHCC

RTRV-FFP-MOD2

RTRV-NE-APC

RTRV-NE-WDMANS

RTRV-TRC-OCH

SCHED-PMREPT-MOD2

RTRV-PMSCHED-ALL

RTRV-PMSCHED-MOD2

RTRV-TRC-MOD2

MOD2ALM

MOD2ALM enum items added:

MOD2ALM_M2_ETH => "ETH" (454, 454 SDH, 310 MA, 310CL, Lotus20gCE2, Gt3CE2)

MOD2ALM is used in the following commands:

RTRV-ALM-MOD2ALM

RTRV-COND-MOD2ALM

MOD2B

MOD2B enum items added:

MOD2B_M2_ETH => "ETH" (454, 454 SDH, 310 MA, 310CL, Lotus20gCE2, Gt3CE2)

MOD2B is used in the following commands:

ALS
 RTRV-ALM-ALL
 RTRV-ALM-BITS
 RTRV-ALM-EQPT
 RTRV-ALM-SYNCN
 RTRV-COND-ALL
 RTRV-COND-BITS
 RTRV-COND-EQPT
 RTRV-COND-SYNCN
 RTRV-PM-MOD2
 RTRV-TH-ALL
 RTRV-TH-MOD2

MOD2_DATA

MOD2_DATA enum items added:

MOD2_DATA_M2_ETH => "ETH" (454, 454 SDH, 310 MA, 310CL, Lotus20gCE2, Gt3CE2)

MOD2_DATA is used in the following commands:

DLT-RMONTH-MOD2-DATA

OPTICAL_NODE_TYPE

OPTICAL_NODE_TYPE enum items added:

OPTICAL_NODE_TERMINAL => "TERMINAL"

OPTICAL_NODE_TYPE is used in the following commands:

RTRV-WDMANS

PAYLOAD

PAYLOAD enum items dropped:

PAYLOAD_PT_ETHER => "ETHERNET"

PAYLOAD enum items added:

PAYLOAD_PT_ETHER => "ETH" (454, 454 SDH, 310 MA, 310CL, Lotus20gCE2, Gt3CE2)

PAYLOAD_PT_ILK => "ILK"

PAYLOAD_PT_OCH => "OCH"
 PAYLOAD_PT_OTU2 => "OTU2"

PAYLOAD is used in the following commands:

ED/RTRV-FAC
 ED/RTRV-E4
 ED/RTRV-STM1E

PMMODE

PMMODE enum items added:

PMMODE_PROPRIETARY => "PROPRIETARY"
 PMMODE_STD => "STD"

PMMODE is used in the following commands:

ED/RTRV-OTU2

REACH

REACH enum items added:

REACH_CWDM => "CWDM"
 REACH_DWDM => "DWDM"
 REACH_ZR => "ZR"

REACH is used in the following commands:

ED-DWDM-CLNT
 ED-FC
 ED-GIGE
 ED-OCH
 ED-OCN-TYPE
 ED-OTU2
 RTRV-DWDM-CLNT
 RTRV-FC
 RTRV-GIGE
 RTRV-OCH
 RTRV-OCN-TYPE
 RTRV-OTU2

REGULATED_PORT_TYPE

REGULATED_PORT_TYPE enum items added:

REGULATED_PORT_MISSING_PARAM => "MISSING-PARAM"

REGULATED_PORT_TYPE is used in the following commands:

RTRV-NE-WDMANS

RETPM_TYPE

RETPM_TYPE enum added with the following items in it (all platforms)

RETPM_TYPE_NONE
 RETPM_TYPE_AUTO
 RETPM_TYPE_SCHED
 RETPM_TYPE_BOTH

RETPM_TYPE

RETPM_TYPE is used in the following commands:

SCHED-PMREPT-<MOD2>

RFILE

RFILE enum items added (454, 454 SDH, 310 MA, complete Db backup):

RFILE_COMPDB => "RFILE-COMPDB"

RFILE is used in the following commands:

COPY-IOSCFG
 COPY-RFILE

SYNC_CLOCK_REF_QUALITY_LEVEL

SYNC_CLOCK_REF_QUALITY_LEVEL enum items added:

SYNC_CLOCK_REF_QUALITY_LEVEL_QREF_SSM_FAILED => "SSM-FAILED"

SYNC_CLOCK_REF_QUALITY_LEVEL is used in the following commands:

ED-BITS
 ED-E1
 ED-OCN-TYPE
 ED-T1
 RTRV-BITS
 RTRV-E1
 RTRV-OCN-TYPE
 RTRV-SYNCN
 RTRV-T1

SYSTEM_TIMING

SYSTEM_TIMING enum items added:

SYSTEM_TIMING_SDH => "SDH"

SYSTEM_TIMING_SONET => "SONET"

SYSTEM_TIMING is used in the following commands:

ED-NE-SYNCN

RTRV-NE-SYNCN

VALIDITY

VALIDITY enum items dropped:

VALIDITY_CV_OFF => "OFF"

VALIDITY enum items added:

VALIDITY_CV_OFF => "NA"

VALIDITY is used in the following commands:

RTRV-PM-MOD2

WCT

WCT enum items added:

WCT_DIAG => "DIAG"

WCT_TWOWAYDCN => "2WAYDCN"

WCT is used in the following commands:

ENT-OCHNC

RTRV-OCHNC

RTRV-WLEN

Related Documentation

Release-Specific Documents

- *Release Notes for the Cisco ONS 15310-CL, Release 7.2*
- *Release Notes for the Cisco ONS 15310-MA, Release 8.0*
- *Release Notes for the Cisco ONS 15454 SDH, Release 8.0*
- *Release Notes for the Cisco ONS 15600 SDH, Release 8.0*

- *Release Notes for the Cisco ONS 15600, Release 8.0*
- *Release Notes for the Cisco ONS 15454, Release 8.0*

Platform-Specific Documents

- *Cisco ONS 15310-CL and Cisco ONS 15310-MA Procedure Guide*
Provides installation, turn up, test, and maintenance procedures
- *Cisco ONS 15310-CL and Cisco ONS 15310-MA Reference Manual*
Provides technical reference information for SONET/SDH cards, nodes, and networks
- *Cisco ONS 15310-CL and Cisco ONS 15310-MA 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

**Note**

From Release 8.0 onwards, the platform-specific documents listed above are not available through the CTC Help menu. You can access PDF and HTML versions of these documents on Cisco.com.

Obtaining Optical Networking Information

This section contains information that is specific to optical networking products. For information that pertains to all of Cisco, refer to the [Obtaining Documentation, Obtaining Support, and Security Guidelines](#) section.

Where to Find Safety and Warning Information

For safety and warning information, refer to the *Cisco Optical Transport Products Safety and Compliance Information* document that accompanied the product. This publication describes the international agency compliance and safety information for the Cisco ONS 15454 system. It also includes translations of the safety warnings that appear in the ONS 15454 system documentation.

Cisco Optical Networking Product Documentation CD-ROM

Optical networking-related documentation, including Cisco ONS 15xxx product documentation, is available in a CD-ROM package that ships with your product. The Optical Networking Product Documentation CD-ROM is updated periodically and may be more current than printed documentation.

Obtaining Documentation, Obtaining Support, and Security Guidelines

For information on obtaining documentation, obtaining support, providing documentation feedback, security guidelines, and also recommended aliases and general Cisco documents, 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>

This document is to be used in conjunction with the documents listed in the [“Related Documentation”](#) section.

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