



Provision Transponder and Muxponder Cards

This chapter explains how to provision transponder (TXP) and muxponder (MXP) cards. The provisioning must be performed before you provision the dense wavelength division multiplexing (DWDM) network and create circuits.



Note

Unless otherwise specified, “ONS 15454” refers to both ANSI and ETSI shelf assemblies.

Before You Begin

Before performing any of the following procedures, investigate all alarms and clear any trouble conditions. Refer to the *Cisco ONS 15454 DWDM Troubleshooting Guide* as necessary.



Caution

Provisioning TXPs and MXPs can be service affecting. You should make all changes during a scheduled maintenance window.

This section lists the chapter procedures (NTPs). Turn to a procedure for applicable tasks (DLPs).

1. [NTP-G128 Manage Pluggable Port Modules, page 5-2](#)—Complete this procedure to provision a multirate pluggable port module (PPM), provision or change the optical line rate of a PPM, or delete a PPM. PPMs provide the fiber interface to the TXP and MXP cards. With the exception of the TXP_MR_10G card, all TXPs and MXPs accept PPMs.
2. [NTP-G33 Create a Y-Cable Protection Group, page 5-14](#)—Complete this procedure, as needed, for TXP and MXP cards that will be protected with Y-cable protection.
3. [NTP-G98 Provision the 2.5G Multirate Transponder Card Line Settings and PM Parameter Thresholds, page 5-17](#)—As needed, complete this procedure to change the transmission settings for TXP_MR_2.5G and TXPP_MR_2.5G cards.
4. [NTP-G96 Provision the 10G Multirate Transponder Card Line Settings, PM Parameters, and Thresholds, page 5-38](#)—As needed, complete this procedure to change the transmission settings for TXP_MR_10G, TXP_MR_10E, TXP_MR_10E_C, and TXP_MR_10E_L cards.
5. [NTP-G97 Modify the 4x2.5G Muxponder Card Line Settings and PM Parameter Thresholds, page 5-60](#)—As needed, complete this procedure to change the transmission settings for MXP_2.5G_10G, MXP_2.5G_10E, MXP_2.5G_10E_C, and MXP_2.5G_10E_L cards.
6. [NTP-G99 Modify the 2.5G Data Muxponder Card Line Settings and PM Parameter Thresholds, page 5-80](#)—As needed, complete this procedure to change the transmission settings for MXP_MR_2.5G and MXPP_MR_2.5G cards.

7. [NTP-G148 Modify the 10G Data Muxponder Card Line Settings and PM Parameter Thresholds, page 5-98](#)—As needed, complete this procedure to change the transmission settings for MXP_MR_10DME_C and MXP_MR_10DME_L cards.
8. [NTP-G162 Change the TXP or MXP ALS Maintenance Settings, page 5-119](#)—As needed, complete this procedure to change a TXP or MXP card automatic laser shutdown settings.
9. [NTP-G192 Force FPGA Update, page 5-120](#)—As needed, complete this procedure to force an upgrade of the FPGA image on the MXP_MR_10DME_C and MXP_MR_10DME_L cards.
10. [NTP-G196 Force FPGA Update when the Card is part of a Protection Group, page 5-121](#)—As needed, complete this procedure to force an upgrade of the FPGA image on the MXP_MR_10DME_C and MXP_MR_10DME_L cards when the card is part of a protection group.

NTP-G128 Manage Pluggable Port Modules

Purpose	Complete this procedure to provision a multirate PPM, provision the optical line rate of a multirate PPM, or delete a single-rate or multirate PPM.
Tools/Equipment	None
Prerequisite Procedures	DLP-G63 Install an SFP or XFP, page 3-54
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher



Note

If a single-rate PPM is installed, the PPM screen will autoprovision and no further steps are necessary.



Note

The hardware device that plugs into a TXP or MXP card faceplate to provide a fiber interface to the card is called a Small Form-factor Pluggable (SFP or XFP). In Cisco Transport Controller (CTC), SFPs and XFPs are called PPMs. SFPs/XFPs are hot-swappable input/output devices that plug into a TXP, MXP, or line card port to link the port with the fiber-optic network. For more information about SFPs and XFPs, refer “Hardware Specifications” chapter in the *Cisco ONS 15454 DWDM Reference Manual*, or the *Installing GBIC, SFP and XFP Optics Modules in Cisco ONS 15454, 15454 SDH, 15327, 15600, and 15310-CL Platforms* document available in the ONS 15454 production documentation website on www.cisco.com.

- Step 1** Complete the “[DLP-G46 Log into CTC](#)” task on [page 2-27](#) to log into an ONS 15454 on the network. If you are already logged in, continue with Step 2.
- Step 2** Click the **Alarms** tab:
 - a. Verify that the alarm filter is not turned on. See the “[DLP-G128 Disable Alarm Filtering](#)” task on [page 9-29](#) as necessary.
 - b. Verify that no unexplained conditions appear on the network. If unexplained conditions appear, resolve them before continuing. Refer to the *Cisco ONS 15454 DWDM Troubleshooting Guide*.
- Step 3** If you are provisioning a MXP_MR_2.5G and MXPP_MR_2.5G card, complete the “[DLP-G235 Change the 2.5G Data Muxponder Card Mode](#)” task on [page 5-3](#). If not, continue with [Step 4](#)

- Step 4** If you are provisioning a MXP_MR_10DME_C and MXP_MR_10DME_L card, complete the “[DLP-G332 Change the 10G Data Muxponder Port Mode](#)” task on page 5-4. If not, continue with [Step 5](#).
- Step 5** Complete the “[DLP-G277 Provision a Multirate PPM](#)” task on page 5-6. If you preprovisioned a multirate PPM ([DLP-G273 Preprovision an SFP or XFP Slot](#), page 3-55), skip this step and continue with [Step 6](#).
- Step 6** If you are provisioning an IBM ETR_CLO (External Time Reference – Control Link Oscillator) or InterSystem Coupling Link (ISC) service on the PPM, complete “[DLP-G274 Verify Topologies for ETR_CLO and ISC Services](#)” task on page 5-7. Otherwise, continue with [Step 7](#).
- Step 7** Complete the “[DLP-G278 Provision the Optical Line Rate](#)” task on page 5-9 to assign a line rate to a TXP or MXP port.
- Step 8** If you need to delete a PPM at any point in this procedure, complete the “[DLP-G280 Delete a PPM](#)” task on page 5-13.
- Stop. You have completed this procedure.**
-

DLP-G235 Change the 2.5G Data Muxponder Card Mode

Purpose	This task changes the card mode for MXP_MR_2.5G and MXPP_MR_2.5G muxponder cards. The card mode determines what PPMs can be provisioned for the card.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC , page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

- Step 1** Click the **Provisioning > Line > SONET** (ANSI) or **SDH** (ETSI) tabs.
- Step 2** Locate the Trunk port table row and verify that the Service State column value is OOS-MA,DSBLD (ANSI) or Locked-enabled,disabled (ETSI). If yes, continue with [Step 3](#). If not, complete the following steps:
- Click the **Admin State** table cell and choose **OOS,MT** (ANSI) or **Locked,Maintenance** (ETSI).
 - Click **Apply**, then **Yes**.
- Step 3** In node view (single-shelf mode) or shelf view (multishelf view), double-click the MXP_MR_2.5G or MXPP_MR_2.5G card where you want to change the card settings.
- Step 4** Click the **Provisioning > Card** tabs.
- Step 5** Modify any of the settings described in [Table 5-1](#).

Table 5-1 2.5G Data Muxponder Card Settings

Parameter	Description	Options
Card Mode	Sets the mode of operation that determines what PPMs can be provisioned. (PPMs are provisioned in the “ DLP-G277 Provision a Multirate PPM ” task on page 5-6.)	Chose one of the following: - FC-GE—Choose this option if you will provision any of the following PPM port rates: FC1G (Ports 1-1 and 2-1 only), FC2G (Port 1-1 only), FICON1G (Ports 1-1 and 2-1 only), FICON2G (Port 1-1 only), and ONE_GE (Ports 1-1 through 8-1). - Mixed—Choose this option if you will provision any of the following PPM port rates: FC1G and ONE_GE (Port 1-1 only), ESCON (Ports 5-1 through 8-1 only) - ESCON—Choose this option if you will provision the ESCON PPM on Ports 1-1 through 8-1.
Tunable Wavelengths	(Display only) Shows the supported wavelengths of the trunk port after the card is installed in the format: <i>first wavelength-last wavelength-frequency spacing-number of supported wavelengths</i> . For example, 1529.55nm-1561.83nm-50gHz-82.	—

Step 6 Click **Apply**.

Step 7 Return to your originating procedure (NTP).

DLP-G332 Change the 10G Data Muxponder Port Mode

Purpose	This task changes the port mode for the MXP_MR_10DME_C and MXP_MR_10DME_L muxponder cards. The port mode determines what PPMs can be provisioned on the MXP_MR_10DME_C and MXP_MR_10DME_L ports.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC , page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher



Note

To change the card mode, ports within the port group must be OOS (out-of-service). Ports in the other port group do not need to be OOS if you are not changing its card mode.

- Step 1** In node view (single-shelf mode) or shelf view (multishelf view), double-click the MXP_MR_10DME_C or MXP_MR_10DME_L card where you want to change the card settings.
- Step 2** Click the **Provisioning > Card** tabs.
- Step 3** Modify any of the settings described in [Table 5-2](#).



Note The PPM port rates are provisioned in the “[DLP-G277 Provision a Multirate PPM](#)” task on [page 5-6](#).

Table 5-2 10G Data Muxponder Card Settings

Parameter	Description	Options
Port 1-4 Mode	Sets the mode of operation for Ports 1-1 through 4-1.	Chose one of the following: - FC-GE_ISC—Choose this option if you will provision any of the following PPM port rates: FC1G (Ports 1-1 through 4-1), FC2G (Ports 1-1 and 3-1 only), FICON1G (Ports 1-1 through 4-1), FICON2G (Ports 1-1 and 3-1 only), ONE_GE (Ports 1-1 through 4-1), ISC3 COMPAT (Ports 1-1 through 4-1), ISC3 PEER 1G (Ports 1-1 through 4-1), and ISC3 PEER 2G (Ports 1-1 and 3-1 only). - FC4G—Choose this option if you will provision an FC4G or FICON4G PPM (Port 1-1 only).
Port 5-8 Mode	Sets the mode of operation for Ports 5-1 through 8-1.	Chose one of the following: - FC-GE_ISC—choose this option if you will provision any of the following PPM port rates: FC1G (Ports 5-1 through 8-1), FC2G (Ports 5-1 and 7-1 only), FICON1G (Ports 5-1 through 8-1), FICON2G (Ports 5-1 and 7-1 only), ONE_GE (Ports 5-1 through 8-1), ISC3 COMPAT (Ports 5-1 through 8-1), ISC3 PEER 1G (Ports 5-1 through 8-1), and ISC3 PEER 2G (Ports 5-1 and 7-1 only). - FC4G—choose this option if you will provision an FC4G or FICON4G PPM port rate (Port 5-1 only).
Tunable Wavelengths (Display only)	Shows the wavelengths supported by the card. Wavelengths appear after a physical card is installed.	If a MXP_MR_10DME_C card is installed, the 32 C-band wavelengths are displayed. If the MXP_MR_10DME_L card is installed, the 32 L-band wavelengths are displayed.

- Step 4** Click **Apply**.
- Step 5** Return to your originating procedure (NTP).

**Note**

Loopbacks on MXP-MR-10DME are not applicable when Fiber Channel switches are present.

**Note**

If the Fiber Channel switch version is not present then the Distance Extension settings are not supported.

DLP-G277 Provision a Multirate PPM

Purpose	This task provisions a multirate TXP/MXP PPM.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

**Note**

If the PPM was preprovisioned using the “[DLP-G273 Preprovision an SFP or XFP Slot](#)” task on [page 3-55](#) this task is unnecessary, unless the PPM has an Out-of-Service and Autonomous Management, Unassigned (OOS-AUMA,UAS) (ANSI) or unlocked-disabled, unassigned (ETSI) service state.

-
- Step 1** In node view (single-shelf mode) or shelf view (multishelf view), double-click the TXP or MXP card where you want to provision PPM settings.
- Step 2** If this is the first PPM provisioned for the TXP/MXP card, complete the following steps. If not, continue with [Step 3](#).
- Click the **Provisioning > Line > SONET** (ANSI) or **SDH** (ETSI) tabs.
 - Locate the Trunk port table row and verify that the Service State column value is OOS-MA,DSBLD (ANSI) or Locked-enabled,disabled (ETSI). If yes, continue with [Step 3](#). If not, continue with Step
 - Click the **Admin State** table cell and choose **OOS,MT** (ANSI) or **Locked,Maintenance** (ETSI).
 - Click **Apply**, then **Yes**.
- Step 3** Click the **Provisioning > Pluggable Port Modules** tabs.
- Step 4** In the Pluggable Port Modules area, click **Create**. The Create PPM dialog box appears.
- Step 5** In the Create PPM dialog box, complete the following:
- PPM—Choose the slot number where the SFP is installed from the drop-down list.
 - PPM Type—Choose the number of ports supported by your SFP from the drop-down list. If only one port is supported, **PPM (1 port)** is the only option.
- Step 6** Click **OK**. The newly created port appears in the Pluggable Port Modules area. The row in the Pluggable Port Modules area turns white and the Actual Equipment Type column lists the equipment name.
- Step 7** If you want to provision a PPM on another port, repeat Steps [4](#) through [6](#). If not, continue with [Step 8](#).
- Step 8** Return to your originating procedure (NTP).
-

DLP-G274 Verify Topologies for ETR_CLO and ISC Services

Purpose	This task verifies that the DWDM network topology can support the IBM ETR_CLO and ISC services.
Tools/Equipment	Cisco MetroPlanner site plan.
Prerequisite Procedures	None
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

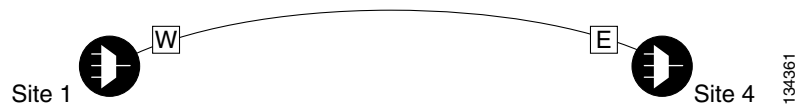
Step 1 Display your site plan in Cisco MetroPlanner.

Step 2 Verify that the topology where you plan to run the ETR_CLO or ISC service is one of the topologies that supports these services:

- Single span—Two terminal sites with no intermediate sites in between and one of the following sets of cards installed:
 - 32MUX-O and 32DMX-O cards
 - 32WSS and 32DMX cards
 - 32WSS and 32-DMX-O cards

Figure 5-1 shows a single-span topology as displayed in Cisco MetroPlanner.

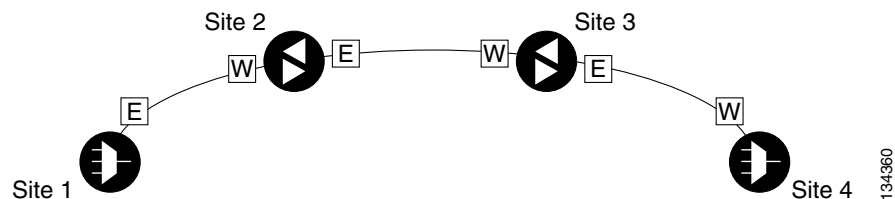
Figure 5-1 Single-Span Topology



- Point-to-Point—Two terminal sites with one of the following sets of cards installed:
 - 32MUX-O and 32DMX-O cards
 - 32WSS and 32DMX cards
 - 32WSS and 32-DMX-O cards

Line amplifiers can be installed between the terminal sites, but intermediate (traffic terminating) sites cannot be installed. Figure 5-2 shows a point-to-point topology as shown in Cisco MetroPlanner.

Figure 5-2 Point-to-Point Topology



- Two hubs—Two hub nodes in a ring with one of the following sets of cards installed:
 - 32MUX-O and 32DMX-O cards

- 32WSS and 32DMX cards
- 32WSS and 32-DMX-O cards

Line amplifiers can be installed between the hubs. [Figure 5-3](#) shows two hub nodes with no line amplifier nodes installed. [Figure 5-4](#) shows two hub nodes with line amplifier nodes installed.

Figure 5-3 Hubs with No Line Amplifiers

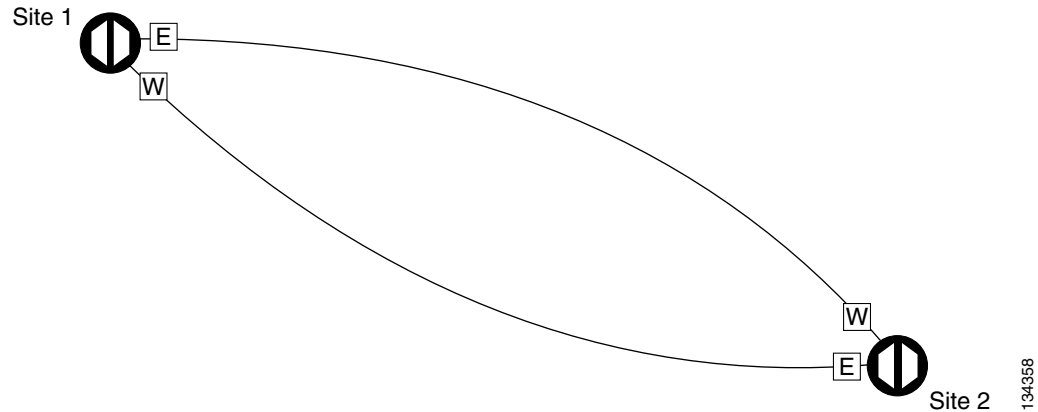
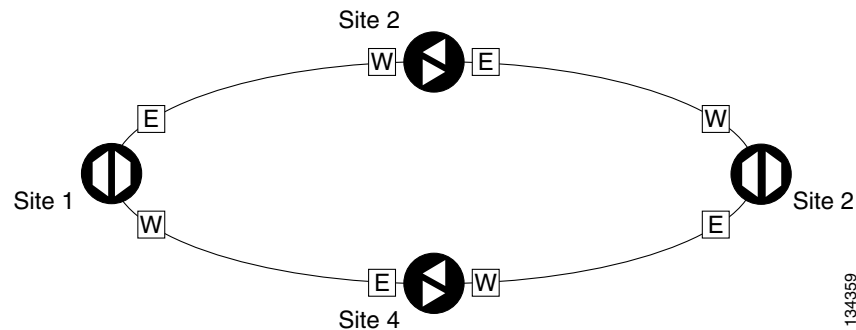


Figure 5-4 Hubs with Line Amplifiers



Step 3 Return to your originating procedure (NTP).

DLP-G278 Provision the Optical Line Rate

Purpose	This task provisions the line rate on a TXP/MXP multirate PPM.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27 DLP-G277 Provision a Multirate PPM, page 5-6 DLP-G274 Verify Topologies for ETR_CLO and ISC Services, page 5-7 , if you are provisioning an ETR_CLO service.
Required/As Needed	Required
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher



Note Single-rate PPMs do not need to be provisioned.

- Step 1** In node view (single-shelf mode) or shelf view (multishelf view), double-click the TXP or MXP card where you want to provision PPM ports. If the data rate that you are provisioning is DV-6000, HDTV, ESCON, SDI/D1 Video, ISC-3 (all cards except the MXP_MR_10DME_C or MXP_MR_10DME_L), or ETR_CLO, complete the following steps. Otherwise, continue with [Step 2](#).
- Click the **Provisioning > OTN > OTN Lines** tabs.
 - In the G.709 OTN field, choose **Disable**.
 - In the FEC field, choose **Disable**.
 - Click **Apply**.
- Step 2** Click the **Provisioning > Pluggable Port Modules** tabs.
- Step 3** In the Pluggable Ports area, click **Create**. The Create Port dialog box appears.
- Step 4** In the Create Port dialog box, complete the following:
- Port—Choose the PPM number and port number from the drop-down list. The first number indicates the PPM in the Pluggable Port Modules area, and the second number indicates the port number on the PPM. For example, the first PPM with one port displays as 1-1 and the second PPM with one port displays as 2-1. The PPM number can be 1 to 4, but the port number is always 1.
 - Port Type—Choose the type of port from the drop-down list. The port type list displays the supported port rates on your PPM. See [Table 5-3 on page 5-10](#) for definitions of the supported rates on the TXP or MXP card.
- Step 5** Click **OK**. The row in the Pluggable Ports area turns light blue until the actual SFP is installed, and then the row turns white.
If the optical parameter values differ from the NE Default settings, change the port state to In-Service (for ANSI) or Unlocked (for ETSI) to synchronize the values with the NE Default settings.
- Step 6** Repeat Steps [3](#) through [5](#) to configure the rest of the port rates as needed.

Table 5-3 **PPM Port Types**

Card	Port Type
TXP_MR_2.5G TXPP_MR_2.5G	• OC-3/STM1—155 Mbps • OC-12/STM4—622 Mbps • OC-48/STM16—2.48 Gbps • ONE_GE—One Gigabit Ethernet 1.125 Gbps • ESCON—Enterprise System Connection 200 Mbps (IBM signal) • DV6000—Proprietary signal from video vendor • SDI_D1_VIDEO—Serial Digital Interface and Digital Video signal type 1 • HDTV—High Definition Television • PASS-THRU—Not specified • FC1G—Fibre Channel 1.06 Gbps • FC2G—Fibre Channel 2.125 Gbps • FICON1G—Fiber connectivity 1.06 Gbps (IBM signal) • FICON2G—Fiber connectivity 2.125 Gbps (IBM signal) • ETR_CLO—External Time Reference—Control Link Oscillator • ISC compat—InterSystem Coupling Link 1 (ISC1) • ISC peer—InterSystem Coupling Link 3 (ISC3)
MXP_2.5G_10G MXP_2.5G_10E MXP_2.5G_10E_C MXP_2.5G_10E_L	• OC-48/STM16—2.48 Gbps
TXP_MR_10G ¹	• SONET (OC-192)/SDH (STM-64) including 10G Ethernet WAN Phy • 10G Ethernet LAN Phy
TXP_MR_10E TXP_MR_10E_C TXP_MR_10E_L	• SONET (OC-192)/SDH (STM-64) including 10G Ethernet WAN Phy—10 Gbps • 10G Ethernet LAN Phy—10 Gbps Ethernet • 10G Fibre Channel—10 Gbps Fibre Channel

Table 5-3 **PPM Port Types (continued)**

Card	Port Type
MXP_MR_2.5G MXPP_MR_2.5G	If the card mode is FC_GE: • FC1G ISL—Fibre Channel 1.06 Gbps (Ports 1-1 and 2-1) • FC2G ISL—Fibre Channel 2.125 Gbps (Port 1-1 only) • FICON1G ISL—Fiber connectivity 1.06 Gbps (IBM signal) (Ports 1-1 and 2-1) • FICON2G ISL—Fiber connectivity 2.125 Gbps (IBM signal) (Port 1-1 only) • ONE_GE—One Gigabit Ethernet 1.125 Gbps (Ports 1-1 and 2-1 only) If the card mode is Mixed: • FC1G ISL—Fibre Channel 1.06 Gbps (Port 1-1 only) • FICON1G ISL—Fiber connectivity 1.06 Gbps (IBM signal) (Port 1-1 only) • ONE_GE—One Gigabit Ethernet 1.125 Gbps (Port 1-1 only) • ESCON—Enterprise System Connection 200 Mbps (IBM signal) (Ports 5-1 through 8-1) If the card mode is ESCON: • ESCON—Enterprise System Connection 200 Mbps (IBM signal) (Ports 1-1 through 8-1)

Table 5-3 **PPM Port Types (continued)**

Card	Port Type
MXP_MR_10DME_C MXP_MR_10DME_L	If the port mode is FC_GE_ISC: - FC1G—Fibre Channel 1.06 Gbps (Ports 1-1 through 8-1) - FC2G—Fibre Channel 2.125 Gbps (Ports 1-1, 3-1, 5-1, and 7-1 only; ports are not available if the port that follows—2-1, 4-1, 6-1, or 8-1—has a PPM provisioned.) - FICON1G—Fiber connectivity 1.06 Gbps (IBM signal) (Ports 1-1 through 8-1) - FICON2G—Fiber connectivity 2.125 Gbps (IBM signal) (Ports 1-1, 3-1, 5-1, and 7-1 only; ports are not available if the port that follows—2-1, 4-1, 6-1, or 8-1—has a PPM provisioned.) - ONE_GE—One Gigabit Ethernet 1.125 Gbps (Ports 1-1 through 8-1) - ISC COMPAT (Ports 1-1 through 8-1) - ISC3 PEER 1G (Ports 1-1 through 8-1) - ISC3 PEER 2G (Ports 1-1, 3-1, 5-1, and 7-1 only; ports are not available if the port that follows—2-1, 4-1, 6-1, or 8-1—has a PPM provisioned.) If the port mode is FC4G: - FC4G—Fibre Channel 4.25 Gbps (Ports 1-1 or 5-1 only; ports are not available if any of the three ports that follow has a PPM provisioned.) - FICON4G—Fiber connectivity 4.25 Gbps (IBM signal) (Ports 1-1 or 5-1 only; ports are not available if any of the three ports that follow has a PPM provisioned.)

1. Provisioned on the Data Rate Selection tab.

Step 7 Return to your originating procedure (NTP).

DLP-G280 Delete a PPM

Purpose	This task deletes PPM provisioning for SFPs or XFPs installed on TXP or MXP cards.
Tools/Equipment	None
Prerequisite Procedures	DLP-G63 Install an SFP or XFP, page 3-54 or DLP-G273 Preprovision an SFP or XFP Slot, page 3-55 DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

**Note**

Before deleting a PPM, delete the PPM from the provisioning pane.

**Note**

This task does not apply to the TXP_MR_10G card.

- Step 1** In node view (single-shelf mode) or shelf view (multishelf view), double-click the TXP or MXP card where you want to delete PPM settings.
- Step 2** Click the **Provisioning > Pluggable Port Modules** tabs.
- Step 3** To delete a PPM and the associated ports:

**Note**

You cannot delete a client port if the client is in the In Service and Normal (IS-NR) (ANSI) or Unlocked-enabled (ETSI) service state; is part of a protection group; has a generic communications channel (GCC) or data communications channel (DCC) in use; is used as a timing source; has circuits; has overhead circuits; or is being used to transport Link Management Protocol channels or links. You can delete a client port if the trunk port is in service and the client port is in the OOS-MA,DSBLD (ANSI) or Locked-enabled,disabled (ETSI) service state, with the exception of the last port. You can delete the last client port only if the trunk port is in a OOS-MA,DSBLD (ANSI) or Locked-enabled,disabled (ETSI) service state for all cards except the MXP_MR_2.5G, MXPP_MR_2.5G, MXP_MR_10DME_C, and MXP_MR_10DME_L cards. For more information about port states, refer to “DWDM Administrative and Service States” appendix in the *Cisco DWDM Reference Manual*.

- a. In the Pluggable Port Modules area, click the PPM that you want to delete. The highlight changes to dark blue.
 - b. Click **Delete**. The Delete PPM dialog box appears.
 - c. Click **Yes**. The PPM provisioning is removed from the Pluggable Port Modules area and the Pluggable Ports area.
- Step 4** Verify that the PPM provisioning is deleted:
- In the TXP/MXP card view, CTC shows an empty port after the PPM is deleted.

- If the SFP or XFP is physically present when you delete the PPM provisioning, CTC transitions to the deleted state, the ports (if any) are deleted, and the PPM is represented as a gray graphic in CTC. The SFP or XFP can be provisioned again in CTC, or the equipment can be removed, in which case the removal causes the graphic to disappear.

- Step 5** If you need to remove the PPM hardware (the SFP or XFP), complete the [“DLP-G64 Remove an SFP or XFP” task on page 3-56](#).
- Step 6** Return to your originating procedure (NTP).
-

NTP-G33 Create a Y-Cable Protection Group

Purpose	This procedure creates a Y-cable protection group between the client ports of two transponder or muxponder cards. For additional information about Y-cable protection, see the “Card Reference” chapter in the <i>Cisco ONS 15454 DWDM Reference Manual</i> .
Tools/Equipment	Installed TXP or MXP cards Cisco MetroPlanner Traffic Matrix
Prerequisite Procedures	NTP-G15 Install the Common Control Cards, page 1-74 NTP-G14 Install DWDM Equipment, page 1-66 DLP-G46 Log into CTC, page 2-27 NTP-G139 Verify Cisco MetroPlanner Reports and Files, page 3-3
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher



Note

For SONET or SDH payloads, Loss of Pointer Path (LOP-P) alarms can occur on a split signal if the ports are not in a Y-cable protection group.

- Step 1** View the Cisco MetroPlanner Traffic Matrix (see [Table 3-1 on page 3-3](#)) for your site. Verify the TXP or MXP cards that need Y-cable protection groups. (Cards requiring Y-cable protection are indicated with “Y-Cable” in the Traffic Matrix table Protection Type column. Refer to the *Cisco MetroPlanner DWDM Operations Guide* for more information.)
- Step 2** Verify that the TXP or MXP cards are installed according to the requirements specified in [Table 3-3 on page 3-77](#). [Table 5-4](#) lists the protection types available in the ONS 15454 for DWDM client cards.

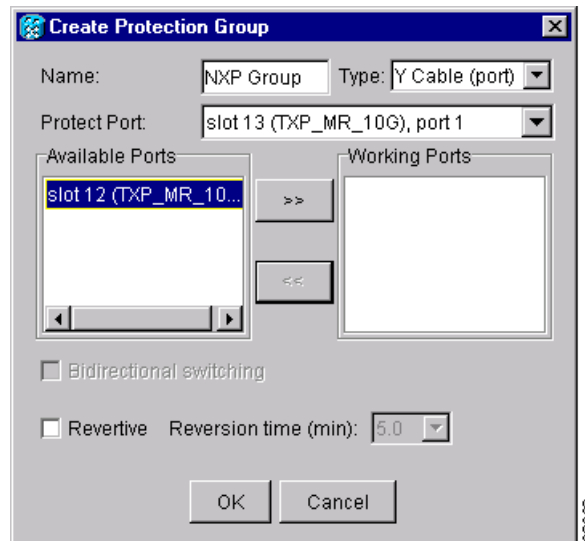
Table 5-4 Protection Types

Type	Cards	Description and Installation Requirements
Y-cable	MXP_2.5_10G MXP_2.5_10E MXP_2.5_10E_C MXP_2.5_10E_L TXP_MR_10G TXP_MR_10E TXP_MR_10E_C TXP_MR_10E_L TXP_MR_2.5G MXP_MR_2.5G MXP_MR_10DME_C MXP_MR_10DME_L	Pairs a working transponder or muxponder card/port with a protect transponder or muxponder card/port. The protect port must be on a different card than the working port and it must be the same card type as the working port. The working and protect port numbers must be the same, that is, Port 1 can only protect Port 1, Port 2 can only protect Port 2, etc.
Splitter	TXPP_MR_2.5G MXPP_MR_2.5G	A splitter protection group is automatically created when a TXPP_MR_2.5G or MXPP_MR_2.5G card is installed. You can edit the splitter protection group name.

- Step 3** Verify that pluggable ports are provisioned for the same payload and payload rate on the TXP and MXP cards where you will create the Y-cable protection group:
- Display the TXP or MXP card in card view.
 - Click the **Provisioning > Pluggable Port Module** tabs.
 - Verify that a pluggable port is provisioned in the Pluggable Port Module area, and the payload type and rate is provisioned for it in the Pluggable Ports area. If they are not the same, for example, if the pluggable port and rate are not the same, you must either delete the provisioned rate and create a new rate to match using the [“DLP-G273 Preprovision an SFP or XFP Slot” task on page 3-55](#) or replace the pluggable port (SFP or XFP). using the [“DLP-G64 Remove an SFP or XFP” task on page 3-56](#).
- Step 4** In node view (single-shelf mode) or shelf view (multishelf view), click the **Provisioning > Protection** tabs.
- Step 5** In the Protection Groups area, click **Create**.
- Step 6** In the Create Protection Group dialog box, enter the following:
- Name—Type a name for the protection group. The name can have up to 32 alphanumeric (a-z, A-Z, 0-9) characters. Special characters are permitted. For TL1 compatibility, do not use question mark (?), backslash (\), or double quote (") characters.
 - Type—Choose **Y Cable** from the drop-down list.
 - Protect Port—From the drop-down list, choose the port that will be the standby or protection port to the active port. The list displays the available transponder or muxponder ports. If transponder or muxponder cards are not installed, no ports appear in the drop-down list.

After you choose the protect port, a list of available working ports appear in the Available Ports list, as shown in [Figure 5-5](#). If no cards are available, no ports appear. If this occurs, you can not complete this task until you install the physical cards or preprovision the ONS 15454 slots using the [“DLP-G353 Preprovision a Single Slot” procedure on page 3-43](#).

Figure 5-5 *Creating a Y-Cable Protection Group*



Step 7 From the Available Ports list, select the port that will be protected by the port you selected in Protect Ports. Click the top arrow button to move the port to the Working Ports list.

Step 8 Complete the remaining fields:

- **Revertive**—Check this check box if you want traffic to revert to the working port after failure conditions remain corrected for the amount of time entered in the Reversion Time field.
- **Reversion time**—If Revertive is checked, select a reversion time from the drop-down list. The range is 0.5 to 12.0 minutes. The default is 5.0 minutes. Reversion time is the amount of time that will elapse before the traffic reverts to the working card. The reversion timer starts after conditions causing the switch are cleared.



Note The Bidirectional switching option is available only for SONET and SDH 1+1 protection groups. It is not available for Y-cable protection groups.

Step 9 Click **OK**.

Step 10 Repeat this procedure for every Y-cable protection group indicated in the Cisco MetroPlanner Traffic Matrix.

Stop. You have completed this procedure.

NTP-G98 Provision the 2.5G Multirate Transponder Card Line Settings and PM Parameter Thresholds

Purpose	This procedure changes the line and threshold settings for TXP_MR_2.5G and TXPP_MR_2.5G transponder cards.
Tools/Equipment	None
Prerequisite Procedures	NTP-G32 Install the Transponder and Muxponder Cards, page 3-51 DLP-G63 Install an SFP or XFP, page 3-54 DLP-G277 Provision a Multirate PPM, page 5-6 (if necessary) DLP-G278 Provision the Optical Line Rate, page 5-9 (if necessary)
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

-
- Step 1** Complete the “[DLP-G46 Log into CTC](#)” task on [page 2-27](#) at the node where you want to change the transponder card settings. If you are already logged in, continue with [Step 2](#).
- Step 2** As needed, complete the “[NTP-G103 Back Up the Database](#)” procedure on [page 13-2](#) to preserve the existing transmission settings.
- Step 3** Perform any of the following tasks as needed:
- [DLP-G229 Change the 2.5G Multirate Transponder Card Settings, page 5-18](#)
 - [DLP-G230 Change the 2.5G Multirate Transponder Line Settings, page 5-20](#)
 - [DLP-G231 Change the 2.5G Multirate Transponder Line Section Trace Settings, page 5-22](#)
 - [DLP-G232 Change the 2.5G Multirate Transponder SONET or SDH Line Threshold Settings, page 5-25](#)
 - [DLP-G320 Change the 2.5G Multirate Transponder Line RMON Thresholds for 1G Ethernet or 1G FC/FICON Payloads, page 5-27](#)
 - [DLP-G305 Provision the 2.5G Multirate Transponder Trunk Port Alarm and TCA Thresholds, page 5-29](#)
 - [DLP-G306 Provision the 2.5G Multirate Transponder Client Port Alarm and TCA Thresholds, page 5-30](#)
 - [DLP-G234 Change the 2.5G Multirate Transponder OTN Settings, page 5-34](#)
 - [DLP-G367 Change the 2.5G Multirate Transponder Trunk Wavelength Settings, page 5-24](#)
- Stop. You have completed this procedure.**
-

DLP-G229 Change the 2.5G Multirate Transponder Card Settings

Purpose	This task changes the card settings for TXP_MR_2.5G and TXPP_MR_2.5G transponder cards.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

-
- Step 1** In node view (single-shelf mode) or shelf view (multishelf view), double-click the TXP_MR_2.5G or TXPP_MR_2.5G card where you want to change the card settings.
- Step 2** Click the **Provisioning > Card** tabs.
- Step 3** Modify any of the settings described in [Table 5-5](#).


Note

The Card subtab Framing Type and Tunable Wavelengths fields are display-only. Framing Type shows the card framing type, either SONET or SDH, depending on whether the card is installed in an ANSI or ETSI chassis. The Tunable Wavelengths shows the tunable wavelengths for the physical TXP_MR_2.5G and TXPP_MR_2.5G that is installed.

Table 5-5 *TXP_MR_2.5G and TXPP_MR_2.5G Transponder Card Settings*

Parameter	Description	Options
Termination Mode	Sets the mode of operation (option only supported for SONET/SDH payloads). Refer to the “Card Reference” chapter in the <i>Cisco ONS 15454 DWDM Reference Manual</i> for more details.	- Transparent - Section (ANSI) or Regeneration Section (ETSI) - Line (ANSI) or Multiplex Section (ETSI)
Regeneration Peer Slot	Sets the slot containing another TXP_MR_2.5G or TXPP_MR_2.5G card to create a regeneration peer group. A regeneration peer group facilitates the management of two TXP_MR_2.5G or TXPP_MR_2.5G cards that are needed to perform a complete signal regeneration. The regeneration peer group synchronizes provisioning of the two cards. Payload type and ITU-T G.709 optical transport network (OTN) changes made on one TXP_MR_2.5G or TXPP_MR_2.5G card are reflected on the peer TXP_MR_2.5G or TXPP_MR_2.5G card. Note Y-cable protection groups cannot be created on TXP_MR_2.5G or TXPP_MR_2.5G cards that are in a regeneration peer group.	- None 1 2 3 4 5 6 12 13 14 15 16 17
Regeneration Group Name	Sets the regeneration peer group name.	User defined.

Step 4 Click **Apply**.

Step 5 Return to your originating procedure (NTP).

DLP-G230 Change the 2.5G Multirate Transponder Line Settings

Purpose	This task changes the line settings for the client port of the TXP_MR_2.5G and TXPP_MR_2.5G transponder cards.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

- Step 1** In node view (single-shelf mode) or shelf view (multishelf view), double-click the TXP_MR_2.5G or TXPP_MR_2.5G card where you want to change the line settings.
- Step 2** Click the **Provisioning > Line > Pluggable Port Rate**, where *Pluggable Port Rate* is the pluggable port rate provisioned on the Pluggable Port Modules tab.
- Step 3** Modify any of the settings described in [Table 5-6](#).



Note The 2.5G multirate transponder trunk settings are provisioned in the “[DLP-G305 Provision the 2.5G Multirate Transponder Trunk Port Alarm and TCA Thresholds](#)” task on page 5-29.

Table 5-6 *TXP_MR_2.5G and TXPP_MR_2.5G Transponder Card Line Settings*

Parameter	Description	Options
Port	(Display only) Displays the port number.	1 2 (Trunk) 3 (Trunk) (TXPP_MR_2.5G card only)
Port Name	The user can assign a logical name for each of the ports shown by filling in this field.	User-defined. Name can be up to 32 alphanumeric/special characters. Blank by default. See the “ DLP-G104 Assign a Name to a Port ” task on page 7-3.
Admin State	Sets the port service state unless network conditions prevent the change. For more information about administrative states, refer to the “Administrative and Service States” appendix in the <i>Cisco ONS 15454 DWDM Reference Manual</i> .	- IS (ANSI) or Unlocked (ETSI) - IS,AINS (ANSI) or Unlocked,automaticInService (ETSI) - OOS,DSBLD (ANSI) or Locked,disabled (ETSI) - OOS,MT (ANSI) or Locked,maintenance (ETSI)

Table 5-6 *TXP_MR_2.5G and TXPP_MR_2.5G Transponder Card Line Settings (continued)*

Parameter	Description	Options
Service State	(Display only) Identifies the autonomously generated state that gives the overall condition of the port. Service states appear in the format: Primary State-Primary State Qualifier, Secondary State. For more information about service states, refer to the “Administrative and Service States” appendix in the <i>Cisco ONS 15454 DWDM Reference Manual</i> .	- IS-NR (ANSI) or Unlocked-enabled (ETSI) - OOS-AU,AINS (ANSI) or Unlocked-disabled, automaticInService (ETSI) - OOS-MA,DSBLD (ANSI) or Locked-enabled,disabled (ETSI) - OOS-MA,MT (ANSI) or Locked-enabled,maintenance (ETSI)
SF BER	(OC-N and STM-N payloads only) Sets the signal fail bit error rate.	1E-3 1E-4 1E-5
SD BER	(OC-N and STM-N payloads only) Sets the signal degrade bit error rate.	1E-5 1E-6 1E-7 1E-8 1E-9
ALS Mode	Sets the automatic laser shutdown (ALS) function.	- Disabled (default) - Auto Restart - Manual Restart - Manual Restart for Test
Reach	Displays the optical reach distance of the client port.	Options: ANSI/ETSI - Autoprovision/Autoprovision (default) - SR - SR 1/I-1—Short reach up to 2-km distance - IR 1/S1—Intermediate reach, up to 15-km distance - IR 2/S2—Intermediate reach up to 40-km distance - LR 1/L1—long reach, up to 40-km distance - LR 2/L2—long reach, up to 80-km distance - LR 3/L3—long reach, up to 80-km distance
Wavelength	Displays the wavelength of the client port.	- First Tunable Wavelength - Further wavelengths: 1310 nm through 1560.61 nm, 100-GHz ITU spacing; coarse wavelength division multiplexing (CWDM) spacing Note: supported wavelengths are marked by asterisks (**)

Table 5-6 *TXP_MR_2.5G and TXPP_MR_2.5G Transponder Card Line Settings (continued)*

Parameter	Description	Options
AINS Soak	(OC-N and STM-N payloads only) Sets the automatic in-service soak period.	- Duration of valid input signal, in hh.mm format, after which the card becomes in service (IS) automatically 0 to 48 hours, 15-minute increments
Type	(OC-N and STM-N payloads only) The optical transport type.	- SONET - SDH

Step 4 Click **Apply**.

Step 5 Return to your originating procedure (NTP).

DLP-G231 Change the 2.5G Multirate Transponder Line Section Trace Settings

Purpose This task changes the section trace settings for TXP_MR_2.5G and TXPP_MR_2.5G transponder cards.

Tools/Equipment None

Prerequisite Procedures [DLP-G46 Log into CTC, page 2-27](#)

Required/As Needed As needed

Onsite/Remote Onsite or remote

Security Level Provisioning or higher



Note This task only applies to SONET services.

Step 1 In node view (single-shelf mode) or shelf view (multishelf view), double-click the TXP_MR_2.5G or TXPP_MR_2.5G card where you want to change the section trace settings.

Step 2 Click the **Provisioning > Line > Section Trace** tabs.

Step 3 Modify any of the settings described in [Table 5-7](#).

Table 5-7 *TXP_MR_2.5G and TXPP_MR_2.5G Transponder Card Section Trace Settings*

Parameter	Description	Options
Port	(Display only) Port number.	1 2 (Trunk) 3 (Trunk) (TXPP_MR_2.5G only)
Received Trace Mode	Sets the trace mode.	- Off/None - Manual

Table 5-7 *TXP_MR_2.5G and TXPP_MR_2.5G Transponder Card Section Trace Settings (continued)*

Parameter	Description	Options
Disable AIS/RDI on TIM-S	If an TIM on Section overhead alarm arises because of a J0 overhead string mismatch, no alarm indication signal is sent to downstream nodes if this box is checked.	• Checked (AIS/RDI on TIM-S is disabled) • Unchecked (AIS/RDI on TIM-S is not disabled)
Transmit Section Trace String Size	Sets the trace string size.	• 1 byte • 16 byte
Transmit	Displays the current transmit string; sets a new transmit string. You can click the button on the right to change the display. Its title changes, based on the current display mode. Click Hex to change the display to hexadecimal (button changes to ASCII); click ASCII to change the display to ASCII (button changes to Hex).	String of trace string size
Expected	Displays the current expected string; sets a new expected string. You can click the button on the right to change the display. Its title changes, based on the current display mode. Click Hex to change the display to hexadecimal (button changes to ASCII); click ASCII to change the display to ASCII (button changes to Hex).	String of trace string size
Received	(Display only) Displays the current received string. You can click Refresh to manually refresh this display, or check the Auto-refresh every 5 sec check box to keep this display updated automatically.	String of trace string size
Auto-refresh	If checked, automatically refreshes the display every 5 seconds.	Checked/unchecked (default)

Step 4 Click **Apply**.

Step 5 Return to your originating procedure (NTP).

DLP-G367 Change the 2.5G Multirate Transponder Trunk Wavelength Settings

Purpose	This task changes the trunk wavelength settings for the TXP_MR_2.5G and TXPP_MR_2.5G.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

- Step 1** In node view (single-shelf mode) or shelf view (multishelf view), double-click the TXP_MR_2.5G or TXPP_MR_2.5G card where you want to change the trunk wavelength settings.
- Step 2** Click the **Provisioning > Line > Wavelength Trunk Settings** tabs.
- Step 3** Modify any of the settings for the Wavelength Trunk Settings tab as described in [Table 5-8](#).

Table 5-8 TXP_MR_2.5G and TXPP_MR_2.5G Card Wavelength Trunk Settings

Parameter	Description	Options
Port	(Display only) Displays the port number.	2 (Trunk) 3 (Trunk) (TXPP_MR_2.5G only)
Band	Indicates the wavelength band that can be provisioned. For TXP_MR_2.5G and TXPP_MR_2.5G cards, the field is display-only.	C—Only the C band is available
Even/Odd	Sets the wavelengths available for provisioning. This field does not apply to TXP_MR_2.5G or TXPP_MR_2.5G cards	—
Wavelength	The wavelength provisioned for the trunk.	- First Tunable Wavelength - Further wavelengths in 100-GHz ITU-T, C-band spacing. If the card is installed, the wavelengths it carries are identified with two asterisks. Other wavelengths have a dark grey background. If the card is not installed, all wavelengths appear with a dark grey background.

- Step 4** Click **Apply**.
- Step 5** Return to your originating procedure (NTP).

DLP-G232 Change the 2.5G Multirate Transponder SONET or SDH Line Threshold Settings

Purpose	This task changes the line threshold settings for TXP_MR_2.5G and TXPP_MR_2.5G transponder cards carrying OC-3/STM-1, OC-12/STM-4, and OC-48/STM-16 payloads.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Step 1 In node view (single-shelf mode) or shelf view (multishelf view), double-click the TXP_MR_2.5G or TXPP_MR_2.5G card where you want to change the line threshold settings.

Step 2 Click the **Provisioning > Line Thresholds** tabs.



Note You must modify Near End and Far End independently; 15 Min and 1 Day independently; and Line and Section independently. To do so, choose the appropriate radio button and click **Refresh**.

Step 3 Modify any of the settings in [Table 5-9](#).



Note Some parameters and options in [Table 5-9](#) do not apply to all TXP_MR_2.5G or TXPP_MR_2.5G cards. If a parameter or option does not apply, it does not appear in CTC.

Table 5-9 ***TXP_MR_2.5G and TXPP_MR_2.5G Transponder Card Line Thresholds Settings for OC-3/STM-1, OC-12/STM-4, and OC-48/STM-16 Payloads***

Parameter	Description	Options - ANSI	Options - ETSI
Port	(Display only) Port number	1 2 (Trunk) 3 (Trunk) (TXPP_MR_2.5G only)	1 2 (Trunk) 3 (Trunk) (TXPP_MR_2.5G only)
EB	Path Errored Block indicates that one or more bits are in error within a block	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Line or Section (near end only) Choose an option in each category and click Refresh .	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Multiplex Section or Regeneration Section (near end only) Choose an option in each category and click Refresh .

Table 5-9 *TXP_MR_2.5G and TXPP_MR_2.5G Transponder Card Line Thresholds Settings for OC-3/STM-1, OC-12/STM-4, and OC-48/STM-16 Payloads (continued)*

Parameter	Description	Options - ANSI	Options - ETSI
CV	Coding violations	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Line or Section (near end only) Choose an option in each category and click Refresh.	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Multiplex Section or Regeneration Section (near end only) Choose an option in each category and click Refresh.
ES	Errored seconds	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Line or Section (near end only) Choose an option in each category and click Refresh.	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Multiplex Section or Regeneration Section (near end only) Choose an option in each category and click Refresh.
SES	Severely errored seconds	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Line or Section (near end only) Choose an option in each category and click Refresh.	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Multiplex Section or Regeneration Section (near end only) Choose an option in each category and click Refresh.
FC	(Line or Multiplex Section only) Failure count	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Line or Section (near end only) Choose an option in each category and click Refresh.	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Multiplex Section or Regeneration Section (near end only) Choose an option in each category and click Refresh.

Table 5-9 *TXP_MR_2.5G and TXPP_MR_2.5G Transponder Card Line Thresholds Settings for OC-3/STM-1, OC-12/STM-4, and OC-48/STM-16 Payloads (continued)*

Parameter	Description	Options - ANSI	Options - ETSI
SEFS	(Near End Section or Regeneration Section only) Severely errored framing seconds	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Line or Section (near end only) Choose an option in each category and click Refresh .	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Multiplex Section or Regeneration Section (near end only) Choose an option in each category and click Refresh .

Step 4 Click **Apply**.

Step 5 Return to your originating procedure (NTP).

DLP-G320 Change the 2.5G Multirate Transponder Line RMON Thresholds for 1G Ethernet or 1G FC/FICON Payloads

Purpose	This task changes the line RMON threshold settings for TXP_MR_2.5G and TXPP_MR_2.5G transponder cards carrying the 1G Ethernet or 1G FC/FICON payloads.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

- Step 1** Display the TXP_MR_2.5G or TXPP_MR_2.5G card where you want to change the line threshold settings in card view.
- Step 2** Click the **Provisioning > Line Thresholds > RMON Thresholds** tabs.
- Step 3** Click **Create**. The Create Threshold dialog box appears.
- Step 4** From the Port drop-down list, choose the applicable port.
- Step 5** From the Variable drop-down list, choose an Ethernet variable. See [Table 5-10](#) for a list of available Ethernet variables.

Table 5-10 *TXP_MR_2.5G and TXPP_MR_2.5G Card 1G Ethernet and 1G FC/FICON Thresholds*

Variable	Description
ifInErrors	Number of inbound packets that contained errors preventing them from being deliverable to a higher-layer protocol.

Table 5-10 *TXP_MR_2.5G and TXPP_MR_2.5G Card 1G Ethernet and 1G FC/FICON Thresholds (continued)*

rxTotalPkts	Total number of received packets.
8b10bStatsEncodingDispErrors	Number of IETF 8b10b disparity violations on the Fibre Channel line side.
8b10bIdleOrderedSets	Number of received packets containing idle ordered sets.
8b10bNonIdleOrderedSets	Number of received packets containing non-idle ordered sets.
8b10bDataOrderedSets	Number of received packets containing data ordered sets.

- Step 6** From the Alarm Type drop-down list, indicate whether the event will be triggered by the rising threshold, the falling threshold, or both the rising and falling thresholds.
- Step 7** From the Sample Type drop-down list, choose either **Relative** or **Absolute**. Relative restricts the threshold to use the number of occurrences in the user-set sample period. Absolute sets the threshold to use the total number of occurrences, regardless of time period.
- Step 8** Type in an appropriate number of seconds for the Sample Period.
- Step 9** Type in the appropriate number of occurrences for the Rising Threshold.
- For a rising type of alarm, the measured value must move from below the falling threshold to above the rising threshold. For example, if a network is running below a rising threshold of 1000 collisions every 15 seconds and a problem causes 1001 collisions in 15 seconds, the excess occurrences trigger an alarm.
- Step 10** Enter the appropriate number of occurrences in the Falling Threshold field. In most cases a falling threshold is set lower than the rising threshold.
- A falling threshold is the counterpart to a rising threshold. When the number of occurrences is above the rising threshold and then drops below a falling threshold, it resets the rising threshold. For example, when the network problem that caused 1001 collisions in 15 seconds subsides and creates only 799 collisions in 15 seconds, occurrences fall below a falling threshold of 800 collisions. This resets the rising threshold so that if network collisions again spike over a 1000 per 15-second period, an event again triggers when the rising threshold is crossed. An event is triggered only the first time a rising threshold is exceeded (otherwise, a single network problem might cause a rising threshold to be exceeded multiple times and cause a flood of events).
- Step 11** Click **OK**.
- Step 12** Return to your originating procedure (NTP).

DLP-G305 Provision the 2.5G Multirate Transponder Trunk Port Alarm and TCA Thresholds

Purpose	This task changes the TXP_MR_2.5G and TXPP_MR_2.5G trunk port alarm and threshold crossing alert (TCA) thresholds.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher



Note

In this task, trunk port refers to Port 2 for TXP_MR_2.5G cards, and to Ports 2 and 3 for TXPP_MR_2.5G cards.

- Step 1** In node view (single-shelf mode) or shelf view (multishelf view), double-click the TXP_MR_2.5G or TXPP_MR_2.5G card where you want to change the trunk port alarm and TCA settings.
- Step 2** Click the **Pluggable Port Modules** tab. Under Pluggable Ports, record the Rate that is provisioned.
- Step 3** Look up the rate in [Table 5-11](#) and determine whether it is 2R or 3R.

Table 5-11 2R and 3R Mode and ITU-T G.709 Compliance by Client Interface

Client Interface	Input Bit Rate	3R vs. 2R	ITU-T G.709
OC-48/STM-16	2.488 Gbps	3R	On or Off
DV-6000	2.38 Gbps	2R	—
2 Gigabit Fibre Channel (2G-FC)/fiber connectivity (FICON)	2.125 Gbps	3R ¹	On or Off
High-Definition Television (HDTV)	1.48 Gbps	2R	—
Gigabit Ethernet (GE)	1.25 Gbps	3R	On or Off
1 Gigabit Fibre Channel (1G-FC)/FICON	1.06 Gbps	3R	On or Off
OC-12/STM-4	622 Mbps	3R	On or Off
OC-3/STM-1	155 Mbps	3R	On or Off
Enterprise System Connection (ESCON)	200 Mbps	2R	—
SDI/D1 video	270 Mbps	2R	—
ISC-1 Compact	1.06 Gbps	3R	Off
ISC-3	1.06 or 2.125 Gbps	2R	—
ETR_CLO	16 Mbps	2R	—

1. No monitoring

- Step 4** Click the **Provisioning > Optics Thresholds** tabs.
- Step 5** Click the **15 Min** performance monitoring (PM) interval radio button and click **Refresh**.

- Step 6** Referring to [Table 5-12 on page 5-30](#), provision the trunk port TCA thresholds for RX Power High and RX Power Low depending on whether the rate is 2R or 3R.



Note Do not modify the Laser Bias parameters.

Table 5-12 TXP_MR_2.5G and TXPP_MR_2.5G Trunk Port TCA Thresholds

Signal	TCA RX Power Low	TCA RX Power High
3R	−23 dBm	−9 dBm
2R	−24 dBm	−9 dBm

- Step 7** Click **Apply**.
- Step 8** Under Types, click the **Alarm** radio button and click **Refresh**.
- Step 9** Provision the trunk port Alarm thresholds for RX Power High to −7 dBm, and for RX Power Low to −26 dBm.
- Step 10** Click **Apply**.
- Step 11** Under Types, click **TCA**, then click the **1 Day** interval. Click **Refresh**, then repeat Steps 6 through 10 for the 1-day interval. If you have completed both intervals, continue with [Step 12](#).
- Step 12** Return to your originating procedure (NTP).

DLP-G306 Provision the 2.5G Multirate Transponder Client Port Alarm and TCA Thresholds

Purpose	This task provisions the client port alarm and TCA thresholds for the TXP_MR_2.5G and TXPP_MR_2.5G cards.
Tools/Equipment	None
Prerequisite Procedures	DLP-G278 Provision the Optical Line Rate, page 5-9 DLP-G46 Log into CTC, page 2-27
Required/As Needed	Required
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

- Step 1** In node view (single-shelf mode) or shelf view (multishelf view), double-click the TXP_MR_2.5G or TXPP_MR_2.5G card where you want to change the client port alarm and TCA settings.
- Step 2** Click the **Provisioning > Optics Thresholds** tabs. The TCA thresholds are shown by default.
- Step 3** Referring to [Table 5-13](#), provision the Port 1 (client) TCA thresholds for RX Power High, RX Power Low, TX Power High, and TX Power Low based on the client interface at the other end. For additional information about client SFP and XFP interfaces, also known as PPMs, refer to the “Hardware Specifications” appendix in the *Cisco ONS 15454 DWDM Reference Manual*.



Note Do not modify the Laser Bias parameters.



Note You must modify 15 Min and 1 Day independently. To do so, choose the appropriate radio button and click **Refresh**.

Table 5-13 *TXP_MR_2.5G and TXPP_MR_2.5G Card Client Interface TCA Thresholds*

Port Type (by CTC)	Pluggable Port Module (SFP)	TCA RX Power Low	TCA RX Power High	TCA TX Power Low	TCA TX Power High
OC-3	15454-SFP3-1-IR	-23	-8	-21	-2
STM-1	15454E-SFP-L.1.1	-24	-10	-21	-2
OC-12	15454-SFP12-4-IR	-28	-7	-21	-2
STM-4	15454E-SFP-L.4.1	-28	-8	-21	-2
OC-48	ONS-SE-2G-S1	-18	-3	-16	3
	15454-SFP-OC48-IR	-18	0	-11	6
STM-16	ONS-SE-2G-S1	-18	-3	-16	3
	15454E-SFP-L.16.1	-18	0	-11	6
ONE_GE	15454-SFP-GEFC-SX 15454E-SFP-GEFC-S ONS-SE-G2F-SX	-17	0	-16	3
	15454-SFP-GE+-LX 15454E-SFP-GE+-LX ONS-SE-G2F-LX	-20	-3	-16	3
ESCON	15454-SFP-200 15454E-SFP-200 ONS-SE-200-MM	-21	-14	-35	-8
DV6000	15454-SFP-OC48-IR	-28	-7	-21	-2
	15454E-SFP-L.16.1	-18	0	-11	6
SDI_D1_ VIDEO	15454-SFP12-4-IR	-28	-7	-21	-2
	15454E-SFP-L.4.1	-28	-8	-21	-2
HDTV	15454-SFP-GE+-LX 15454E-SFP-GE+-LX ONS-SE-G2F-LX	-20	-3	-16	3
PASS-THRU	2R MODE (not specified)	—	—	—	—
FC1G	15454-SFP-GEFC-SX 15454E-SFP-GEFC-S ONS-SE-G2F-SX	-17	0	-16	3
	15454-SFP-GE+-LX 15454E-SFP-GE+-LX ONS-SE-G2F-LX	-20	-3	-16	3

Table 5-13 *TXP_MR_2.5G and TXPP_MR_2.5G Card Client Interface TCA Thresholds (continued)*

Port Type (by CTC)	Pluggable Port Module (SFP)	TCA RX Power Low	TCA RX Power High	TCA TX Power Low	TCA TX Power High
FC2G	15454-SFP-GEFC-SX 15454E-SFP-GEFC-S ONS-SE-G2F-SX	-15	0	-16	3
	15454-SFP-GE+-LX 15454E-SFP-GE+-LX ONS-SE-G2F-LX	-20	-3	-16	3
FICON1G	15454-SFP-GEFC-SX 15454E-SFP-GEFC-S ONS-SE-G2F-SX	-17	0	-16	3
	15454-SFP-GE+-LX 15454E-SFP-GE+-LX ONS-SE-G2F-LX	-20	-3	-16	3
FICON2G	15454-SFP-GEFC-SX 15454E-SFP-GEFC-S ONS-SE-G2F-SX	-17	0	-16	3
	15454-SFP-GE+-LX 15454E-SFP-GE+-LX ONS-SE-G2F-LX	-20	-3	-16	3
ETR_CLO	15454-SFP-200 15454E-SFP-200 ONS-SE-200-MM	-17	0	-16	3
ISC compat	15454-SFP-GE+-LX 15454E-SFP-GE+-LX ONS-SE-G2F-LX	-20	-3	-16	3
ISC peer	15454-SFP-GE+-LX 15454E-SFP-GE+-LX ONS-SE-G2F-LX	-20	-3	-16	3

Step 4 Click **Apply**.

Step 5 Under Types, click the **Alarm** radio button and click **Refresh**.

Step 6 Referring to [Table 5-14](#), provision the Alarm thresholds for RX Power High, RX Power Low, TX Power High, and TX Power Low based on the client interface that is provisioned.



Note You must modify 15 Min and 1 Day independently. To do so, choose the appropriate radio button and click **Refresh**.

Table 5-14 *TXP_MR_2.5G and TXPP_MR_2.5G Card Client Interface Alarm Thresholds*

Port Type (by CTC)	Pluggable Port Module (SFP)	Alarm RX Power Low	Alarm RX Power High	Alarm TX Power Low	Alarm TX Power High
OC-3	15454-SFP3-1-IR	-26	-5	-18	-5
STM-1	15454E-SFP-L.1.1	-27	-7	-18	-5
OC-12	15454-SFP12-4-IR	-31	-4	-18	-5
STM-4	15454E-SFP-L.4.1	-31	-5	-18	-5
OC-48	ONS-SE-2G-S1	-21	0	-13	0
	15454-SFP-OC48-IR	-21	3	-8	3
STM-16	ONS-SE-2G-S1	-21	0	-13	0
	15454E-SFP-L.16.1	-21	3	-8	3
ONE_GE	15454-SFP-GEFC-SX 15454E-SFP-GEFC-S ONS-SE-G2F-SX	-20	3	-13	-1
	15454-SFP-GE+-LX 15454E-SFP-GE+-LX ONS-SE-G2F-LX	-23	0	-13	0
ESCON	15454-SFP-200 15454E-SFP-200 ONS-SE-200-MM	-24	-11	-32	-11
DV6000	15454-SFP-OC48-IR	-31	-4	-18	-5
	15454E-SFP-L.16.1	-21	3	-8	3
SDI_D1_ VIDEO	15454-SFP12-4-IR	-31	-4	-18	-5
	15454E-SFP-L.4.1	-31	-5	-18	-5
HDTV	15454-SFP-GE+-LX 15454E-SFP-GE+-LX ONS-SE-G2F-LX	-23	0	-13	0
PASS-THRU	2R MODE (not specified)	—	—	—	—
FC1G	15454-SFP-GEFC-SX 15454E-SFP-GEFC-S ONS-SE-G2F-SX	-20	3	-13	-1
	15454-SFP-GE+-LX 15454E-SFP-GE+-LX ONS-SE-G2F-LX	-23	0	-13	0
FC2G	15454-SFP-GEFC-SX 15454E-SFP-GEFC-S ONS-SE-G2F-SX	-18	3	-13	-1
	15454-SFP-GE+-LX 15454E-SFP-GE+-LX ONS-SE-G2F-LX	-23	0	-13	0

Table 5-14 *TXP_MR_2.5G and TXPP_MR_2.5G Card Client Interface Alarm Thresholds (continued)*

Port Type (by CTC)	Pluggable Port Module (SFP)	Alarm RX Power Low	Alarm RX Power High	Alarm TX Power Low	Alarm TX Power High
FICON1G	15454-SFP-GEFC-SX 15454E-SFP-GEFC-S ONS-SE-G2F-SX	-20	3	-13	-1
	15454-SFP-GE+-LX 15454E-SFP-GE+-LX ONS-SE-G2F-LX	-23	0	-13	0
FICON2G	15454-SFP-GEFC-SX 15454E-SFP-GEFC-S ONS-SE-G2F-SX	-20	3	-13	-1
	15454-SFP-GE+-LX 15454E-SFP-GE+-LX ONS-SE-G2F-LX	-23	0	-13	0
ETR_CLO	15454-SFP-200 15454E-SFP-200 ONS-SE-200-MM	-20	3	-13	-1
ISC compat	15454-SFP-GE+-LX 15454E-SFP-GE+-LX ONS-SE-G2F-LX	-23	0	-13	0
ISC peer	15454-SFP-GE+-LX 15454E-SFP-GE+-LX ONS-SE-G2F-LX	-23	0	-13	0

Step 7 Click **Apply**.

Step 8 Return to your originating procedure (NTP).

DLP-G234 Change the 2.5G Multirate Transponder OTN Settings

Purpose	This task changes the OTN settings for TXP_MR_2.5G and TXPP_MR_2.5G transponder cards.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Step 1 In node view (single-shelf mode) or shelf view (multishelf view), double-click the TXP_MR_2.5G or TXPP_MR_2.5G card where you want to change the OTN settings.

- Step 2** Click the **Provisioning > OTN** tabs, then choose one of the following subtabs: **OTN Lines**, **G.709 Thresholds**, **FEC Thresholds**, or **Trail Trace Identifier**.
- Step 3** Modify any of the settings described in Tables 5-15 through 5-18.



Note You must modify Near End and Far End; 15 Min and 1 Day; and SM and PM independently. To do so, choose the appropriate radio button and click **Refresh**.

Table 5-15 describes the values on the Provisioning > OTN > OTN Lines tab.

Table 5-15 *TXP_MR_2.5G and TXPP_MR_2.5G Transponder Card OTN Line Settings*

Parameter	Description	Options
Port	(Display only) Displays the port number.	2 (Trunk) 3 (Trunk) (TXPP_MR_2.5G)
G.709 OTN	Sets the OTN lines according to ITU-T G.709.	- Enable - Disable
FEC	Sets the OTN lines to forward error correction (FEC).	- Enable - Disable
SF BER	(Display only) The signal fail bit error rate.	1E-5
SD BER	Sets the signal degrade bit error rate.	1E-5 1E-6 1E-7 1E-8 1E-9

Table 5-16 describes the values on the Provisioning > OTN > G.709 Thresholds tab.

Table 5-16 *TXP_MR_2.5G and TXPP_MR_2.5G Transponder Card ITU-T G.709 Threshold Settings*

Parameter	Description	Options
Port ¹	(Display only) Port number.	2 (Trunk) 3 (Trunk) (TXPP_MR_2.5G)
ES	Errored seconds	Numeric. Can be set for Near End or Far End, for 15-minute or one-day intervals, or for SM (OTUk) or PM (ODUk). Select a bullet and click Refresh .
SES	Severely errored seconds	Numeric. Can be set for Near End or Far End, for 15-minute or one-day intervals, or for SM (OTUk) or PM (ODUk). Select a bullet and click Refresh .
UAS	Unavailable seconds	Numeric. Can be set for Near End or Far End, for 15-minute or one-day intervals, or for SM (OTUk) or PM (ODUk). Select a bullet and click Refresh .

Table 5-16 *TXP_MR_2.5G and TXPP_MR_2.5G Transponder Card ITU-T G.709 Threshold Settings*

Parameter	Description	Options
BBE	Background block errors	Numeric. Can be set for Near End or Far End, for 15-minute or one-day intervals, or for SM (OTUk) or PM (ODUk). Select a bullet and click Refresh .
FC	Failure counter	Numeric. Can be set for Near End or Far End, for 15-minute or one-day intervals, or for SM (OTUk) or PM (ODUk). Select a bullet and click Refresh .

1. Latency for a 1G-FC payload without ITU-T G.709 is 4 microseconds, and with ITU-T G.709 is 40 microseconds. Latency for a 2G-FC payload without ITU-T G.709 is 2 microseconds, and with ITU-T G.709 is 20 microseconds. Consider these values when planning a FC network that is sensitive to latency.

Table 5-17 describes the values on the Provisioning > OTN > FEC Threshold tab.

Table 5-17 *TXP_MR_2.5G and TXPP_MR_2.5G Transponder Card FEC Threshold Settings*

Parameter	Description	Options
Port	(Display only) Port number.	• 2 (Trunk) • 3 (Trunk) (TXPP_MR_2.5G)
Bit Errors Corrected	Sets the value for bit errors corrected.	Numeric. Can be set for 15-minute or one-day intervals.
Uncorrectable Words	Sets the value for uncorrectable words.	Numeric. Can be set for 15-minute or one-day intervals.

Table 5-18 describes the values on the Provisioning > OTN > Trail Trace Identifier tab.

Table 5-18 *TXP_MR_2.5G and TXPP_MR_2.5G Transponder Card Trail Trace Identifier Settings*

Parameter	Description	Options
Port	(Display only) Port number.	• 2 (Trunk) • 3 (Trunk) (TXPP_MR_2.5G)
Level	Sets the level.	• Section • Path
Received Trace Mode	Sets the trace mode.	• Off/None • Manual
Disable AIS/RDI on TIM-S	If an TIM on Section overhead alarm arises because of a J0 overhead string mismatch, no alarm indication signal is sent to downstream nodes if this box is checked.	• Checked (AIS/RDI on TIM-S is disabled) • Unchecked (AIS/RDI on TIM-S is not disabled)

Table 5-18 *TXP_MR_2.5G and TXPP_MR_2.5G Transponder Card Trail Trace Identifier Settings (continued)*

Parameter	Description	Options
Transmit	Displays the current transmit string; sets a new transmit string. You can click the button on the right to change the display. Its title changes, based on the current display mode. Click Hex to change the display to hexadecimal (button changes to ASCII); click ASCII to change the display to ASCII (button changes to Hex).	String of trace string size
Expected	Displays the current expected string; sets a new expected string. You can click the button on the right to change the display. Its title changes, based on the current display mode. Click Hex to change the display to hexadecimal (button changes to ASCII); click ASCII to change the display to ASCII (button changes to Hex).	String of trace string size
Received	(Display only) Displays the current received string. You can click Refresh to manually refresh this display, or check the Auto-refresh every 5 sec check box to keep this panel updated.	String of trace string size
Auto-refresh	If checked, automatically refreshes the display every 5 minutes.	Checked/unchecked (default)

Step 4 Click **Apply**.

Step 5 Return to your originating procedure (NTP).

NTP-G96 Provision the 10G Multirate Transponder Card Line Settings, PM Parameters, and Thresholds

Purpose	This procedure changes the line and threshold settings for 10G multirate transponder cards including the TXP_MR_10G, TXP_MR_10E, TXP_MR_10E_C, and TXP_MR_10E_L cards.
Tools/Equipment	None
Prerequisite Procedures	NTP-G32 Install the Transponder and Muxponder Cards, page 3-51 DLP-G63 Install an SFP or XFP, page 3-54 DLP-G277 Provision a Multirate PPM, page 5-6 (if necessary) DLP-G278 Provision the Optical Line Rate, page 5-9 (if necessary)
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher


Note

The TXP_MR_10G card does not support PPMs.

-
- Step 1** Complete the [“DLP-G46 Log into CTC” task on page 2-27](#) at the node where you want to change the transponder card settings. If you are already logged in, continue with [Step 2](#).
- Step 2** As needed, complete the [“NTP-G103 Back Up the Database” procedure on page 13-2](#) to preserve the existing transmission settings.
- Step 3** If you are provisioning a TXP_MR_10G card, complete the [“DLP-G365 Provision the TXP_MR_10G Data Rate” task on page 5-39](#). If not, continue with [Step 4](#).
- Step 4** Perform any of the following tasks as needed:
- [DLP-G216 Change the 10G Multirate Transponder Card Settings, page 5-39](#)
 - [DLP-G217 Change the 10G Multirate Transponder Line Settings, page 5-41](#)
 - [DLP-G218 Change the 10G Multirate Transponder Line Section Trace Settings, page 5-44](#)
 - [DLP-G219 Change the 10G Multirate Transponder Line Thresholds for SONET or SDH Payloads Including 10G Ethernet WAN Phy, page 5-46](#)
 - [DLP-G319 Change the 10G Multirate Transponder Line RMON Thresholds for 10G Ethernet LAN Phy Payloads, page 5-49](#)
 - [DLP-G301 Provision the 10G Multirate Transponder Trunk Port Alarm and TCA Thresholds, page 5-52](#)
 - [DLP-G302 Provision the 10G Multirate Transponder Client Port Alarm and TCA Thresholds, page 5-53](#)
 - [DLP-G221 Change the 10G Multirate Transponder OTN Settings, page 5-55](#)
 - [DLP-G368 Change the 10G Multirate Transponder Trunk Wavelength Settings, page 5-45](#)

Stop. You have completed this procedure.

DLP-G365 Provision the TXP_MR_10G Data Rate

Purpose	This task changes the TXP_MR_10G data rate.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

-
- Step 1** In node view (single-shelf mode) or shelf view (multishelf view), double-click the TXP_MR_10G card where you want to change the card data rate settings.
- Step 2** Click the **Provisioning > Data Rate Selection** tabs.
- Step 3** Click Create.
- Step 4** In the Create Port dialog box, choose one of the following data rates:
- SONET (ANSI) or SDH (ETSI) (including 10G Ethernet WAN Phy)
 - 10G Ethernet LAN Phy
- Step 5** Click **Ok**.
- Step 6** Return to your originating procedure.
-

DLP-G216 Change the 10G Multirate Transponder Card Settings

Purpose	This task changes the card settings for the TXP_MR_10G, TXP_MR_10E, TXP_MR_10E_C, and TXP_MR_10E_L cards.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

-
- Step 1** In node view (single-shelf mode) or shelf view (multishelf view), double-click the TXP_MR_10G, TXP_MR_10E, TXP_MR_10E_C, or TXP_MR_10E_L card where you want to change the card settings.
- Step 2** Click the **Provisioning > Card** tabs.
- Step 3** Modify any of the settings described in [Table 5-19](#).

Table 5-19 *TXP_MR_10G, TXP_MR_10E, TXP_MR_10E_C, or TXP_MR_10E_L Card Settings*

Parameter	Description	ONS 15454 Options	ONS 15454 SDH Options
Termination Mode	Sets the mode of operation. (This option is only available for SONET/SDH payloads). Refer to the “Card Reference” chapter in the <i>Cisco ONS 15454 DWDM Reference Manual</i> for more details.	- Transparent - Section (TXP_MR_10E only) - Line	- Transparent - Regeneration Section (TXP_MR_10E only) - Multiplex Section
AIS/Squelch Configuration	(TXP_MR_10E, TXP_MR_10E_C, or TXP_MR_10E_L only) Sets the transparent termination mode configuration.	- Squelch - AIS	- Squelch - AIS
Regeneration Peer Slot	Sets the slot containing another TXP_MR_10G, TXP_MR_10E, TXP_MR_10E_C, or TXP_MR_10E_L card to create a regeneration peer group. A regeneration peer group facilitates the management of two TXP_MR_10G, TXP_MR_10E, TXP_MR_10E_C, or TXP_MR_10E_L cards that are needed to perform a complete signal regeneration. The regeneration peer group synchronizes provisioning of the two cards. Payload type and ITU-T G.709 optical transport network (OTN) changes made on one TXP_MR_10G, TXP_MR_10E, TXP_MR_10E_C, or TXP_MR_10E_L card are reflected on the peer TXP_MR_10G, TXP_MR_10E, TXP_MR_10E_C, or TXP_MR_10E_L card. Note Y-cable protection groups cannot be created on TXP cards that are in a regeneration peer group.	- None 1 2 3 4 5 6 12 13 14 15 16 17	- None 1 2 3 4 5 6 12 13 14 15 16 17
Regeneration Group Name	(Display only) The regeneration peer group name.	—	—
Tunable Wavelengths	(Display only) Shows the supported wavelengths of the trunk port after the card is installed. For the TXP_MR_10E_C, or TXP_MR_10E_L cards, the first and last supported wavelength, frequency spacing, and number of supported wavelengths are shown in the format: <i>first wavelength-last wavelength-frequency spacing-number of supported wavelengths</i> . For example, the TXP_MR_10E_C card would show: 1529.55nm-1561.83nm-50GHz-82. The TXP_MR_10G and TXP_MR_10E show the four wavelengths supported by the card that is installed.	—	—

Step 4 Click **Apply**.

Step 5 Return to your originating procedure (NTP).

DLP-G217 Change the 10G Multirate Transponder Line Settings

Purpose	This task changes the line settings for TXP_MR_10G, TXP_MR_10E, TXP_MR_10E_C, and TXP_MR_10E_L cards.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

- Step 1** In node view (single-shelf mode) or shelf view (multishelf view), double-click the TXP_MR_10G, TXP_MR_10E, TXP_MR_10E_C, or TXP_MR_10E_L card where you want to change the line settings.
- Step 2** Click the **Provisioning > Line > Service** where Service = SONET (including 10G Ethernet WAN phy) (ANSI), SDH (including 10G Ethernet WAN phy) (ETSI) or Ethernet (when the Pluggable Port Rate is set to 10GE LAN Phy) tabs.
- Step 3** Modify any of the settings described in [Table 5-20](#).



Note In [Table 5-20](#), some parameter tabs do not always apply to all 10G multirate transponder cards. If a tab does not apply, it will not appear in CTC.

Table 5-20 *TXP_MR_10G, TXP_MR_10E, TXP_MR_10E_C, or TXP_MR_10E_L Line Settings*

Parameter	Description	ONS 15454 Options	ONS 15454 SDH Options
Port	(Display only) Displays the port number.	1 (OC192) (if TXP_MR_10G) 1 (Client) (if Ethernet LAN is provisioned) 1-1 (OC192) 2 (Trunk)	1 (STM-64) (if TXP_MR_10G) 1 (Client) (if Ethernet LAN is provisioned) 1-1 (STM-64) 2 (Trunk)
Port Name	Provides the ability to assign the specified port a name.	User-defined. Name can be up to 32 alphanumeric/special characters. Blank by default. See the “ DLP-G104 Assign a Name to a Port ” task on page 7-3.	User-defined. Name can be up to 32 alphanumeric/special characters. Blank by default. See the “ DLP-G104 Assign a Name to a Port ” task on page 7-3.
Admin State	Sets the port service state. For more information about administrative states, refer to the “Administrative and Service States” appendix in the <i>Cisco ONS 15454 DWDM Reference Manual</i> .	- IS - IS,AINS - OOS,DSBLD - OOS,MT	- Unlocked - Unlocked,automaticInService - Locked,disabled - Locked,maintenance

Table 5-20 *TXP_MR_10G, TXP_MR_10E, TXP_MR_10E_C, or TXP_MR_10E_L Line Settings (continued)*

Parameter	Description	ONS 15454 Options	ONS 15454 SDH Options
Service State	(Display only) Identifies the autonomously generated state that gives the overall condition of the port. Service states appear in the format: Primary State-Primary State Qualifier, Secondary State. For more information about service states, refer to the “Administrative and Service States” appendix in the <i>Cisco ONS 15454 DWDM Reference Manual</i> .	- IS-NR - OOS-AU,AINS - OOS-MA,DSBLD - OOS-MA,MT	- Unlocked-enabled - Unlocked-disabled, automaticInService - Locked-enabled,disabled - Locked-enabled,maintenance
SF BER	(SONET [ANSI] or SDH [ETSI] including 10G Ethernet WAN Phy only) Sets the signal fail bit error rate.	1E-3 1E-4 1E-5	1E-3 1E-4 1E-5
SD BER	(SONET [ANSI] or SDH [ETSI] including 10G Ethernet WAN Phy only) Sets the signal degrade bit error rate.	1E-5 1E-6 1E-7 1E-8 1E-9	1E-5 1E-6 1E-7 1E-8 1E-9
Type	(SONET [ANSI] or SDH [ETSI] including 10G Ethernet WAN Phy only) The optical transport type.	- SONET - SDH	- SONET - SDH
ALS Mode	Sets the ALS function mode. The DWDM transmitter supports ALS according to ITU-T G.644 (06/99). ALS can be disabled, or it can be set for one of three mode options.	- Disabled (default): ALS is off; the laser is not automatically shut down when traffic outages (LOS) occur. - Auto Restart: ALS is on; the laser automatically shuts down when traffic outages (LOS) occur. It automatically restarts when the conditions that caused the outage are resolved. - Manual Restart: ALS is on; the laser automatically shuts down when traffic outages (LOS) occur. However, the laser must be manually restarted when conditions that caused the outage are resolved. - Manual Restart for Test: Manually restarts the laser for testing.	- Disabled (default): ALS is off; the laser is not automatically shut down when traffic outages (LOS) occur. - Auto Restart: ALS is on; the laser automatically shuts down when traffic outages (LOS) occur. It automatically restarts when the conditions that caused the outage are resolved. - Manual Restart: ALS is on; the laser automatically shuts down when traffic outages (LOS) occur. However, the laser must be manually restarted when conditions that caused the outage are resolved. - Manual Restart for Test: Manually restarts the laser for testing.

Table 5-20 *TXP_MR_10G, TXP_MR_10E, TXP_MR_10E_C, or TXP_MR_10E_L Line Settings (continued)*

Parameter	Description	ONS 15454 Options	ONS 15454 SDH Options
AINS Soak	(SONET [ANSI] or SDH [ETSI] including 10G Ethernet WAN Phy only) Sets the automatic in-service soak period. Double-click the time and use the up and down arrows to change settings.	- Duration of valid input signal, in hh.mm format, after which the card becomes in service (IS) automatically 0 to 48 hours, 15-minute increments	- Duration of valid input signal, in hh.mm format, after which the card becomes in service (IS) automatically 0 to 48 hours, 15-minute increments
ProvidesSync	(TXP_MR_10G, TXP_MR_10E, OC192 only) Sets the ProvidesSync card parameter. If checked, the card is provisioned as a network element (NE) timing reference.	Checked or unchecked	Checked or unchecked
SyncMsgIn	(TXP_MR_10G, TXP_MR_10E, OC192 only) Sets the EnableSync card parameter. Enables synchronization status messages (S1 byte), which allow the node to choose the best timing source.	Checked or unchecked	Checked or unchecked
Max Size	(TXP_MR_10E, TXP_MR_10G LAN Phy only) Sets the maximum Ethernet packet size.	1548 bytes - Jumbo (64 to 9,216 bytes)	1548 bytes - Jumbo (64 to 9,216 bytes)
Incoming MAC Address	(TXP_MR_10E, TXP_MR_10G LAN Phy only) Sets the incoming MAC address.	Value of MAC address. Six bytes in hexadecimal format.	Value of MAC address. Six bytes in hexadecimal format.
Wavelength	Displays the wavelength of the client port.	- First Tunable Wavelength - Further wavelengths: 1310 nm through 1560.61 nm, 100-GHz ITU spacing; coarse wavelength division multiplexing (CWDM) spacing Note: supported wavelengths are marked by asterisks (**)	- First Tunable Wavelength - Further wavelengths: 1310 nm through 1560.61 nm, 100-GHz ITU spacing; coarse wavelength division multiplexing (CWDM) spacing Note: supported wavelengths are marked by asterisks (**)
Reach	Displays the optical reach distance of the client port.	The Reach options depend on the traffic type that has been selected.	The Reach options depend on the traffic type that has been selected.

Step 4 Click **Apply**.

Step 5 Return to your originating procedure (NTP).

DLP-G218 Change the 10G Multirate Transponder Line Section Trace Settings

Purpose This task changes the line section trace settings for the TXP_MR_10G, TXP_MR_10E, TXP_MR_10E_C, and TXP_MR_10E_L transponder cards.

Tools/Equipment None

Prerequisite Procedures [DLP-G46 Log into CTC, page 2-27](#)

Required/As Needed As needed

Onsite/Remote Onsite or remote

Security Level Provisioning or higher



Note The Section Trace tab is available for the 10G Multirate Transponder cards only if no PPMs are provisioned, or the OC192 PPM is provisioned. The tab is not available if a 10G Ethernet LAN Phy or 10G Fibre Channel PPM is provisioned.

- Step 1** In node view (single-shelf mode) or shelf view (multishelf view), double-click the TXP_MR_10G, TXP_MR_10E, TXP_MR_10E_C, or TXP_MR_10E_L card where you want to change the section trace settings.
- Step 2** Click the **Provisioning > Line > Section Trace** tabs.
- Step 3** Modify any of the settings described in [Table 5-21](#).

Table 5-21 *TXP_MR_10G, TXP_MR_10E, TXP_MR_10E_C, or TXP_MR_10E_L Section Trace Settings*

Parameter	Description	ONS 15454 Options	Options — ONS 15454 SDH
Port	Sets the port number.	1-1 (OC192) 2—Trunk	1-1 (STM64) 2—Trunk
Received Trace Mode	Sets the trace mode.	- Off/None - Manual	- Off/None - Manual
Transmit Section Trace String Size	Sets the trace string size.	1 byte 16 byte	1 byte 16 byte
Transmit	Displays the current transmit string; sets a new transmit string. You can click the button on the right to change the display. Its title changes, based on the current display mode. Click Hex to change the display to hexadecimal (button changes to ASCII); click ASCII to change the display to ASCII (button changes to Hex).	String of trace string size	String of trace string size
Disable AIS/RDI on TIM-S	If an TIM on Section overhead alarm arises because of a J0 overhead string mismatch, no alarm indication signal is sent to downstream nodes if this box is checked.	- Checked (AIS/RDI on TIM-S is disabled) - Unchecked (AIS/RDI on TIM-S is not disabled)	- Checked (AIS/RDI on TIM-S is disabled) - Unchecked (AIS/RDI on TIM-S is not disabled)

Table 5-21 *TXP_MR_10G, TXP_MR_10E, TXP_MR_10E_C, or TXP_MR_10E_L Section Trace Settings (continued)*

Parameter	Description	ONS 15454 Options	Options — ONS 15454 SDH
Expected	Displays the current expected string; sets a new expected string. You can click the button on the right to change the display. Its title changes, based on the current display mode. Click Hex to change the display to hexadecimal (button changes to ASCII); click ASCII to change the display to ASCII (button changes to Hex).	String of trace string size	String of trace string size
Received	(Display only) Displays the current received string. You can click Refresh to manually refresh this display, or check the Auto-refresh every 5 sec check box to keep this panel updated.	String of trace string size	String of trace string size
Auto-refresh	If checked, automatically refreshes the display every 5 seconds.	Checked/unchecked (default)	Checked/unchecked (default)

Step 4 Click **Apply**.

Step 5 Return to your originating procedure (NTP).

DLP-G368 Change the 10G Multirate Transponder Trunk Wavelength Settings

Purpose	This task changes the trunk wavelength settings for the TXP_MR_10G, TXP_MR_10E, TXP_MR_10E_C, and TXP_MR_10E_L cards.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher



Note

Before modifying the wavelength settings, change the port state to OOS,DSBLD (for ANSI) or Locked,disabled (for ETSI) and delete the circuit and patchcord provisioning present on the port. Payload or communication channel provisioning can be retained.

- Step 1** In node view (single-shelf mode) or shelf view (multishelf view), double-click the TXP_MR_10G, TXP_MR_10E, TXP_MR_10E_C, and TXP_MR_10E_L card where you want to change the trunk wavelength settings.
- Step 2** Click the **Provisioning > Line > Wavelength Trunk Settings** tabs.
- Step 3** Modify any of the settings for the Wavelength Trunk Settings tab as described in [Table 5-22](#).

Table 5-22 *TXP_MR_10G, TXP_MR_10E, TXP_MR_10E_C, and TXP_MR_10E_L Card Wavelength Trunk Settings*

Parameter	Description	Options
Port	(Display only) Displays the port number.	Port 2 (Trunk)
Band	Indicates the wavelength band that can be provisioned. If the physical TXP_MR_10G, TXP_MR_10E, TXP_MR_10E_C, and TXP_MR_10E_L is installed, this field is display-only.	- C—The C-band wavelengths are available in the Wavelength field. - L—The L-band wavelengths are available in the Wavelength field.
Even/Odd	Sets the wavelengths available for provisioning for TXP_MR_10E_C, and TXP_MR_10E_L cards. (This field does not apply to TXP_MR_10G or TXP_MR_10E cards.)	- Even—Displays even C-band or L-band wavelengths in the Wavelength field. - Odd—Displays odd C-band or L-band wavelengths in the Wavelength field.
Wavelength	The wavelength provisioned for the trunk.	- First Tunable Wavelength - Further wavelengths in 100-GHz ITU-T C-band or L-band spacing, depending on the card that is installed. For TXP_MR_10G and TXP_MR_10E cards, the wavelengths carried by the card are identified with two asterisks. If the card is not installed, all wavelengths appear with a dark grey background.

Step 4 Click **Apply**.

Step 5 Return to your originating procedure (NTP).

DLP-G219 Change the 10G Multirate Transponder Line Thresholds for SONET or SDH Payloads Including 10G Ethernet WAN Phy

Purpose	This task changes the line threshold settings for TXP_MR_10G, TXP_MR_10E, TXP_MR_10E_C, and TXP_MR_10E_L transponder cards carrying SONET or SDH payloads, including the physical 10G Ethernet WAN Phy payload.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

- Step 1** In node view (single-shelf mode) or shelf view (multishelf view), double-click the TXP_MR_10G, TXP_MR_10E, TXP_MR_10E_C, or TXP_MR_10E_L card where you want to change the line threshold settings.
- Step 2** Click the **Provisioning > Line Thresholds > SONET Thresholds (ANSI)** or **SDH Thresholds (ETSI)** tabs.
- Step 3** Modify any of the settings described in [Table 5-23](#).

**Note**

Parameters shown in [Table 5-23](#) do not apply to all 10G multirate transponder cards. If the parameter or option does not apply, it is not shown in CTC.

Table 5-23 *TXP_MR_10G, TXP_MR_10E, TXP_MR_10E_C, or TXP_MR_10E_L Card Line Threshold Settings*

Parameter	Description	Options - ANSI	Options - ETSI
Port	(Display only) Port number	1-1 (OC192) 2 (Trunk)	1-1 (STM64) 2 (Trunk)
EB	Path Errored Block indicates that one or more bits are in error within a block	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Line or Section (near end only) Choose an option in each category and click Refresh .	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Multiplex Section or Regeneration Section (near end only) Choose an option in each category and click Refresh .
CV	Coding violations	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Line or Section (near end only) Choose an option in each category and click Refresh .	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Multiplex Section or Regeneration Section (near end only) Choose an option in each category and click Refresh .
ES	Errored seconds	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Line or Section (near end only) Choose an option in each category and click Refresh .	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Multiplex Section or Regeneration Section (near end only) Choose an option in each category and click Refresh .

Table 5-23 TXP_MR_10G, TXP_MR_10E, TXP_MR_10E_C, or TXP_MR_10E_L Card Line Threshold Settings (continued)

Parameter	Description	Options - ANSI	Options - ETSI
SES	Severely errored seconds	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Line or Section (near end only) Choose an option in each category and click Refresh .	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Multiplex Section or Regeneration Section (near end only) Choose an option in each category and click Refresh .
SEFS	(Near End Section or Regeneration Section only) Severely errored framing seconds	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Line or Section (near end only) Choose an option in each category and click Refresh .	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Multiplex Section or Regeneration Section (near end only) Choose an option in each category and click Refresh .
BBE	Background block errors	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Line or Section (near end only) Choose an option in each category and click Refresh .	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Multiplex Section or Regeneration Section (near end only) Choose an option in each category and click Refresh .
FC	(Line or Multiplex Section only) Failure count	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Line or Section (near end only) Choose an option in each category and click Refresh .	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Multiplex Section or Regeneration Section (near end only) Choose an option in each category and click Refresh .
UAS	(Line or Multiplex Section only) Unavailable seconds	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Line or Section (near end only) Choose an option in each category and click Refresh .	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Multiplex Section or Regeneration Section (near end only) Choose an option in each category and click Refresh .

- Step 4** Click **Apply**.
- Step 5** Return to your originating procedure (NTP).

DLP-G319 Change the 10G Multirate Transponder Line RMON Thresholds for 10G Ethernet LAN Phy Payloads

Purpose	This task changes the line threshold settings for TXP_MR_10G, TXP_MR_10E, TXP_MR_10E_C, and TXP_MR_10E_L transponder cards carrying the physical 10G Ethernet LAN payload.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

- Step 1** Display the TXP_MR_10G, TXP_MR_10E, TXP_MR_10E_C, or TXP_MR_10E_L card where you want to change the line threshold settings in card view.
- Step 2** Click the **Provisioning > Line Thresholds > RMON Thresholds** tabs.
- Step 3** Click **Create**. The Create Threshold dialog box appears.
- Step 4** From the Port drop-down list, choose the applicable port.
- Step 5** From the Variable drop-down list, choose an Ethernet variable. See [Table 5-24](#) for a list of available Ethernet variables.

Table 5-24 *TXP_MR_10G, TXP_MR_10E, TXP_MR_10E_C, or TXP_MR_10E_L Card GE LAN Phy Variables*

Variable	Description
ifInOctets	Total number of octets received on the interface, including framing characters.
rxTotalPkts	Total number of received packets.
ifInMulticastPkts	Number of multicast frames received error free.
ifInBroadcastPkts	Number of packets, delivered by a sublayer to an higher sublayer, that were addressed to a broadcast address at this sublayer.
ifInErrors	Number of inbound packets that contained errors preventing them from being delivered to a higher-layer protocol.
ifInErrorBytePkts	Number of receive error bytes.
ifInFramingErrorPkts	Number of receive framing error counters.
ifInJunkInterPkts	Number of receive interpacket junk counters.
ifOutOctets	Total number of octets transmitted out of the interface, including framing characters.
txTotalPkts	Total number of transmit packets.

Table 5-24 *TXP_MR_10G, TXP_MR_10E, TXP_MR_10E_C, or TXP_MR_10E_L Card GE LAN Phy Variables (continued)*

ifOutMulticastPkts	Number of multicast frames transmitted error free.
ifOutBroadcastPkts	Total number of packets that higher-level protocols requested be transmitted, and that were addressed to a broadcast address at this sublayer, including those that were discarded or not sent.
dot3StatsFCSErrors	Number of frames with frame check errors, that is, there is an integral number of octets, but an incorrect Frame Check Sequence (FCS).
dot3StatsFrameTooLong	Number of received frames that were larger than the maximum size permitted.
etherStatsUndersizePkts	Total number of packets received that were less than 64 octets long (excluding framing bits, but including FCS octets) and were otherwise well formed.
etherStatsFragments	Total number of packets received that were less than 64 octets in length (excluding framing bits but including FCS octets) and had either a bad FCS with an integral number of octets (FCS Error) or a bad FCS with a nonintegral number of octets (Alignment Error). Note that it is entirely normal for etherStatsFragments to increment. This is because it counts both runts (which are normal occurrences due to collisions) and noise hits.
etherStatsPkts64Octets	Total number of packets (including bad packets) received that were 64 octets in length (excluding framing bits but including FCS octets).
etherStatsPkts65to127Octets	Total number of packets (including bad packets) received that were between 65 and 127 octets in length inclusive (excluding framing bits but including FCS octets).
etherStatsPkts128to255Octets	The total number of packets (including bad packets) received that were between 128 and 255 octets in length inclusive (excluding framing bits but including FCS octets).
etherStatsPkts256to511Octets	Total number of packets (including bad packets) received that were between 256 and 511 octets in length inclusive (excluding framing bits but including FCS octets).
etherStatsPkts512to1023Octets	Total number of packets (including bad packets) received that were between 512 and 1023 octets in length inclusive (excluding framing bits but including FCS octets).
etherStatsPkts1024to1518Octets	Total number of packets (including bad packets) received that were between 1024 and 1518 octets in length inclusive (excluding framing bits but including FCS octets).
etherStatsBroadcastPkts	Total number of good packets received that were directed to the broadcast address. Note that this does not include multicast packets.
etherStatsMulticastPkts	Total number of good packets received that were directed to a multicast address. Note that this number does not include packets directed to the broadcast address.
etherStatsOversizePkts	Total number of packets received that were longer than 1518 octets (excluding framing bits, but including FCS octets) and were otherwise well formed.

Table 5-24 *TXP_MR_10G, TXP_MR_10E, TXP_MR_10E_C, or TXP_MR_10E_L Card GE LAN Phy Variables (continued)*

etherStatsJabbers	Total number of packets received that were longer than 1518 octets (excluding framing bits, but including FCS octets), and had either a bad FCS with an integral number of octets (FCS Error) or a bad FCS with a nonintegral number of octets (Alignment Error).
etherStatsOctets	Total number of octets of data (including those in bad packets) received on the network (excluding framing bits but including FCS octets).
etherStatsCRCAlignErrors	Total number of packets received that had a length (excluding framing bits, but including FCS octets) of between 64 and 1518 octets, inclusive, but had either a bad FCS with an integral number of octets (FCS Error) or a bad FCS with a nonintegral number of octets (Alignment Error).
rxPauseFrames	Number of received IETF 802.x pause frames.
rxControlFrames	Number of MAC control frames passed by the MAC sublayer to the MAC control sublayer.
rxUnknownOpcodeFrames	Number of MAC control frames received that contain an opcode that is not supported by the device.

- Step 6** From the Alarm Type drop-down list, indicate whether the event will be triggered by the rising threshold, the falling threshold, or both the rising and falling thresholds.
- Step 7** From the Sample Type drop-down list, choose either **Relative** or **Absolute**. Relative restricts the threshold to use the number of occurrences in the user-set sample period. Absolute sets the threshold to use the total number of occurrences, regardless of time period.
- Step 8** Type in an appropriate number of seconds for the Sample Period.
- Step 9** Type in the appropriate number of occurrences for the Rising Threshold.
- For a rising type of alarm, the measured value must move from below the falling threshold to above the rising threshold. For example, if a network is running below a rising threshold of 1000 collisions every 15 seconds and a problem causes 1001 collisions in 15 seconds, the excess occurrences trigger an alarm.
- Step 10** Enter the appropriate number of occurrences in the Falling Threshold field. In most cases a falling threshold is set lower than the rising threshold.
- A falling threshold is the counterpart to a rising threshold. When the number of occurrences is above the rising threshold and then drops below a falling threshold, it resets the rising threshold. For example, when the network problem that caused 1001 collisions in 15 seconds subsides and creates only 799 collisions in 15 seconds, occurrences fall below a falling threshold of 800 collisions. This resets the rising threshold so that if network collisions again spike over a 1000 per 15-second period, an event again triggers when the rising threshold is crossed. An event is triggered only the first time a rising threshold is exceeded (otherwise, a single network problem might cause a rising threshold to be exceeded multiple times and cause a flood of events).
- Step 11** Click **OK**.
- Step 12** To view all RMON thresholds, click **Show All RMON thresholds**. If not, continue with [Step 13](#)
- Step 13** Return to your originating procedure (NTP).

DLP-G301 Provision the 10G Multirate Transponder Trunk Port Alarm and TCA Thresholds

Purpose	This task provisions the TXP_MR_10G, TXP_MR_10E, TXP_MR_10E_C, or TXP_MR_10E_L trunk port alarm and threshold cross alert (TCA) thresholds.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

- Step 1** In node view (single-shelf mode) or shelf view (multishelf view), double-click the TXP_MR_10G, TXP_MR_10E, TXP_MR_10E_C, or TXP_MR_10E_L card where you want to change the trunk port alarm and TCA settings.
- Step 2** Click the **Provisioning > Optics Thresholds** tabs.
- Step 3** Under Types, verify that the TCA radio button is checked. If not, check it, then click **Refresh**.
- Step 4** Referring to [Table 5-25](#), provision the trunk port (Port 2) TCA thresholds for RX Power High, RX Power Low, TX Power High, and TX Power Low.



Note You must modify 15 Min and 1 Day independently. To do so, choose the appropriate radio button and click **Refresh**.



Note Do not modify the Laser Bias parameters.

Table 5-25 10G Multirate Transponder Trunk Port TCA Thresholds

Card	TCA RX Power High	TCA RX Power Low	TCA TX Power High	TCA TX Power Low
TXP_MR_10G	-8 dBm	-22 dBm	7 dBm	-1 dBm
TXP_MR_10E	-9 dBm	-18 dBm	9 dBm	0 dBm
TXP_MR_10E_C				
TXP_MR_10E_L				

- Step 5** Click **Apply**.
- Step 6** Under Types, click the **Alarm** radio button and click **Refresh**.
- Step 7** Referring to [Table 5-26](#), provision the trunk port (Port 2) Alarm thresholds for RX Power High, RX Power Low, TX Power High, and TX Power Low.



Note You must modify 15 Min and 1 Day independently. To do so, choose the appropriate radio button and click **Refresh**.

Table 5-26 10G Multirate Transponder Trunk Port Alarm Thresholds

Card	Alarm RX Power High	Alarm RX Power Low	Alarm TX Power High	Alarm TX Power Low
TXP_MR_10G	-8 dBm	-24 dBm	4 dBm	2 dBm
TXP_MR_10E	-8 dBm	-20 dBm	7 dBm	3 dBm
TXP_MR_10E_C				
TXP_MR_10E_L				

- Step 8** Click **Apply**.
- Step 9** Return to your originating procedure (NTP).

DLP-G302 Provision the 10G Multirate Transponder Client Port Alarm and TCA Thresholds

Purpose	This task provisions the client port alarm and TCA thresholds for the TXP_MR_10G, TXP_MR_10E, TXP_MR_10E_C, and TXP_MR_10E_L cards.
Tools/Equipment	None
Prerequisite Procedures	DLP-G278 Provision the Optical Line Rate, page 5-9 DLP-G46 Log into CTC, page 2-27
Required/As Needed	Required
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

- Step 1** In node view (single-shelf mode) or shelf view (multishelf view), double-click the TXP_MR_10G, TXP_MR_10E, TXP_MR_10E_C, or TXP_MR_10E_L card where you want to change the client port alarm and TCA settings.
- Step 2** Click the **Provisioning > Optics Thresholds** tabs. The TCA thresholds are shown by default.
- Step 3** Under Types, verify that the TCA radio button is checked. If not, check it, then click **Refresh**.
- Step 4** Referring to [Table 5-27](#), provision the Port 1 (Client) TCA thresholds for RX Power High, RX Power Low, TX Power High, and TX Power Low based on the client interface at the other end. For additional information about client SFP and XFP interfaces, also known as PPMs, refer to the “Hardware Specifications” appendix in the *Cisco ONS 15454 DWDM Reference Manual*.



Note You must modify 15 Min and 1 Day independently. To do so, choose the appropriate radio button and click **Refresh**.



Note Do not modify the Laser Bias parameters.



Note Pluggable port rates can be viewed on the Provisioning > Pluggable Port Modules tabs.

Table 5-27 *TXP_MR_10G, TXP_MR_10E, TXP_MR_10E_C, or TXP_MR_10E_L Card Client Interface TCA Thresholds*

Pluggable Port Rate	Pluggable Port Module (XFP)	TCA RX Power High	TCA RX Power Low	TCA TX Power High	TCA TX Power Low
SONET (or SDH)	TXP_MR_10E uses ONS-XC-10G-S1 TXP_MR_10G (XFP not present)	-1	-11	5	-12
10G Ethernet LAN Phy	TXP_MR_10E uses ONS-XC-10G-S1 TXP_MR_10G (XFP not present)	1	-14	5	-12
10G Ethernet WAN PHY	TXP_MR_10E uses ONS-XC-10G-S1 TXP_MR_10G (XFP not present)	1	-14	5	-12
10G Fibre Channel	TXP_MR_10E uses ONS-XC-10G-S1 TXP_MR_10G (XFP not present)	1	-14	5	-12

Step 5 Click **Apply**.

Step 6 Under Types, click the **Alarm** radio button and click **Refresh**.

Step 7 Referring to [Table 5-28](#), provision the Port 1 (Client) Alarm thresholds for RX Power High, RX Power Low, TX Power High, and TX Power Low based on the client interface that is provisioned.



Note You must modify 15 Min and 1 Day independently. To do so, choose the appropriate radio button and click **Refresh**.

Table 5-28 *TXP_MR_10G, TXP_MR_10E, TXP_MR_10E_C, or TXP_MR_10E_L Card Client Interface Alarm Thresholds*

Pluggable Port Rate	Pluggable Port Module (XFP)	Alarm RX Power High	Alarm RX Power Low	Alarm TX Power High	Alarm TX Power Low
SONET (or SDH)	TXP_MR_10E uses ONS-XC-10G-S1 TXP_MR_10G (XFP not present)	2	-14	2	-9
10G Ethernet LAN Phy	TXP_MR_10E uses ONS-XC-10G-S1 TXP_MR_10G (XFP not present)	4	-17	2	-9
10G Ethernet WAN PHY	TXP_MR_10E uses ONS-XC-10G-S1 TXP_MR_10G (XFP not present)	4	-17	2	-9
10G Fibre Channel	TXP_MR_10E uses ONS-XC-10G-S1 TXP_MR_10G (XFP not present)	4	-17	2	-9

Step 8 Click **Apply**.

Step 9 Return to your originating procedure (NTP).

DLP-G221 Change the 10G Multirate Transponder OTN Settings

Purpose	This task changes the line OTN settings for the TXP_MR_10G, TXP_MR_10E, TXP_MR_10E_C, and TXP_MR_10E_L transponder cards.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

- Step 1** In node view (single-shelf mode) or shelf view (multishelf view), double-click the TXP_MR_10G, TXP_MR_10E, TXP_MR_10E_C, or TXP_MR_10E_L card where you want to change the OTN settings.
- Step 2** Click the **Provisioning > OTN** tabs, then click one of the following subtabs: **OTN Lines**, **G.709 Thresholds**, **FEC Thresholds**, or **Trail Trace Identifier**.
- Step 3** Modify any of the settings described in Tables [5-29](#) through [5-32](#).



Note You must modify Near End and Far End independently; 15 Min and 1 Day independently; and SM and PM independently. To do so, choose the appropriate radio button and click **Refresh**.

Table 5-29 describes the values on the Provisioning > OTN > OTN Lines tab.

Table 5-29 *TXP_MR_10G, TXP_MR_10E, TXP_MR_10E_C, or TXP_MR_10E_L Card OTN Lines Settings*

Parameter	Description	Options
Port	(Display only) Displays the port number and optional name.	2
G.709 OTN	Sets the OTN lines according to ITU-T G.709. Check the box to enable.	• Enable • Disable
FEC	Sets the OTN lines FEC mode. FEC mode can be Disabled, Enabled, or, for the TXP_MR_10E, Enhanced FEC mode can be enabled to provide greater range and lower bit error rate. For TXP_MR_10E cards, Standard is the same as enabling FEC.	• Enable—(TXP_MR_10G only) FEC is on. • Disable—FEC is off. • Standard—(TXP_MR_10E only) Standard FEC is on. • Enhanced—(TXP_MR_10E only) Enhanced FEC is on.
SD BER	Sets the signal degrade bit error rate.	• 1E-5 • 1E-6 • 1E-7 • 1E-8 • 1E-9
SF BER	(Display only) Indicates s the signal fail bit error rate.	• 1E-5
Asynch/Synch Mapping	(TXP_MR_10E only) Sets how the ODUk (client payload) is mapped to the optical channel (OTUk).	• Asynch mapping • Synch mapping

Table 5-30 describes the values on the Provisioning > OTN > G.709 Thresholds tab.

Table 5-30 *TXP_MR_10G, TXP_MR_10E, TXP_MR_10E_C, or TXP_MR_10E_L Card ITU-T G.709 Threshold Settings*

Parameter	Description	Options
Port	(Display only) Displays the port number and optional name.	2
ES	Severely errored seconds. Two types of thresholds can be asserted. Selecting the SM (OTUk) radio button selects FEC, overhead management, and PM using OTUk. Selecting the PM radio button selects path PM using ODUk.	Numeric. Threshold display options include: • Direction—Near End or Far End • Interval—15 Min (minutes) or 1 day • Types—SM (OTUk) or PM (ODUk) Choose an option in each category and click Refresh. Note SM (OTUk) is the ITU-T G.709 optical channel transport unit order of k overhead frame used for management and performance monitoring. PM (ODUk) is the ITU-T G.709 optical channel data unit order of k overhead frame unit used for path performance monitoring.
SES	Severely errored seconds	Numeric. Threshold display options include: • Direction—Near End or Far End • Interval—15 Min (minutes) or 1 day • Types—SM (OTUk) or PM (ODUk) Choose an option in each category and click Refresh.
UAS	Unavailable seconds	Numeric. Threshold display options include: • Direction—Near End or Far End • Interval—15 Min (minutes) or 1 day • Types—SM (OTUk) or PM (ODUk) Choose an option in each category and click Refresh.

Table 5-30 *TXP_MR_10G, TXP_MR_10E, TXP_MR_10E_C, or TXP_MR_10E_L Card ITU-T G.709 Threshold Settings (continued)*

Parameter	Description	Options
BBE	Background block errors	Numeric. Threshold display options include: • Direction—Near End or Far End • Interval—15 Min (minutes) or 1 day • Types—SM (OTUk) or PM (ODUk) Choose an option in each category and click Refresh .
FC	Failure counter	Numeric. Threshold display options include: • Direction—Near End or Far End • Interval—15 Min (minutes) or 1 day • Types—SM (OTUk) or PM (ODUk) Choose an option in each category and click Refresh .

Table 5-31 describes the values on the Provisioning > OTN > FEC Thresholds tab.

Table 5-31 *TXP_MR_10G, TXP_MR_10E, TXP_MR_10E_C, or TXP_MR_10E_L Card FEC Threshold Settings*

Parameter	Description	Options
Port	(Display only) Displays the port number and optional name.	2
Bit Errors Corrected	Displays the number of bit errors corrected during the selected time period.	Numeric display. Can be set for 15-minute or one-day intervals.
Uncorrectable Words	Displays the number of uncorrectable words in the selected time period.	Numeric display. Can be set for 15-minute or one-day intervals.

Table 5-32 describes the values on the Provisioning > OTN > Trail Trace Identifier tab.

Table 5-32 *10G Multirate Transponder Trail Trace Identifier Settings*

Parameter	Description	Options
Port	Sets the port number.	• 1 • 2
Level	Sets the level.	• Section • Path
Received Trace Mode	Sets the trace mode.	• Off/None • Manual

Table 5-32 10G Multirate Transponder Trail Trace Identifier Settings (continued)

Parameter	Description	Options
Disable FDI on TTIM	If a Trace Identifier Mismatch on Section overhead alarm arises because of a J0 overhead string mismatch, no Forward Defect Indication (FDI) signal is sent to the downstream nodes if this box is checked.	• Checked (FDI on TTIM is disabled) • Unchecked (FDI on TTIM is not disabled)
Transmit	Displays the current transmit string; sets a new transmit string. You can click the button on the right to change the display. Its title changes, based on the current display mode. Click Hex to change the display to hexadecimal (button changes to ASCII); click ASCII to change the display to ASCII (button changes to Hex).	String of trace string size; trail trace identifier is 64 bytes in length.
Expected	Displays the current expected string; sets a new expected string. You can click the button on the right to change the display. Its title changes, based on the current display mode. Click Hex to change the display to hexadecimal (button changes to ASCII); click ASCII to change the display to ASCII (button changes to Hex).	String of trace string size
Received	(Display only) Displays the current received string. You can click Refresh to manually refresh this display, or check the Auto-refresh every 5 sec check box to keep this panel updated.	String of trace string size
Auto-refresh	If checked, automatically refreshes the display every 5 minutes.	Checked/unchecked (default)

Step 4 Click **Apply**.

Step 5 Return to your originating procedure (NTP).

NTP-G97 Modify the 4x2.5G Muxponder Card Line Settings and PM Parameter Thresholds

Purpose	This procedure changes the line and threshold settings for the MXP_2.5G_10G, MXP_2.5G_10E, MXP_2.5G_10E_C, and MXP_2.5G_10E_L muxponder cards.
Tools/Equipment	None
Prerequisite Procedures	NTP-G32 Install the Transponder and Muxponder Cards, page 3-51. DLP-G63 Install an SFP or XFP, page 3-54 DLP-G277 Provision a Multirate PPM, page 5-6 (if necessary) DLP-G278 Provision the Optical Line Rate, page 5-9 (if necessary)
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

-
- Step 1** Complete the “[DLP-G46 Log into CTC](#)” task on page 2-27 at the node where you want to change the muxponder card settings. If you are already logged in, continue with [Step 2](#).
- Step 2** As needed, complete the “[NTP-G103 Back Up the Database](#)” procedure on page 13-2 to preserve the existing transmission settings.
- Step 3** Perform any of the following tasks as needed:
- [DLP-G222 Change the 4x2.5G Muxponder Card Settings, page 5-61](#)
 - [DLP-G223 Change the 4x2.5G Muxponder Line Settings, page 5-62](#)
 - [DLP-G224 Change the 4x2.5G Muxponder Section Trace Settings, page 5-65](#)
 - [DLP-G225 Change the 4x2.5G Muxponder Trunk Settings, page 5-66](#)
 - [DLP-G226 Change the 4x2.5G Muxponder SONET/SDH Line Thresholds Settings, page 5-69](#)
 - [DLP-G303 Provision the 4x2.5G Muxponder Trunk Port Alarm and TCA Thresholds, page 5-72](#)
 - [DLP-G304 Provision the 4x2.5G Muxponder Client Port Alarm and TCA Thresholds, page 5-73](#)
 - [DLP-G228 Change the 4x2.5G Muxponder Line OTN Settings, page 5-75](#)
 - [DLP-G369 Change the 4x2.5G Muxponder Trunk Wavelength Settings, page 5-68](#)
- Step 4** As needed, complete the “[NTP-G103 Back Up the Database](#)” procedure on page 13-2.
- Stop. You have completed this procedure.**
-

DLP-G222 Change the 4x2.5G Muxponder Card Settings

Purpose	This task changes the card settings for the MXP_2.5G_10G, MXP_2.5G_10E, MXP_2.5G_10E_C, and MXP_2.5G_10E_L muxponder cards, including payload type, termination mode, and wavelength.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

- Step 1** In node view (single-shelf mode) or shelf view (multishelf view), double-click the MXP_2.5G_10G, MXP_2.5G_10E, MXP_2.5G_10E_C, or MXP_2.5G_10E_L card where you want to change the card settings.
- Step 2** Click the **Provisioning > Card** tabs.
- Step 3** Modify any of the settings described in [Table 5-33](#).



Note Parameters shown in [Table 5-33](#) do not apply to all 4x2.5G muxponder cards. If the parameter or option does not apply, it is not shown in CTC.

Table 5-33 *MXP_2.5G_10G, MXP_2.5G_10E, MXP_2.5G_10E_C, or MXP_2.5G_10E_L Card Settings*

Parameter	Description	Options
Termination Mode	Sets the mode of operation. Options that do not apply to a card do not display. The MXP_2.5G_10G card is based on SONET/SDH multiplexing. The transparent mode terminates and rebuilds the B1 byte (as well as other bytes) of the incoming OC-48/STM-16 signal. The B2 byte is not touched. The MXP_2.5G_10E, MXP_2.5G_10E_C, and MXP_2.5G_10E_L cards are fully transparent in transparent mode based on the OTN/ITU-T G.709 multiplexing scheme. It does not terminate the B1 byte or other bytes. It encapsulates OC-48/STM-16 bytes into ODU1 first, then multiplexes them into an OTU2. Refer to the “Card Reference” chapter in the <i>Cisco ONS 15454 DWDM Reference Manual</i> for more details.	For ANSI platforms: - Transparent - Section (MXP_2.5G_10E, MXP_2.5G_10E_C, and MXP_2.5G_10E_L only) - Line (MXP_2.5G_10G only) For ETSI platforms: - Transparent - Multiplex Section (MXP_2.5G_10G, only) - Regeneration Section (MXP_2.5G_10E, MXP_2.5G_10E_C, and MXP_2.5G_10E_L only)

Table 5-33 *MXP_2.5G_10G, MXP_2.5G_10E, MXP_2.5G_10E_C, or MXP_2.5G_10E_L Card Settings (continued)*

Parameter	Description	Options
AIS/Squelch	(MXP_2.5G_10E, MXP_2.5G_10E_C, and MXP_2.5G_10E_L only) Sets the transparent termination mode configuration.	- Ais - Squelch
Tunable Wavelengths	(Display only) Shows the supported wavelengths of the trunk port after the card is installed. For the MXP_2.5G_10E_C, or MXP_2.5G_10E_L cards, the first and last supported wavelength, frequency spacing, and number of supported wavelengths are shown in the format: <i>first wavelength-last wavelength-frequency spacing-number of supported wavelengths</i> . For example, the MXP_2.5G_10E_C card would show: 1529.55nm-1561.83nm-50gHz-82. The MXP_2.5G_10G and MXP_2.5G_10E show the four wavelengths supported by the card that is installed.	—

Step 4 Click **Apply**.

Step 5 Return to your originating procedure (NTP).

DLP-G223 Change the 4x2.5G Muxponder Line Settings

Purpose	This task changes the line settings for the MXP_2.5G_10G, MXP_2.5G_10E, MXP_2.5G_10E_C, and MXP_2.5G_10E_L muxponder cards.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Step 1 In node view (single-shelf mode) or shelf view (multishelf view), double-click the MXP_2.5G_10G, MXP_2.5G_10E, MXP_2.5G_10E_C, or MXP_2.5G_10E_L card where you want to change the line settings.

Step 2 Click the **Provisioning > Line > SONET (ANSI)** or **SDH (ETSI)** tabs.

**Note**

The SONET tab appears only if you have created a PPM for a given port.

Step 3 Modify any of the settings described in [Table 5-34](#).

**Note**

You must modify Near End and Far End independently; 15 Min and 1 Day independently; and Line and Section independently. To do so, choose the appropriate radio button and click **Refresh**.

Table 5-34 *MPX_2.5G_10G, MPX_2.5G_10E, MPX_2.5G_10E_C, or MPX_2.5G_10E_L Card Line Settings*

Parameter	Description	Options
Port	(Display only) Port number. Ports 1 to 4 are client ports (OC-48/STM-16). Port 5 is the DWDM trunk (OC-192/STM-64) that provides wavelength services. Client ports will not appear if the pluggable port module is not provisioned for it.	1 2 3 4 5 (Trunk) (MPX_2.5G_10G only)
Port Name	Provides the ability to assign the specified port a logical name.	User-defined. Name can be up to 32 alphanumeric/special characters. Blank by default. See the “DLP-G104 Assign a Name to a Port” task on page 7-3 .
Admin State	Sets the port service state unless network conditions prevent the change. For more information about administrative states, refer to the “Administrative and Service States” appendix in the <i>Cisco ONS 15454 DWDM Reference Manual</i> .	- IS (ANSI) or Unlocked (ETSI) - IS,AINS (ANSI) or Unlocked,automaticInService (ETSI) - OOS,DSBLD (ANSI) or Locked,disabled (ETSI) - OOS,MT (ANSI) or Locked,maintenance (ETSI)
Service State	(Display only) Identifies the autonomously generated state that gives the overall condition of the port. Service states appear in the format: Primary State-Primary State Qualifier, Secondary State. For more information about service states, refer to the “Administrative and Service States” appendix in the <i>Cisco ONS 15454 DWDM Reference Manual</i> .	- IS-NR (ANSI) or Unlocked-enabled (ETSI) - OOS-AU,AINS (ANSI) or Unlocked-disabled, automaticInService (ETSI) - OOS-MA,DSBLD (ANSI) or Locked-enabled,disabled (ETSI) - OOS-MA,MT (ANSI) or Locked-enabled,maintenance (ETSI)
SF BER	Sets the signal fail bit error rate.	1E-3 1E-4 1E-5
SD BER	Sets the signal degrade bit error rate.	1E-5 1E-6 1E-7 1E-8 1E-9

Table 5-34 *MXP_2.5G_10G, MXP_2.5G_10E, MXP_2.5G_10E_C, or MXP_2.5G_10E_L Card Line Settings (continued)*

Parameter	Description	Options
ALS Mode	Sets the ALS function mode. The DWDM transmitter supports ALS according to ITU-T G.644 (06/99). ALS can be disabled or can be set for one of three mode options.	- Disable (default): ALS is off; the laser is not automatically shut down when traffic outages (LOS) occur. - Auto Restart: ALS is on; the laser automatically shuts down when traffic outages (LOS) occur. It automatically restarts when the conditions that caused the outage are resolved. - Manual Restart: ALS is on; the laser automatically shuts down when traffic outages (LOS) occur. However, the laser must be manually restarted when conditions that caused the outage are resolved. - Manual Restart for Test: Manually restarts the laser for testing.
AINS Soak	Sets the automatic in-service soak period. Double-click the time and use the up and down arrows to change settings.	- Duration of valid input signal, in hh.mm format, after which the card becomes in service (IS) automatically 0 to 48 hours, 15-minute increments
Type	Sets the optical transport type.	- SONET - SDH
SyncMsgIn	Enables synchronization status messages (S1 byte), which allow the node to choose the best timing source. (This parameter does not appear for the MXP_2.5G_10E trunk port.)	Checked or unchecked
ProvidesSync	Sets the ProvidesSync card parameter. If checked, the card is provisioned as an NE timing reference. (This parameter does not appear for the MXP_2.5G_10E trunk port.)	Checked or unchecked
Reach	Displays the optical reach distance of the client port.	Options: ANSI/ETSI - Autoprovision/Autoprovision (default) - SR - SR 1/I-1—Short reach up to 2-km distance - IR 1/S1—Intermediate reach, up to 15-km distance - IR 2/S2—Intermediate reach up to 40-km distance - LR 1/L1—long reach, up to 40-km distance - LR 2/L2—long reach, up to 80-km distance - LR 3/L3—long reach, up to 80-km distance
Wavelength	Displays the wavelength of the client port.	- First Tunable Wavelength - Further wavelengths: 850 nm through 1560.61 nm 100-GHz ITU spacing CWDM spacing

- Step 4** Click **Apply**.
- Step 5** Return to your originating procedure (NTP).

DLP-G224 Change the 4x2.5G Muxponder Section Trace Settings

Purpose	This task changes the section trace settings for the MXP_2.5G_10G, MXP_2.5G_10E, MXP_2.5G_10E_C, and MXP_2.5G_10E_L muxponder cards.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher



Note The Section Trace tab appears only if you have created a PPM for the card.

- Step 1** In node view (single-shelf mode) or shelf view (multishelf view), double-click the MXP_2.5G_10G, MXP_2.5G_10E, MXP_2.5G_10E_C, or MXP_2.5G_10E_L card where you want to change the section trace settings.
- Step 2** Click the **Provisioning > Line > Section Trace** tabs.
- Step 3** Modify any of the settings described in [Table 5-35](#).

Table 5-35 *MXP_2.5G_10G, MXP_2.5G_10E, MXP_2.5G_10E_C, or MXP_2.5G_10E_L Card Section Trace Settings*

Parameter	Description	Options
Port	Sets the port number.	1 2 3 4 5 (Trunk; MXP_2.5G_10G only)
Received Trace Mode	Sets the trace mode.	- Off/None - Manual
Disable AIS/RDI on TIM-S	If an TIM on Section overhead alarm arises because of a J0 overhead string mismatch, no alarm indication signal is sent to downstream nodes if this box is checked.	- Checked (AIS/RDI on TIM-S is disabled) - Unchecked (AIS/RDI on TIM-S is not disabled)
Transmit Section Trace String Size	Sets the trace string size. Select either radio button.	1 byte 16 byte

Table 5-35 *MXP_2.5G_10G, MXP_2.5G_10E, MXP_2.5G_10E_C, or MXP_2.5G_10E_L Card Section Trace Settings (continued)*

Parameter	Description	Options
Transmit	Displays the current transmit string; sets a new transmit string. You can click the button on the right to change the display. Its title changes, based on the current display mode. Click Hex to change the display to hexadecimal (button changes to ASCII); click ASCII to change the display to ASCII (button changes to Hex).	String of trace string size
Expected	Displays the current expected string; sets a new expected string. You can click the button on the right to change the display. Its title changes, based on the current display mode. Click Hex to change the display to hexadecimal (button changes to ASCII); click ASCII to change the display to ASCII (button changes to Hex).	String of trace string size
Received	(Display only) Displays the current received string. You can click Refresh to manually refresh this display, or check the Auto-refresh every 5 sec check box to keep this panel updated.	String of trace string size
Auto-refresh	If checked, automatically refreshes the display every 5 minutes.	Checked/unchecked (default)

Step 4 Click **Apply**.

Step 5 Return to your originating procedure (NTP).

DLP-G225 Change the 4x2.5G Muxponder Trunk Settings

Purpose	This task provisions the trunk settings for the MXP_2.5G_10E, MXP_2.5G_10E_C, and MXP_2.5G_10E_L muxponder cards.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher



Note

This task does not apply to the MXP_2.5G_10G card.

- Step 1** In node view (single-shelf mode) or shelf view (multishelf view), double-click the MXP_2.5G_10E, MXP_2.5G_10E_C, or MXP_2.5G_10E_L card where you want to change the section trace settings.
- Step 2** Click the **Provisioning > Line > Trunk** tabs.
- Step 3** Modify any of the settings described in [Table 5-36](#).

Table 5-36 MXP_2.5G_10E, MXP_2.5G_10E_C, or MXP_2.5G_10E_L Card Trunk Settings

Parameter	Description	Options
Port	(Display only) Displays the port number. Port 5 is the DWDM trunk (OC-192/STM-64) that provides wavelength services.	5 (Trunk)
Port Name	Provides the ability to assign the specified port a logical name.	User-defined. Name can be up to 32 alphanumeric/special characters. Blank by default. See the “ DLP-G104 Assign a Name to a Port ” task on page 7-3.
Admin State	Sets the port service state unless network conditions prevent the change. For more information about administrative states, refer to the “Administrative and Service States” appendix in the <i>Cisco ONS 15454 DWDM Reference Manual</i> .	- IS (ANSI) or Unlocked (ETSI) - IS,AINS (ANSI) or Unlocked,automaticInService (ETSI) - OOS,DSBLD (ANSI) or Locked,disabled (ETSI) - OOS,MT (ANSI) or Locked,maintenance (ETSI)
Service State	(Display only) Identifies the autonomously generated state that gives the overall condition of the port. Service states appear in the format: Primary State-Primary State Qualifier, Secondary State. For more information about service states, refer to the “Administrative and Service States” appendix in the <i>Cisco ONS 15454 DWDM Reference Manual</i> .	- IS-NR (ANSI) or Unlocked-enabled (ETSI) - OOS-AU,AINS (ANSI) or Unlocked-disabled, automaticInService (ETSI) - OOS-MA,DSBLD (ANSI) or Locked-enabled,disabled (ETSI) - OOS-MA,MT (ANSI) or Locked-enabled,maintenance (ETSI)

Table 5-36 *MXP_2.5G_10E, MXP_2.5G_10E_C, or MXP_2.5G_10E_L Card Trunk Settings (continued)*

Parameter	Description	Options
ALS Mode	Sets the ALS function mode. The DWDM transmitter supports ALS according to ITU-T G.644 (06/99). ALS can be disabled or can be set for one of three mode options.	- Disabled (default): ALS is off; the laser is not automatically shut down when traffic outages (LOS) occur. - Auto Restart: ALS is on; the laser automatically shuts down when traffic outages (LOS) occur. It automatically restarts when the conditions that caused the outage are resolved. - Manual Restart: ALS is on; the laser automatically shuts down when traffic outages (LOS) occur. However, the laser must be manually restarted when conditions that caused the outage are resolved. - Manual Restart for Test: Manually restarts the laser for testing.
AINS Soak	(OC-N and STM-N payloads only) Sets the automatic in-service soak period.	- Duration of valid input signal, in hh.mm format, after which the card becomes in service (IS) automatically 0 to 48 hours, 15-minute increments

Step 4 Click **Apply**.

Step 5 Return to your originating procedure (NTP).

DLP-G369 Change the 4x2.5G Muxponder Trunk Wavelength Settings

Purpose	This task changes the trunk wavelength settings for the MXP_2.5G_10G, MXP_2.5G_10E, MXP_2.5G_10E_C, and MXP_2.5G_10E_L cards.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

- Step 1** In node view (single-shelf mode) or shelf view (multishelf view), double-click the MXP_2.5G_10G, MXP_2.5G_10E, MXP_2.5G_10E_C, and MXP_2.5G_10E_L card where you want to change the trunk wavelength settings.
- Step 2** Click the **Provisioning > Line > Wavelength Trunk Settings** tabs.
- Step 3** Modify any of the settings for the Wavelength Trunk Settings tab as described in [Table 5-37](#).

Table 5-37 *MXP_2.5G_10G, MXP_2.5G_10E, MXP_2.5G_10E_C, and MXP_2.5G_10E_L Card Wavelength Trunk Settings*

Parameter	Description	Options
Port	(Display only) Displays the port number.	5 (Trunk)
Band	(Display only) Indicates the wavelength band available from the card that is installed. If the card is preprovisioned, the field can be provisioned to the band of the card that will be installed.	- C—The C-band wavelengths are available in the Wavelength field. - L—The L-band wavelengths are available in the Wavelength field.
Even/Odd	Sets the wavelengths available for provisioning for MXP_2.5G_10E_C and MXP_2.5G_10E_L cards. (This field does not apply to MXP_2.5G_10G or MXP_2.5G_10E cards.)	- Even—Displays even C-band or L-band wavelengths in the Wavelength field. - Odd—Displays odd C-band or L-band wavelengths in the Wavelength field.
Wavelength	The wavelength provisioned for the trunk.	- First Tunable Wavelength - Further wavelengths in 100-GHz ITU-T C-band or L-band spacing, depending on the card that is installed. For MXP_2.5G_10G and MXP_2.5G_10E cards, the wavelengths carried by the card are identified with two asterisks. If the card is not installed, all wavelengths appear with a dark grey background.

Step 4 Click **Apply**.

Step 5 Return to your originating procedure (NTP).

DLP-G226 Change the 4x2.5G Muxponder SONET/SDH Line Thresholds Settings

Purpose	This task changes the SONET (ANSI) or SDH (ETSI) line threshold settings for the MXP_2.5G_10G, MXP_2.5G_10E, MXP_2.5G_10E_C, and MXP_2.5G_10E_L muxponder cards.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Step 1 In node view (single-shelf mode) or shelf view (multishelf view), double-click the MXP_2.5G_10G, MXP_2.5G_10E, MXP_2.5G_10E_C, or MXP_2.5G_10E_L card where you want to change the line threshold settings.

Step 2 Click the **Provisioning > Line Thresholds** tabs.

Step 3 Modify any of the settings described in [Table 5-38](#).



Note

In [Table 5-38](#), some parameter tabs or selections do not always apply to all 4x2.5G muxponder cards. If the tabs or selections do not apply, they do not appear in CTC.

Table 5-38 *MXP_2.5G_10G, MXP_2.5G_10E, MXP_2.5G_10E_C, or MXP_2.5G_10E_LCard Line Threshold Settings*

Parameter	Description	Options - ONS 15454	Options - ONS 15454 SDH
Port	(Display only) Port number	1 2 3 4 5 (MXP_2.5G_10G only)	1 2 3 4 5 (MXP_2.5G_10G only)
EB	Path Errored Block indicates that one or more bits are in error within a block	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Line or Section (near end only) Choose an option in each category and click Refresh .	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Multiplex Section or Regeneration Section (near end only) Choose an option in each category and click Refresh .
CV	Coding violations	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Line or Section (near end only) Choose an option in each category and click Refresh .	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Multiplex Section or Regeneration Section (near end only) Choose an option in each category and click Refresh .
ES	Errored seconds	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Line or Section (near end only) Choose an option in each category and click Refresh .	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Multiplex Section or Regeneration Section (near end only) Choose an option in each category and click Refresh .

Table 5-38 ***MPX_2.5G_10G, MPX_2.5G_10E, MPX_2.5G_10E_C, or MPX_2.5G_10E_LCard Line Threshold Settings***

Parameter	Description	Options - ONS 15454	Options - ONS 15454 SDH
SES	Severely errored seconds	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Line or Section (near end only) Choose an option in each category and click Refresh .	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Multiplex Section or Regeneration Section (near end only) Choose an option in each category and click Refresh .
SEFS	(Near End Section or Regeneration Section only) Severely errored framing seconds	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Line or Section (near end only) Choose an option in each category and click Refresh .	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Multiplex Section or Regeneration Section (near end only) Choose an option in each category and click Refresh .
BBE	Background block errors	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Line or Section (near end only) Choose an option in each category and click Refresh .	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Multiplex Section or Regeneration Section (near end only) Choose an option in each category and click Refresh .
FC	(Line or Multiplex Section only) Failure count	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Line or Section (near end only) Choose an option in each category and click Refresh .	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Multiplex Section or Regeneration Section (near end only) Choose an option in each category and click Refresh .
UAS	(Line or Multiplex Section only) Unavailable seconds	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Line or Section (near end only) Choose an option in each category and click Refresh .	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Multiplex Section or Regeneration Section (near end only) Choose an option in each category and click Refresh .

- Step 4** Click **Apply**.
- Step 5** Return to your originating procedure (NTP).

DLP-G303 Provision the 4x2.5G Muxponder Trunk Port Alarm and TCA Thresholds

Purpose	This task changes the MXP_2.5G_10G, MXP_2.5G_10E, MXP_2.5G_10E_C, and MXP_2.5G_10E_L trunk port alarm and TCA thresholds.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

- Step 1** In node view (single-shelf mode) or shelf view (multishelf view), double-click the MXP_2.5G_10G, MXP_2.5G_10E, MXP_2.5G_10E_C, or MXP_2.5G_10E_L card where you want to change the trunk port alarm and TCA settings.
- Step 2** Click the **Provisioning > Optics Thresholds** tabs.
- Step 3** Select **TCA** (if not already selected), a **15 Min** or **1 Day** PM interval radio button and then click **Refresh**.



Note You must modify 15 Min and 1 Day independently. To do so, choose the appropriate radio button and click **Refresh**.

- Step 4** Referring to [Table 5-39](#), provision the trunk port (Port 5) TCA thresholds for RX Power High, RX Power Low, TX Power High, and TX Power Low.



Note Do not modify the Laser Bias parameters.

Table 5-39 *MXP_2.5G_10G, MXP_2.5G_10E, MXP_2.5G_10E_C, or MXP_2.5G_10E_L Trunk Port TCA Thresholds*

Card	TCA RX Power High	TCA RX Power Low	TCA TX Power High	TCA TX Power Low
MXP_2.5G_10G	-8 dBm	-22 dBm	7 dBm	-1 dBm
MXP_2.5G_10E	-9 dBm	-18 dBm	9 dBm	0 dBm
MXP_2.5G_10E_C	-9 dBm	-18 dBm	9 dBm	0 dBm
MXP_2.5G_10E_L	-9 dBm	-18 dBm	9 dBm	0 dBm

- Step 5** Click **Apply**.

- Step 6** Under Types, click the **Alarm** radio button and click **Refresh**.
- Step 7** Referring to [Table 5-40](#), provision the trunk port (Port 5) Alarm thresholds for RX Power High, RX Power Low, TX Power High, and TX Power Low.



Note Do not modify the Laser Bias parameters.



Note You must modify 15 Min and 1 Day independently. To do so, choose the appropriate radio button and click **Refresh**.

Table 5-40 *MXP_2.5G_10G, MXP_2.5G_10E, MXP_2.5G_10E_C, or MXP_2.5G_10E_L Trunk Port Alarm Thresholds*

Card	Alarm RX Power High	Alarm RX Power Low	Alarm TX Power High	Alarm TX Power Low
MXP_2.5G_10G	-8 dBm	-24 dBm	4 dBm	2 dBm
MXP_2.5G_10E	-8 dBm	-20 dBm	7 dBm	3 dBm
MXP_2.5G_10E_C	-8 dBm	-20 dBm	7 dBm	3 dBm
MXP_2.5G_10E_L	-8 dBm	-20 dBm	7 dBm	3 dBm

- Step 8** Click **Apply**.
- Step 9** Return to your originating procedure (NTP).

DLP-G304 Provision the 4x2.5G Muxponder Client Port Alarm and TCA Thresholds

Purpose	This task provisions the client port alarm and TCA thresholds for the MXP_2.5G_10G, MXP_2.5G_10E, MXP_2.5G_10E_C, and MXP_2.5G_10E_L cards.
Tools/Equipment	None
Prerequisite Procedures	DLP-G278 Provision the Optical Line Rate, page 5-9 DLP-G46 Log into CTC, page 2-27
Required/As Needed	Required
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

- Step 1** In node view (single-shelf mode) or shelf view (multishelf view), double-click the MXP_2.5G_10G, MXP_2.5G_10E, MXP_2.5G_10E_C, or MXP_2.5G_10E_L card where you want to change the client port alarm and TCA settings.
- Step 2** Click the **Provisioning > Optics Thresholds** tabs. The TCA thresholds are shown by default.

- Step 3** Referring to [Table 5-41](#), provision the client Port N (where $N = 1$ through 4) TCA thresholds for RX Power High, RX Power Low, TX Power High, and TX Power Low based on the client interface at the other end.

**Note**

The hardware device that plugs into a TXP or MXP card faceplate to provide a fiber interface to the card is called a Small Form-factor Pluggable (SFP or XFP). In Cisco Transport Controller (CTC), SFPs and XFPs are called PPMs. SFPs/XFPs are hot-swappable input/output devices that plug into a TXP, MXP, or line card port to link the port with the fiber-optic network. For more information about SFPs and XFPs, refer to the *Cisco ONS 15454 DWDM Reference Manual*.

**Note**

You must modify 15 Min and 1 Day independently. To do so, choose the appropriate radio button and click **Refresh**.

**Note**

Do not modify the Laser Bias parameters.

Table 5-41 *MXP_2.5G_10G, MXP_2.5G_10E, MXP_2.5G_10E_C, or MXP_2.5G_10E_L Card Client Interfaces TCA Thresholds*

Port Type (by CTC)	Pluggable Port Module (SFP)	TCA RX Power High	TCA RX Power Low	TCA TX Power High	TCA TX Power Low
OC-48	ONS-SE-2G-S1	-3	-18	3	-16
	15454-SFP-OC48-IR	0	-18	6	-11
STM-16	ONS-SE-2G-S1	-3	-18	3	-16
	15454E-SFP-L.16.1	0	-18	6	-11

- Step 4** Repeat [Step 3](#) to provision each additional client port.
- Step 5** Under Types, click the **Alarm** radio button and click **Refresh**.
- Step 6** Referring to [Table 5-42](#), provision the client Port N (where $N = 1$ through 4) Alarm thresholds for RX Power High, RX Power Low, TX Power High, and TX Power Low based on the client interface that is provisioned.

**Note**

You must modify 15 Min and 1 Day independently. To do so, choose the appropriate radio button and click **Refresh**.

**Note**

Do not modify the Laser Bias parameters.

Table 5-42 *MXP_2.5G_10G, MXP_2.5G_10E, MXP_2.5G_10E_C, or MXP_2.5G_10E_L Card Client Interfaces Alarm Thresholds*

Port Type (by CTC)	Pluggable Port Module (SFP)	Alarm RX Power High	Alarm RX Power Low	Alarm TX Power High	Alarm TX Power Low
OC-48	ONS-SE-2G-S1	0	-21	0	-13
	15454-SFP-OC48-IR	3	-21	3	-8
STM-16	ONS-SE-2G-S1	0	-21	0	-13
	15454E-SFP-L.16.1	3	-21	3	-8

- Step 7** Click **Apply**.
- Step 8** Repeat Steps 6 and 7 to provision each additional client port. When you have finished provisioning client ports, continue with [Step 9](#).
- Step 9** Return to your originating procedure (NTP).

DLP-G228 Change the 4x2.5G Muxponder Line OTN Settings

Purpose	This task changes the line OTN settings for MXP_2.5G_10G, MXP_2.5G_10E, MXP_2.5G_10E_C, and MXP_2.5G_10E_L muxponder cards.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

- Step 1** In node view (single-shelf mode) or shelf view (multishelf view), double-click the MXP_2.5G_10G, MXP_2.5G_10E, MXP_2.5G_10E_C, or MXP_2.5G_10E_L card where you want to change the line OTN settings.
- Step 2** Click the **Provisioning > OTN** tabs, then choose one of the following subtabs: **OTN Lines**, **OTN G.709 Thresholds**, **FEC Thresholds**, or **Trail Trace Identifier**.
- Step 3** Modify any of the settings described in Tables [5-43](#) through [5-46](#).



Note You must modify Near End and Far End independently; 15 Min and 1 Day independently; and SM and PM independently. To do so, choose the appropriate radio button and click **Refresh**.

[Table 5-43](#) describes the values on the Provisioning > OTN > OTN Lines tab.



Note In [Table 5-43](#), some parameter tabs or values do not always apply to all MXP_2.5G_10G, MXP_2.5G_10E, MXP_2.5G_10E_C, or MXP_2.5G_10E_L cards. If the tabs or values do not apply, they do not appear in CTC.

Table 5-43 *MXP_2.5G_10G, MXP_2.5G_10E, MXP_2.5G_10E_C, or MXP_2.5G_10E_L Card Line OTN Settings*

Parameter	Description	Options
Port	(Display only) Displays the port number.	5 (Trunk)
G.709 OTN	Sets the OTN lines according to ITU-T G.709.	• Enable • Disable
FEC	Sets the OTN line FEC mode. FEC mode can be Disabled or Enabled. With the MXP_2.5G_10E card, Enhanced FEC (E-FEC) mode can be enabled to provide greater range and lower bit error rate. E-FEC applies only to the MXP_2.5G_10E card.	• Enable—(MXP_2.5G_10G only) FEC is on. • Disable—FEC is off. • Standard—(MXP_2.5G_10E only) FEC is on. • Enhanced—(MXP_2.5G_10E only) Enhanced FEC is on.
SD BER	Sets the signal degrade bit error rate.	• 1E-5 • 1E-6 • 1E-7 • 1E-8 • 1E-9
SF BER	(Display only) Sets the signal fail bit error rate.	• 1E-5
Asynch/Synch Mapping	(MXP_2.5G_10E only) The MXP_2.5G_10E can perform standard ODU multiplexing according to ITU-T G.709. The card uses this to aggregate the four OC-48 client signals.	• ODU Multiplex

Table 5-44 describes the values on the Provisioning > OTN > OTN G.709 Thresholds tab.

Table 5-44 *MXP_2.5G_10G, MXP_2.5G_10E, MXP_2.5G_10E_C, or MXP_2.5G_10E_L ITU-T G.709 Threshold Settings*

Parameter	Description	Options
Port	(Display only) Port number	5 (Trunk)
ES	Errored seconds	Numeric. Threshold display options include: • Direction—Near End or Far End • Interval—15 Min (minutes) or 1 day • Types—SM (OTUk) or PM (ODUk) Choose an option in each category and click Refresh. Note SM (OTUk) is the ITU-T G.709 optical channel transport unit order of k overhead frame used for management and performance monitoring. PM (ODUk) is the ITU-T G.709 optical channel data unit order of k overhead frame unit used for path performance monitoring.
SES	Severely errored seconds. Two types of thresholds can be asserted. Selecting the SM (OTUk) radio button selects FEC, overhead management, and PM using OTUk. Selecting the PM radio button selects path PM using ODUk.	Numeric. Threshold display options include: • Direction—Near End or Far End • Interval—15 Min (minutes) or 1 day • Types—SM (OTUk) or PM (ODUk) Choose an option in each category and click Refresh.
UAS	Unavailable seconds	Numeric. Threshold display options include: • Direction—Near End or Far End • Interval—15 Min (minutes) or 1 day • Types—SM (OTUk) or PM (ODUk) Choose an option in each category and click Refresh.

Table 5-44 *MXP_2.5G_10G, MXP_2.5G_10E, MXP_2.5G_10E_C, or MXP_2.5G_10E_L ITU-T G.709 Threshold Settings (continued)*

Parameter	Description	Options
BBE	Background block errors	Numeric. Threshold display options include: • Direction—Near End or Far End • Interval—15 Min (minutes) or 1 day • Types—SM (OTUk) or PM (ODUk) Choose an option in each category and click Refresh .
FC	Failure counter	Numeric. Threshold display options include: • Direction—Near End or Far End • Interval—15 Min (minutes) or 1 day • Types—SM (OTUk) or PM (ODUk) Choose an option in each category and click Refresh .

Table 5-45 describes the values on the Provisioning > OTN > FEC Thresholds tab.

Table 5-45 *MXP_2.5G_10G, MXP_2.5G_10E, MXP_2.5G_10E_C, or MXP_2.5G_10E_L FEC Threshold Settings*

Parameter	Description	Options
Port	(Display only) Displays the port number.	5 (Trunk)
Bit Errors Corrected	Displays the number of bit errors corrected during the interval selected. The interval can be set for 15 minutes or one day.	Numeric
Uncorrectable Words	Displays the number of uncorrectable words during the interval selected. The interval can be set for 15 minutes or one day.	Numeric

Table 5-46 describes the values on the Provisioning > OTN > Trail Trace Identifier tab.

Table 5-46 ***MXP_2.5G_10G, MXP_2.5G_10E, MXP_2.5G_10E_C, or MXP_2.5G_10E_L Trail Trace Identifier Settings***

Parameter	Description	Options
Port	Sets the port number. The trail trace identifier is applicable only to the trunk interface, which handles ITU-T G.709 frames.	5 (Trunk)
Level	Sets the level.	- Section - Path
Received Trace Mode	Sets the trace mode.	- Off/None - Manual
Disable FDI on TTIM	If a Trace Identifier Mismatch on Section overhead alarm arises because of a J0 overhead string mismatch, no Forward Defect Indication (FDI) signal is sent to the downstream nodes if this box is checked.	- Checked (FDI on TTIM is disabled) - Unchecked (FDI on TTIM is not disabled)
Transmit	Displays the current transmit string; sets a new transmit string. You can click the button on the right to change the display. Its title changes, based on the current display mode. Click Hex to change the display to hexadecimal (button changes to ASCII); click ASCII to change the display to ASCII (button changes to Hex).	String of trace string size; trail trace identifier is 64 bytes in length.
Expected	Displays the current expected string; sets a new expected string. You can click the button on the right to change the display. Its title changes, based on the current display mode. Click Hex to change the display to hexadecimal (button changes to ASCII); click ASCII to change the display to ASCII (button changes to Hex).	String of trace string size
Received	(Display only) Displays the current received string. You can click Refresh to manually refresh this display, or check the Auto-refresh every 5 sec box to keep this panel updated.	String of trace string size
Auto-refresh	If checked, automatically refreshes the display every 5 minutes.	Checked/unchecked (default)

Step 4 Click **Apply**.**Step 5** Return to your originating procedure (NTP).

NTP-G99 Modify the 2.5G Data Muxponder Card Line Settings and PM Parameter Thresholds

Purpose	This procedure changes the line and threshold settings for the MXP_MR_2.5G and MXPP_MR_2.5G muxponder cards.
Tools/Equipment	None
Prerequisite Procedures	NTP-G32 Install the Transponder and Muxponder Cards, page 3-51 DLP-G63 Install an SFP or XFP, page 3-54 DLP-G277 Provision a Multirate PPM, page 5-6 (if necessary) DLP-G278 Provision the Optical Line Rate, page 5-9 (if necessary)
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

-
- Step 1** Complete the “[DLP-G46 Log into CTC](#)” task on page 2-27 at the node where you want to change the muxponder card settings. If you are already logged in, proceed to [Step 2](#).
- Step 2** As needed, complete the “[NTP-G103 Back Up the Database](#)” procedure on page 13-2 to preserve the existing transmission settings.
- Step 3** Perform any of the following tasks as needed:
- [DLP-G236 Change the 2.5G Data Muxponder Client Line Settings, page 5-81](#)
 - [DLP-G237 Change the 2.5G Data Muxponder Distance Extension Settings, page 5-84](#)
 - [DLP-G238 Change the 2.5G Data Muxponder SONET \(OC-48\)/SDH \(STM-16\) Settings, page 5-85](#)
 - [DLP-G239 Change the 2.5G Data Muxponder Section Trace Settings, page 5-87](#)
 - [DLP-G240 Change the 2.5G Data Muxponder SONET or SDH Line Thresholds, page 5-90](#)
 - [DLP-G321 Change the 2.5G Data Muxponder Line Thresholds for 1G Ethernet or 1G FC/FICON Payloads, page 5-92](#)
 - [DLP-G307 Provision the 2.5G Data Muxponder Trunk Port Alarm and TCA Thresholds, page 5-94](#)
 - [DLP-G308 Provision the 2.5G Data Muxponder Client Port Alarm and TCA Thresholds, page 5-95](#)
 - [DLP-G370 Change the 2.5G Data Muxponder Trunk Wavelength Settings, page 5-89](#)



Note To use the Alarm Profiles tab, including creating alarm profiles and suppressing alarms, see [Chapter 9, “Manage Alarms.”](#)

Stop. You have completed this procedure.

DLP-G236 Change the 2.5G Data Muxponder Client Line Settings

Purpose	This task changes the client line settings for MXP_MR_2.5G and MXPP_MR_2.5G muxponder cards.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

- Step 1** In node view (single-shelf mode) or shelf view (multishelf view), double-click the MXP_MR_2.5G or MXPP_MR_2.5G card where you want to change the line settings.
- Step 2** Click the **Provisioning > Line > Client** tabs. Tabs and parameter selections vary according to PPM provisioning.
- Step 3** Modify any of the settings for the Client tab as described in [Table 5-47](#).

Table 5-47 *MXP_MR_2.5G or MXPP_MR_2.5G Card Client Settings*

Parameter	Description	Options
Port	(Display only) Port number.	1 2
Port Name	The user can assign a logical name for each of the ports shown by filling in this field.	User-defined. Name can be up to 32 alphanumeric/special characters. Blank by default. See the “DLP-G104 Assign a Name to a Port” task on page 7-3. Note If this port’s Fibre Channel or FICON link will be discovered by the Cisco MDS Fabric Manager for use with a Cisco MDS 9000 switch, you must provision the Fiber Channel/FICON port name to the following string: FC: <switch> <interface> Where <switch> is the DNS name or IPv4/v6 address of the Cisco MDS 9000 switch, and <interface> is the card slot/port of the MXP_MR_2.5G or MXPP_MR_2.5G port you are assigning a name to. Example: FC: 10.0.0.1 fc2/4
Admin State	Sets the port service state unless network conditions prevent the change. For more information about administrative states, refer to the “Administrative and Service States” appendix in the <i>Cisco ONS 15454 DWDM Reference Manual</i> .	- IS (ANSI) or Unlocked (ETSI) - OOS,DSBLD (ANSI) or Locked,disabled (ETSI) - OOS,MT (ANSI) or Locked,maintenance (ETSI)

Table 5-47 ***MXP_MR_2.5G or MXPP_MR_2.5G Card Client Settings (continued)***

Parameter	Description	Options
Service State	Identifies the autonomously generated state that gives the overall condition of the port. Service states appear in the format: Primary State-Primary State Qualifier, Secondary State. For more information about service states, refer to the “Administrative and Service States” appendix in the <i>Cisco ONS 15454 DWDM Reference Manual</i> .	- IS-NR (ANSI) or Unlocked-enabled (ETSI) - OOS-AU,AINS (ANSI) or Unlocked-disabled, automaticInService (ETSI) - OOS-MA,DSBLD (ANSI) or Locked-enabled,disabled (ETSI) - OOS-MA,MT (ANSI) or Locked-enabled,maintenance (ETSI)
ALS Mode	Sets the ALS function.	- Disabled (default): ALS is off; the laser is not automatically shut down when traffic outages (LOS) occur. - Auto Restart: (MXP_MR_2.5G only) ALS is on; the laser automatically shuts down when traffic outages (LOS) occur. It automatically restarts when the conditions that caused the outage are resolved. - Manual Restart: ALS is on; the laser automatically shuts down when traffic outages (LOS) occur. However, the laser must be manually restarted when conditions that caused the outage are resolved. - Manual Restart for Test: Manually restarts the laser for testing.

Table 5-47 ***MXP_MR_2.5G or MXPP_MR_2.5G Card Client Settings (continued)***

Parameter	Description	Options
Reach	Displays the optical reach distance of the client port.	The reach distances that appear in the drop-down list depend on the card: - Autoprovision—The system to automatically provision the reach from the pluggable port module (PPM) reach value on the hardware. - SX—Short laser wavelength on multimode fiber optic cable for a maximum length of 550 meters. The operating wavelength range is 770-860 nm.) - LX—Long wavelength for a long haul fiber optic cable for a maximum length of 10 km. The operating wavelength range is 1270-1355 nm.) - CX—Two pairs of 150-ohm shielded twisted pair cable for a maximum length of 25 meters.) - T—Four pairs of Category 5 Unshielded Twisted Pair cable for a maximum length of 100 meters.) - DX—Single mode up to 40 km. The operating wavelength range is 1430-1580 nm.) - HX—Single mode up to 40 km. The operating wavelength range is 1280-1335 nm.) - ZX—Extended wavelength single-mode optical fiber for up to 100 km. The operating wavelength range is 1500-1580 nm.) - VX—Single mode up to 100 km. The operating wavelength range is 1500-1580 nm.)
Wavelength	Displays the wavelength of the client port.	- First Tunable Wavelength - Further wavelengths:850 nm through 1560.61 nm; 100-GHz ITU spacing; CWDM spacing

Step 4 Click **Apply**.

Step 5 Return to your originating procedure (NTP).

DLP-G237 Change the 2.5G Data Muxponder Distance Extension Settings

Purpose	This task changes the distance extension settings for MXP_MR_2.5G and MXPP_MR_2.5G muxponder cards.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher


Note

Distance extension settings can be changed only if the facilities are out of service (OOS).


Note

The distance extension parameters only apply to client ports (Ports 1 to 8) and not to the trunk ports (Port 9 for MXP_MR_2.5G card or Ports 9 and 10 for the MXPP_MR_2.5G card).

- Step 1** In node view (single-shelf mode) or shelf view (multishelf view), double-click the MXP_MR_2.5G or MXPP_MR_2.5G card where you want to change the distance extension settings.
- Step 2** Click the **Provisioning > Line > Service** tabs, where *Service* is the service type provisioned on the Pluggable Port Modules tab, such as SONET (ANSI), SDH (ETSI), 1G Ethernet, and others.
- Step 3** Locate the Trunk port table row and verify that the Service State column value is OOS-MA,DSBLD (ANSI) or Locked-enabled,disabled (ETSI). If yes, continue with [Step 4](#). If not, complete the following steps:
 - a. Click the **Admin State** table cell and choose **OOS,MT** (ANSI) or **Locked,Maintenance** (ETSI).
 - b. Click **Apply**, then **Yes**.
- Step 4** Click the **Provisioning > Line > Distance Extension** tabs. Tabs and parameter selections vary according to PPM provisioning.
- Step 5** Modify any of the settings for the Distance Extension tab as described in [Table 5-48](#).

Table 5-48 MXP_MR_2.5G or MXPP_MR_2.5G Card Line Distance Extension Settings

Parameter	Description	Options
Port	(Display only) Port number.	1 2
Enable Distance Extension	Allows end-to-end distances of up to 1600 km for FC1G and up to 800 km for FC2G. If Distance Extension is enabled, set the connected Fibre Channel switches to Interop or Open Fabric mode, depending on the Fibre Channel switch. By default, the MXP_MR_2.5G and MXPP_MR_2.5G card will interoperate with the Cisco Multilayer Director Switch (MDS) storage products.	Checked or unchecked

Table 5-48 *MXP_MR_2.5G or MXPP_MR_2.5G Card Line Distance Extension Settings (continued)*

Parameter	Description	Options
Auto Detect Credits	Allows automatic detection of buffer credits for Fibre Channel flow control.	Checked or unchecked
Credits Available	(Display only) Displays the number of buffer credits available.	Numeric (range depends on the client equipment attached to the card)
Autoadjust GFP Buffer Threshold	Allows the threshold of the generic framing procedure (GFP) buffer between two MXP_MR_2.5G or two MXPP_MR_2.5G cards to be automatically adjusted.	Checked or unchecked
GFP Buffers Available	Displays the number of GFP buffers available between two MXP_MR_2.5G or two MXPP_MR_2.5G cards.	Numeric

Step 6 Click **Apply**.

Step 7 Return to your originating procedure (NTP).

DLP-G238 Change the 2.5G Data Muxponder SONET (OC-48)/SDH (STM-16) Settings

Purpose	This task changes the SONET (OC-48) or SDH (STM-16) settings for MXP_MR_2.5G and MXPP_MR_2.5G muxponder cards.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher



Note

SONET (OC-48)/SDH (STM-16) settings apply only to the trunk ports (Port 9 for the MXP_MR_2.5G card and Ports 9 and 10 for the MXPP_MR_2.5G card.)

- Step 1** In node view (single-shelf mode) or shelf view (multishelf view), double-click the MXP_MR_2.5G or MXPP_MR_2.5G card where you want to change the OC-48/STM-64 settings.
- Step 2** Click the **Provisioning > Line > SONET (ANSI)** or **SDH (ETSI)**. Tabs and parameter selections vary according to PPM provisioning.
- Step 3** Modify any of the settings for the SONET or SDH tab as described in [Table 5-49](#).

Table 5-49 *MXP_MR_2.5G or MXPP_MR_2.5G Card Line SONET or SDH Settings*

Parameter	Description	Options
Port	(Display only) Port number.	9 (trunk for MXP_MR_2.5G) or 9 and 10 (trunks for MXPP_MR_2.5G)
Port Name	Provides the ability to assign the specified port a name.	User-defined. Name can be up to 32 alphanumeric/special characters. Blank by default. See the “DLP-G104 Assign a Name to a Port” task on page 7-3 .
Admin State	Sets the port service state unless network conditions prevent the change. For more information about administrative states, refer to the “Administrative and Service States” appendix in the <i>Cisco ONS 15454 DWDM Reference Manual</i> .	- IS (ANSI) or Unlocked (ETSI) - IS,AINS (ANSI) or Unlocked,automaticInService (ETSI) - OOS,DSBLD (ANSI) or Locked,disabled (ETSI) - OOS,MT (ANSI) or Locked,maintenance (ETSI)
Service State	(Display only) Identifies the autonomously generated state that gives the overall condition of the port. Service states appear in the format: Primary State-Primary State Qualifier, Secondary State. For more information about service states, refer to the “Administrative and Service States” appendix in the <i>Cisco ONS 15454 DWDM Reference Manual</i> .	- IS-NR (ANSI) or Unlocked-enabled (ETSI) - OOS-AU,AINS (ANSI) or Unlocked-disabled, automaticInService (ETSI) - OOS-MA,DSBLD (ANSI) or Locked-enabled,disabled (ETSI) - OOS-MA,MT (ANSI) or Locked-enabled,maintenance (ETSI)
SF BER ¹	Sets the signal fail bit error rate.	1E-3 1E-4 1E-5
SD BER ¹	Sets the signal degrade bit error rate.	1E-5 1E-6 1E-7 1E-8 1E-9
ALS Mode	Sets the ALS function mode. The DWDM transmitter supports ALS according to ITU-T G.644 (06/99). ALS can be disabled or can be set for one of three mode options.	- Disable (default): ALS is off; the laser is not automatically shut down when traffic outages (LOS) occur. - Auto Restart: ALS is on; the laser automatically shuts down when traffic outages (LOS) occur. It automatically restarts when the conditions that caused the outage are resolved. - Manual Restart: ALS is on; the laser automatically shuts down when traffic outages (LOS) occur. However, the laser must be manually restarted when conditions that caused the outage are resolved. - Manual Restart for Test: Manually restarts the laser for testing.

Table 5-49 ***MXP_MR_2.5G or MXPP_MR_2.5G Card Line SONET or SDH Settings (continued)***

Parameter	Description	Options
AINS Soak	Sets the automatic in-service soak period. Double-click the time and use the up and down arrows to change settings.	- Duration of valid input signal, in hh.mm format, after which the card becomes in service (IS) automatically 0 to 48 hours, 15-minute increments
Type	The optical transport type.	- SONET (ANSI) - SDH (ETSI)
SyncMsgIn	Sets the EnableSync card parameter. Enables synchronization status messages (S1 byte), which allow the node to choose the best timing source.	Checked or unchecked
Send DoNotUse	Sets the Send DoNotUse card state. When checked, sends a DUS message on the S1 byte.	Checked or unchecked
ProvidesSync	Sets the ProvidesSync card parameter. If checked, the card is provisioned as an NE timing reference.	Checked or unchecked

1. SF BER and SD BER thresholds apply only to trunk ports (Port 9 for MXP_MR_2.5G and Ports 9 and 10 for MXPP_MR_2.5G).

Step 4 Click **Apply**.

Step 5 Return to your originating procedure (NTP).

DLP-G239 Change the 2.5G Data Muxponder Section Trace Settings

Purpose	This task changes the section trace settings for MXP_MR_2.5G and MXPP_MR_2.5G muxponder cards.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

- Step 1** In node view (single-shelf mode) or shelf view (multishelf view), double-click the MXP_MR_2.5G or MXPP_MR_2.5G card where you want to change the section trace settings.
- Step 2** Click the **Provisioning > Line > Section Trace** tabs. Tabs and parameter selections vary according to PPM provisioning.
- Step 3** Modify any of the settings in the Section Trace tab as described in [Table 5-50](#).

Table 5-50 *MXP_MR_2.5G or MXPP_MR_2.5G Card Line Section Trace Settings*

Parameter	Description	Options
Port	(Display only) Port number.	9 (trunk port for MXP_MR_2.5G) 9 and 10 (trunk ports for MXPP_MR_2.5G)
Received Trace Mode	Sets the received trace mode.	- Off/None - Manual
Disable AIS/RDI on TIM-S	If an TIM on Section overhead alarm arises because of a J0 overhead string mismatch, no alarm indication signal is sent to downstream nodes if this box is checked.	- Checked (AIS/RDI on TIM-S is disabled) - Unchecked (AIS/RDI on TIM-S is not disabled)
Transmit Section Trace String Size	Sets the trace string size.	1 byte 16 byte
Transmit	Displays the current transmit string; sets a new transmit string. You can click the button on the right to change the display. Its title changes, based on the current display mode. Click Hex to change the display to hexadecimal (button changes to ASCII); click ASCII to change the display to ASCII (button changes to Hex).	String of trace string size
Expected	Displays the current expected string; sets a new expected string. You can click the button on the right to change the display. Its title changes, based on the current display mode. Click Hex to change the display to hexadecimal (button changes to ASCII); click ASCII to change the display to ASCII (button changes to Hex).	String of trace string size
Received	(Display only) Displays the current received string. You can click Refresh to manually refresh this display, or check the Auto-refresh every 5 sec check box to keep this panel updated.	String of trace string size
Auto-refresh	If checked, automatically refreshes the display every 5 seconds.	Checked/unchecked (default)

Step 4 Click **Apply**.

Step 5 Return to your originating procedure (NTP).

DLP-G370 Change the 2.5G Data Muxponder Trunk Wavelength Settings

Purpose	This task changes the trunk wavelength settings for the MXP_MR_2.5G and MXPP_MR_2.5G.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

- Step 1** In node view (single-shelf mode) or shelf view (multishelf view), double-click the MXP_MR_2.5G or MXPP_MR_2.5G card where you want to change the trunk wavelength settings.
- Step 2** Click the **Provisioning > Line > Wavelength Trunk Settings** tabs.
- Step 3** Modify any of the settings for the Wavelength Trunk Settings tab as described in [Table 5-51](#).

Table 5-51 MXP_MR_2.5G or MXPP_MR_2.5G Card Wavelength Trunk Settings

Parameter	Description	Options
Port	(Display only) Displays the port number.	9 (Trunk) 10 (Trunk) (MXPP_MR_2.5G only)
Band	Indicates the wavelength band that can be provisioned. For MXP_MR_2.5G and MXPP_MR_2.5G cards, the field is display-only.	C—Only the C band is available
Even/Odd	Sets the wavelengths available for provisioning. This field does not apply to MXP_MR_2.5G or MXPP_MR_2.5G cards	—
Wavelength	The wavelength provisioned for the trunk.	- First Tunable Wavelength - Further wavelengths in 100-GHz ITU-T, C-band spacing. If the card is installed, the wavelengths it carries are identified with two asterisks. Other wavelengths have a dark grey background. If the card is not installed, all wavelengths appear with a dark grey background.

- Step 4** Click **Apply**.
- Step 5** Return to your originating procedure (NTP).

DLP-G240 Change the 2.5G Data Muxponder SONET or SDH Line Thresholds

Purpose	This task changes the SONET or SDH line threshold settings for MXP_MR_2.5G and MXPP_MR_2.5G muxponder cards.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

- Step 1** In node view (single-shelf mode) or shelf view (multishelf view), double-click the MXP_MR_2.5G or MXPP_MR_2.5G card where you want to change the line threshold settings.
- Step 2** Click the **Provisioning > Line Thresholds > SONET Thresholds (ANSI)** or **SDH Thresholds (ETSI)** tabs.
- Step 3** Modify any of the settings as shown in [Table 5-52](#).



Note You must modify Near End and Far End independently; 15 Min and 1 Day independently; and Line and Section independently. To do so, choose the appropriate radio button and click **Refresh**.



Note In [Table 5-52](#), some parameters or options do not apply to all MXP_MR_2.5G or MXPP_MR_2.5G cards. If the parameters or options do not apply, they do not appear in CTC.

Table 5-52 MXP_MR_2.5G or MXPP_MR_2.5G Card Line Threshold Settings

Field	Description	ONS 15454 Options	ONS 15454 SDH Options
Port	(Display only) Port number	9 (MXP_MR_2.5G) 9 and 10 (MXPP_MR_2.5G)	9 (MXP_MR_2.5G) 9 and 10 (MXPP_MR_2.5G)
EB	Path Errored Block indicates that one or more bits are in error within a block	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Line or Section (near end only) Choose an option in each category and click Refresh .	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Multiplex Section or Regeneration Section (near end only) Choose an option in each category and click Refresh .
CV	Coding violations	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Line or Section (near end only) Choose an option in each category and click Refresh .	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Multiplex Section or Regeneration Section (near end only) Choose an option in each category and click Refresh .

Table 5-52 ***MXP_MR_2.5G or MXPP_MR_2.5G Card Line Threshold Settings (continued)***

Field	Description	ONS 15454 Options	ONS 15454 SDH Options
ES	Errored seconds	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Line or Section (near end only) Choose an option in each category and click Refresh .	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Multiplex Section or Regeneration Section (near end only) Choose an option in each category and click Refresh .
SES	Severely errored seconds	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Line or Section (near end only) Choose an option in each category and click Refresh .	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Multiplex Section or Regeneration Section (near end only) Choose an option in each category and click Refresh .
BBE	Background block errors	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—SM (OTUk) or PM (ODUk) Choose an option in each category and click Refresh .	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—SM (OTUk) or PM (ODUk) Choose an option in each category and click Refresh .
SEFS	(Section or Regeneration Section only) Severely errored framing seconds	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Section only Choose an option in each category and click Refresh .	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Regeneration Section (only) Choose an option in each category and click Refresh .
FC	(Line or Multiplex Section only) Failure count	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Section only Choose an option in each category and click Refresh .	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Regeneration Section (only) Choose an option in each category and click Refresh .
UAS	(Line or Multiplex Section only) Unavailable seconds	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Section only Choose an option in each category and click Refresh .	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Regeneration Section (only) Choose an option in each category and click Refresh .

- Step 4** Click **Apply**.
- Step 5** Return to your originating procedure (NTP).

DLP-G321 Change the 2.5G Data Muxponder Line Thresholds for 1G Ethernet or 1G FC/FICON Payloads

Purpose	This task changes the line threshold settings for MXP_MR_10G and MXPP_MR_2.5G transponder cards carrying the 1G Ethernet or 1G FC/FICON payloads.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

- Step 1** Display the MXP_MR_2.5G or MXPP_MR_2.5G card where you want to change the line threshold settings in card view.
- Step 2** Click the **Provisioning > Line Thresholds > RMON Thresholds** tabs.
- Step 3** Click **Create**. The Create Threshold dialog box appears.
- Step 4** From the Port drop-down list, choose the applicable port.
- Step 5** From the Variable drop-down list, choose an Ethernet variable. See [Table 5-53](#) for a list of available Ethernet variables.

Table 5-53 *MXP_MR_2.5G and MXPP_MR_2.5G Card 1G Ethernet or 1G FC/FICON Variables*

Variable	Description
ifInOctets	Number of bytes received since the last counter reset.
rxTotalPkts	Total number of receive packets.
ifInDiscards	Number of inbound packets that were chosen to be discarded even though no errors had been detected to prevent their being deliverable to a higher-layer protocol.
ifInErrors	Total number of receive errors.
ifOutOctets	The total number of octets transmitted out of the interface, including framing characters.
txTotalPkts	Total number of transmitted packets.
ifOutDiscards	Number of outbound packets that were chosen to be discarded even though no errors had been detected to prevent their being transmitted.
mediaIndStatsRxFramesTruncated	Total number of frames received that are less than 5 bytes. This value is a part of high-level data link control (HDLC) and GFP port statistics.

Table 5-53 *MXP_MR_2.5G and MXPP_MR 2.5G Card 1G Ethernet or 1G FC/FICON Variables*

mediaIndStatsRxFramesTooLong	Number of received frames that exceed the maximum transmission unit (MTU). This value is part of HDLC and GFP port statistics.
mediaIndStatsRxFramesBadCRC	Number of receive data frames with payload cyclic redundancy check (CRC) errors when HDLC framing is used.
mediaIndStatsTxFramesBadCRC	Number of transmitted data frames with payload CRC errors when HDLC framing is used.
fcStatsLinkRecoveries	Number of link recoveries.
fcStatsZeroTxCredits	Number of transmit attempts that failed because of unavailable credits.
8b10bInvalidOrderedSets	Number of 8b10b disparity violations on the Fibre Channel line side.
8b10bStatsEncodingDispErrors	Number of 8b10b disparity violations on the Fibre Channel line side.

- Step 6** From the Alarm Type drop-down list, indicate whether the event will be triggered by the rising threshold, the falling threshold, or both the rising and falling thresholds.
- Step 7** From the Sample Type drop-down list, choose either **Relative** or **Absolute**. Relative restricts the threshold to use the number of occurrences in the user-set sample period. Absolute sets the threshold to use the total number of occurrences, regardless of time period.
- Step 8** Type in an appropriate number of seconds for the Sample Period.
- Step 9** Type in the appropriate number of occurrences for the Rising Threshold.
- For a rising type of alarm, the measured value must move from below the falling threshold to above the rising threshold. For example, if a network is running below a rising threshold of 1000 collisions every 15 seconds and a problem causes 1001 collisions in 15 seconds, the excess occurrences trigger an alarm.
- Step 10** Enter the appropriate number of occurrences in the Falling Threshold field. In most cases a falling threshold is set lower than the rising threshold.
- A falling threshold is the counterpart to a rising threshold. When the number of occurrences is above the rising threshold and then drops below a falling threshold, it resets the rising threshold. For example, when the network problem that caused 1001 collisions in 15 seconds subsides and creates only 799 collisions in 15 seconds, occurrences fall below a falling threshold of 800 collisions. This resets the rising threshold so that if network collisions again spike over a 1000 per 15-second period, an event again triggers when the rising threshold is crossed. An event is triggered only the first time a rising threshold is exceeded (otherwise, a single network problem might cause a rising threshold to be exceeded multiple times and cause a flood of events).
- Step 11** Click **OK**.
- Step 12** Return to your originating procedure (NTP).

DLP-G307 Provision the 2.5G Data Muxponder Trunk Port Alarm and TCA Thresholds

Purpose	This task changes the MXP_MR_2.5G and MXPP_MR_2.5G trunk port alarm and TCA thresholds.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher


Note

Throughout this task, trunk port refers to Port 9 (MXP_MR_2.5G and MXPP_MR_2.5G) and Port 10 (MXPP_MR_2.5G only).

Step 1 In node view (single-shelf mode) or shelf view (multishelf view), double-click the MXP_MR_2.5G or MXPP_MR_2.5G card where you want to change the trunk port alarm and TCA settings.

Step 2 Click the **Provisioning > Optics Thresholds** tabs.


Note

You must modify 15 Min and 1 Day independently. To do so, choose the appropriate radio button and click **Refresh**.

Step 3 Provision the trunk port TCA thresholds for RX Power High to -9 dBm and for RX Power Low to -23 dBm.

Step 4 Under Types, click the **Alarm** radio button and click **Refresh**.


Note

Do not modify the Laser Bias parameters.

Step 5 Provision the trunk port Alarm thresholds for RX Power High to -7 dBm and for RX Power Low to -26 dBm.


Note

You must modify 15 Min and 1 Day independently. To do so, choose the appropriate radio button and click **Refresh**.

Step 6 Click **Apply**.

Step 7 Return to your originating procedure (NTP).

DLP-G308 Provision the 2.5G Data Muxponder Client Port Alarm and TCA Thresholds

Purpose	This task provisions the client port alarm and TCA thresholds for the MXP_MR_2.5G and MXPP_MR_2.5G cards.
Tools/Equipment	None
Prerequisite Procedures	DLP-G278 Provision the Optical Line Rate, page 5-9 DLP-G46 Log into CTC, page 2-27
Required/As Needed	Required
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

- Step 1** In node view (single-shelf mode) or shelf view (multishelf view), double-click the MXP_MR_2.5G or MXPP_MR_2.5G card where you want to change the client port alarm and TCA settings.
- Step 2** Click the **Provisioning > Optics Thresholds** tabs. The TCA thresholds are shown by default.
- Step 3** Referring to [Table 5-54](#), provision the client port (Ports 1 through 8) TCA thresholds for RX Power High, RX Power Low, TX Power High, and TX Power Low based on the client interface at the other end. For additional information about client SFP and XFP interfaces, also known as PPMs, refer to the “Hardware Specifications” appendix in the *Cisco ONS 15454 DWDM Reference Manual*.



Note Do not modify the Laser Bias parameters.



Note You must modify 15 Min and 1 Day independently. To do so, choose the appropriate radio button and click **Refresh**.

Table 5-54 MXP_MR_2.5G and MXPP_MR_2.5G Card Client Interface TCA Thresholds

Port Type (by CTC)	Pluggable Port Module (XFP)	TCA RX Power Low	TCA RX Power High	TCA TX Power Low	TCA TX Power High
FC1G	15454-SFP-GEFC-SX 15454E-SFP-GEFC-S ONS-SE-G2F-SX	-17	0	-16	3
	15454-SFP-GE+-LX 15454E-SFP-GE+-LX ONS-SE-G2F-LX	-20	-3	-16	3
FC2G	15454-SFP-GEFC-SX 15454E-SFP-GEFC-S ONS-SE-G2F-SX	-15	0	-16	3
	15454-SFP-GE+-LX 15454E-SFP-GE+-LX ONS-SE-G2F-LX	-20	-3	-16	3

Table 5-54 *MXP_MR_2.5G and MXPP_MR_2.5G Card Client Interface TCA Thresholds (continued)*

Port Type (by CTC)	Pluggable Port Module (XFP)	TCA RX Power Low	TCA RX Power High	TCA TX Power Low	TCA TX Power High
FICON1G	15454-SFP-GEFC-SX 15454E-SFP-GEFC-S ONS-SE-G2F-SX	-17	0	-16	3
	15454-SFP-GE+-LX 15454E-SFP-GE+-LX ONS-SE-G2F-LX	-20	-3	-16	3
FICON2G	15454-SFP-GEFC-SX 15454E-SFP-GEFC-S ONS-SE-G2F-SX	-17	0	-16	3
	15454-SFP-GE+-LX 15454E-SFP-GE+-LX ONS-SE-G2F-LX	-20	-3	-16	3
ONE_GE	15454-SFP-GEFC-SX 15454E-SFP-GEFC-S ONS-SE-G2F-SX	-17	0	-16	3
	15454-SFP-GE+-LX 15454E-SFP-GE+-LX ONS-SE-G2F-LX	-20	-3	-16	3
ESCON	ONS-SE-200-MM	-21	-14	-32	-11

Step 4 Click **Apply**.**Step 5** Repeat Steps 3 and 4 to provision each additional client port.**Step 6** Under Types, click the **Alarm** radio button and click **Refresh**.**Step 7** Referring to [Table 5-55](#), provision the client port (Ports 1 through 8) Alarm thresholds for RX Power High, RX Power Low, TX Power High, and TX Power Low based on the client interface that is provisioned.

Note You must modify 15 Min and 1 Day independently. To do so, choose the appropriate radio button and click **Refresh**.

Table 5-55 *MXP_MR_2.5G and MXPP_MR_2.5G Card Client Interface Alarm Thresholds*

Port Type (by CTC)	Pluggable Port Module (XFP)	Alarm RX Power Low	Alarm RX Power High	Alarm TX Power Low	Alarm TX Power High
FC1G	15454-SFP-GEFC-SX 15454E-SFP-GEFC-S ONS-SE-G2F-SX	-20	3	-13	-1
	15454-SFP-GE+-LX 15454E-SFP-GE+-LX ONS-SE-G2F-LX	-23	0	-13	0

Table 5-55 *MXP_MR_2.5G and MXPP_MR_2.5G Card Client Interface Alarm Thresholds (continued)*

Port Type (by CTC)	Pluggable Port Module (XFP)	Alarm RX Power Low	Alarm RX Power High	Alarm TX Power Low	Alarm TX Power High
FC2G	15454-SFP-GEFC-SX 15454E-SFP-GEFC-S ONS-SE-G2F-SX	-18	3	-13	-1
	15454-SFP-GE+-LX 15454E-SFP-GE+-LX ONS-SE-G2F-LX	-23	0	-13	0
FICON1G	15454-SFP-GEFC-SX 15454E-SFP-GEFC-S ONS-SE-G2F-SX	-20	3	-13	-1
	15454-SFP-GE+-LX 15454E-SFP-GE+-LX ONS-SE-G2F-LX	-23	0	-13	0
FICON2G	15454-SFP-GEFC-SX 15454E-SFP-GEFC-S ONS-SE-G2F-SX	-20	3	-13	-1
	15454-SFP-GE+-LX 15454E-SFP-GE+-LX ONS-SE-G2F-LX	-23	0	-13	0
ONE_GE	15454-SFP-GEFC-SX 15454E-SFP-GEFC-S ONS-SE-G2F-SX	-20	3	-13	-1
	15454-SFP-GE+-LX 15454E-SFP-GE+-LX ONS-SE-G2F-LX	-23	0	-13	0
ESCON	ONS-SE-200-MM	-24	-11	-35	-8

Step 8 Click **Apply**.

Step 9 Repeat Steps 7 and 8 to provision each additional client port. When you have finished provisioning client ports, continue with [Step 10](#).

Step 10 Return to your originating procedure (NTP).

NTP-G148 Modify the 10G Data Muxponder Card Line Settings and PM Parameter Thresholds

Purpose	This procedure changes the line and threshold settings for the MXP_MR_10DME_C and MXP_MR_10DME_L muxponder cards.
Tools/Equipment	None
Prerequisite Procedures	NTP-G32 Install the Transponder and Muxponder Cards, page 3-51 DLP-G63 Install an SFP or XFP, page 3-54 DLP-G277 Provision a Multirate PPM, page 5-6 (if necessary) DLP-G278 Provision the Optical Line Rate, page 5-9 (if necessary)
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

-
- Step 1** Complete the “[DLP-G46 Log into CTC](#)” task on [page 2-27](#) at the node where you want to change the muxponder card settings. If you are already logged in, proceed to [Step 2](#).
- Step 2** As needed, complete the “[NTP-G103 Back Up the Database](#)” procedure on [page 13-2](#) to preserve the existing transmission settings.
- Step 3** Perform any of the following tasks as needed:
- [DLP-G333 Change the 10G Data Muxponder Client Line Settings, page 5-99](#)
 - [DLP-G334 Change the 10G Data Muxponder Distance Extension Settings, page 5-101](#)
 - [DLP-G340 Change the 10G Data Muxponder Trunk Wavelength Settings, page 5-102](#)
 - [DLP-G335 Change the 10G Data Muxponder SONET \(OC-192\)/SDH \(STM-64\) Settings, page 5-103](#)
 - [DLP-G336 Change the 10G Data Muxponder Section Trace Settings, page 5-106](#)
 - [DLP-G341 Change the 10G Data Muxponder SONET or SDH Line Thresholds, page 5-107](#)
 - [DLP-G337 Change the 10G Data Muxponder Line RMON Thresholds for Ethernet, 1G FC/FICON, or ISC/ISC3 Payloads, page 5-109](#)
 - [DLP-G338 Provision the 10G Data Muxponder Trunk Port Alarm and TCA Thresholds, page 5-112](#)
 - [DLP-G339 Provision the 10G Data Muxponder Client Port Alarm and TCA Thresholds, page 5-113](#)
 - [DLP-G366 Change the 10G Data Muxponder OTN Settings, page 5-116](#)



Note To use the Alarm Profiles tab, including creating alarm profiles and suppressing alarms, see [Chapter 9, “Manage Alarms.”](#)

Stop. You have completed this procedure.

DLP-G333 Change the 10G Data Muxponder Client Line Settings

Purpose	This task changes the line settings for the MXP_MR_10DME_C and MXP_MR_10DME_L muxponder cards.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

- Step 1** In node view (single-shelf mode) or shelf view (multishelf view), double-click the MXP_MR_10DME_C or MXP_MR_10DME_L card where you want to change the line settings.
- Step 2** Click the **Provisioning > Line > Client** tabs. Tabs and parameter selections vary according to PPM provisioning.
- Step 3** Modify any of the settings for the Client tab as described in [Table 5-56](#).

Table 5-56 MXP_MR_10DME_C or MXP_MR_10DME_L Card Line Client Settings

Parameter	Description	Options
Port	(Display only) Port number.	1 through 8
Port Name	The user can assign a logical name for each of the ports shown by filling in this field.	User-defined. Name can be up to 32 alphanumeric/ special characters. Blank by default. See the “DLP-G104 Assign a Name to a Port” task on page 7-3. Note If this port’s Fibre Channel or FICON link will be discovered by the Cisco MDS Fabric Manager for use with a Cisco MDS 9000 switch, you must provision the Fiber Channel/FICON port name to the following string: FC: <switch> <interface> Where <switch> is the DNS name or IPv4/v6 address of the Cisco MDS 9000 switch, and <interface> is the card slot/port of the MXP_MR_10DME_C or MXP_MR_10DME_L port you are assigning a name. Example: FC: 10.0.0.1 fc2/4
Admin State	Sets the port service state unless network conditions prevent the change. For more information about administrative states, refer to the Appendix B, “Administrative and Service States” in the <i>Cisco ONS 15454 DWDM Reference Manual</i> .	- IS (ANSI) or Unlocked (ETSI) - OOS,DSBLD (ANSI) or Locked,disabled (ETSI) - OOS,MT (ANSI) or Locked,maintenance (ETSI)

Table 5-56 *MXP_MR_10DME_C or MXP_MR_10DME_L Card Line Client Settings (continued)*

Parameter	Description	Options
Service State	(Display only) Identifies the autonomously generated state that gives the overall condition of the port. Service states appear in the format: Primary State-Primary State Qualifier, Secondary State. For more information about service states, refer to Appendix B, “Administrative and Service States” in the <i>Cisco ONS 15454 DWDM Reference Manual</i> .	- IS-NR (ANSI) or Unlocked-enabled (ETSI) - OOS-AU,AINS (ANSI) or Unlocked-disabled, automaticInService (ETSI) - OOS-MA,DSBLD (ANSI) or Locked-enabled,disabled (ETSI) - OOS-MA,MT (ANSI) or Locked-enabled,maintenance (ETSI)
ALS Mode	Sets the ALS function mode.	- Disabled (default): ALS is off; the laser is not automatically shut down when traffic outages (LOS) occur. - Manual Restart: ALS is on; the laser automatically shuts down when traffic outages (LOS) occur. However, the laser must be manually restarted when conditions that caused the outage are resolved. - Manual Restart for Test: Manually restarts the laser for testing.
Reach	Sets the optical reach distance of the client port.	The reach distances that appear in the drop-down list depend on the card: - Autoprovision—The system to automatically provision the reach from the pluggable port module (PPM) reach value on the hardware. - SX—Short laser wavelength on multimode fiber optic cable for a maximum length of 550 meters. The operating wavelength range is 770-860 nm.) - LX—Long wavelength for a long haul fiber optic cable for a maximum length of 10 km. The operating wavelength range is 1270-1355 nm.) - CX—Two pairs of 150-ohm shielded twisted pair cable for a maximum length of 25 meters.) - T—Four pairs of Category 5 Unshielded Twisted Pair cable for a maximum length of 100 meters.) - DX—Single mode up to 40 km. The operating wavelength range is 1430-1580 nm.) - HX—Single mode up to 40 km. The operating wavelength range is 1280-1335 nm.) - ZX—Extended wavelength single-mode optical fiber for up to 100 km. The operating wavelength range is 1500-1580 nm.) - VX—Single mode up to 100 km. The operating wavelength range is 1500-1580 nm.)

Table 5-56 ***MXP_MR_10DME_C or MXP_MR_10DME_L Card Line Client Settings (continued)***

Parameter	Description	Options
Wavelength	Displays the wavelength of the client port.	- First Tunable Wavelength - Further wavelengths: 850 nm through 1560.61 nm 100-GHz ITU spacing CWDM spacing
Squelch	Shuts down the far-end laser in response to certain defects. (Squelch does not apply to ISC COMPACT payloads.)	- Squelch - Disable

Step 4 Click **Apply**.

Step 5 Return to your originating procedure (NTP).

DLP-G334 Change the 10G Data Muxponder Distance Extension Settings

Purpose	This task changes the distance extension settings for the MXP_MR_10DME_C and MXP_MR_10DME_L muxponder card ports provisioned for Fibre Channel or FICON payloads.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher



Note

The distance extension parameters only apply to client ports (Ports 1 to 8) and not to the trunk port (Port 9).

- Step 1** In node view (single-shelf mode) or shelf view (multishelf view), double-click the MXP_MR_10DME_C or MXP_MR_10DME_L card where you want to change the distance extension settings.
- Step 2** Click the **Provisioning > Line > Distance Extension** tabs.
- Step 3** Modify any of the settings for the Distance Extension tab as described in [Table 5-57](#).

Table 5-57 *MXP_MR_10DME_C or MXP_MR_10DME_L Card Line Distance Extension Settings*

Parameter	Description	Options
Port	(Display only) Port number. Up to eight ports might appear based on the number of pluggable port modules that are provisioned.	—
Enable Distance Extension	Allows end-to-end distances of up to 1600 km for FC1G and up to 800 km for FC2G. If Distance Extension is enabled, set the connected Fibre Channel switches to Interop or Open Fabric mode, depending on the Fibre Channel switch. By default, the MXP_MR_10DME_C and MXP_MR_10DME_L card will interoperate with the Cisco MDS storage products.	• Checked—Distance extension is enabled. • Unchecked—Distance extension is not enabled.

Step 4 Click **Apply**.

Step 5 Return to your originating procedure (NTP).

DLP-G340 Change the 10G Data Muxponder Trunk Wavelength Settings

Purpose	This task changes the trunk wavelength settings for the MXP_MR_10DME_C and MXP_MR_10DME_L.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

-
- Step 1** In node view (single-shelf mode) or shelf view (multishelf view), double-click the MXP_MR_10DME_C or MXP_MR_10DME_L card where you want to change the trunk wavelength settings.
- Step 2** Click the **Provisioning > Line > Wavelength Trunk Settings** tabs.
- Step 3** Modify any of the settings for the Wavelength Trunk Settings tab as described in [Table 5-58](#).

Table 5-58 *MXP_MR_10DME_C or MXP_MR_10DME_L Card Wavelength Trunk Settings*

Parameter	Description	Options
Port	(Display only) Displays the port number.	Port 9 (Trunk)
Band	Indicates the wavelength band that can be provisioned. The field is display-only when a physical MXP_MR_10DME_C or MXP_MR_10DME_L is installed. If the card is provisioned in CTC only, you can provision the band for the card that will be installed.	- C—The C-band wavelengths are available in the Wavelength field. - L—The L-band wavelengths are available in the Wavelength field.
Even/Odd	Sets the wavelengths available for provisioning.	- Even—Displays even C-band or L-band wavelengths in the Wavelength field. - Odd—Displays odd C-band or L-band wavelengths in the Wavelength field.
Wavelength	The wavelength provisioned for the trunk.	- First Tunable Wavelength - Further wavelengths in 100-GHz ITU spacing

Step 4 Click **Apply**.

Step 5 Return to your originating procedure (NTP).

DLP-G335 Change the 10G Data Muxponder SONET (OC-192)/SDH (STM-64) Settings

Purpose	This task changes the OC-192 (ANSI)/STM-64 (ETSI) settings for the MXP_MR_10DME_C and MXP_MR_10DME_L muxponder cards.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

- Step 1** In node view (single-shelf mode) or shelf view (multishelf view), double-click the MXP_MR_10DME_C or MXP_MR_10DME_L card where you want to change the SONET (OC-192)/SDH (STM-64) settings.
- Step 2** Click the **Provisioning > Line > SONET (ANSI)** or **SDH (ETSI)**. Tabs and parameter selections vary according to PPM provisioning.
- Step 3** Modify any of the settings for the SONET or SDH tab as described in [Table 5-59](#).

Table 5-59 *MXP_MR_10DME_C or MXP_MR_10DME_L Card Line SONET or SDH Settings*

Parameter	Description	Options
Port	(Display only) Port number.	9 (Trunk)
Port Name	Provides the ability to assign the specified port a name.	User-defined. Name can be up to 32 alphanumeric/special characters. Blank by default. See the “DLP-G104 Assign a Name to a Port” task on page 7-3 .
Admin State	Sets the port service state unless network conditions prevent the change. For more information about administrative states, refer to the “Administrative and Service States” appendix in the <i>Cisco ONS 15454 DWDM Reference Manual</i> .	- IS (ANSI) or Unlocked (ETSI) - IS,AINS (ANSI) or Unlocked,automaticInService (ETSI) - OOS,DSBLD (ANSI) or Locked,disabled (ETSI) - OOS,MT (ANSI) or Locked,maintenance (ETSI)
Service State	(Display only) Identifies the autonomously generated state that gives the overall condition of the port. Service states appear in the format: Primary State-Primary State Qualifier, Secondary State. For more information about service states, refer to the “Administrative and Service States” appendix in the <i>Cisco ONS 15454 DWDM Reference Manual</i> .	- IS-NR (ANSI) or Unlocked-enabled (ETSI) - OOS-AU,AINS (ANSI) or Unlocked-disabled, automaticInService (ETSI) - OOS-MA,DSBLD (ANSI) or Locked-enabled,disabled (ETSI) - OOS-MA,MT (ANSI) or Locked-enabled,maintenance (ETSI)
SF BER ¹	Sets the signal fail bit error rate.	1E-3 1E-4 1E-5
SD BER ¹	Sets the signal degrade bit error rate.	1E-5 1E-6 1E-7 1E-8 1E-9
Type	The optical transport type.	- SONET (ANSI) - SDH (ETSI)

Table 5-59 *MXP_MR_10DME_C or MXP_MR_10DME_L Card Line SONET or SDH Settings (continued)*

Parameter	Description	Options
ALS Mode	Sets the ALS function mode. The DWDM transmitter supports ALS according to ITU-T G.644 (06/99). ALS can be disabled or can be set for one of three mode options.	- Disabled (default): ALS is off; the laser is not automatically shut down when traffic outages (LOS) occur. - Auto Restart: ALS is on; the laser automatically shuts down when traffic outages (LOS) occur. It automatically restarts when the conditions that caused the outage are resolved. - Manual Restart: ALS is on; the laser automatically shuts down when traffic outages (LOS) occur. However, the laser must be manually restarted when conditions that caused the outage are resolved. - Manual Restart for Test: Manually restarts the laser for testing.
AINS Soak	Sets the automatic in-service soak period. Double-click the time and use the up and down arrows to change settings.	- Duration of valid input signal, in hh.mm format, after which the card becomes in service (IS) automatically 0 to 48 hours, 15-minute increments
ProvidesSync	Sets the ProvidesSync card parameter. If checked, the card is provisioned as a NE timing reference.	Checked or unchecked
SyncMsgIn	Sets the EnableSync card parameter. Enables synchronization status messages (S1 byte), which allow the node to choose the best timing source.	Checked or unchecked
Send DoNotUse	Sets the Send DoNotUse card state. When checked, sends a DUS (do not use) message on the S1 byte.	Checked or unchecked

1. SF BER and SD BER thresholds apply only to trunk ports (Port 9 for MXP_MR_2.5G and Ports 9 and 10 for MXPP_MR_2.5G).

Step 4 Click **Apply**.

Step 5 Return to your originating procedure (NTP).

DLP-G336 Change the 10G Data Muxponder Section Trace Settings

Purpose	This task changes the section trace settings for the MXP_MR_10DME_C and MXP_MR_10DME_L muxponder cards.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

-
- Step 1** In node view (single-shelf mode) or shelf view (multishelf view), double-click the MXP_MR_10DME_C or MXP_MR_10DME_L card where you want to change the section trace settings.
- Step 2** Click the **Provisioning > Line > Section Trace** tabs. Tabs and parameter selections vary according to PPM provisioning.
- Step 3** Modify any of the settings in the Section Trace tab as described in [Table 5-60](#).

Table 5-60 *MXP_MR_10DME_C or MXP_MR_10DME_L Card Line Section Trace Settings*

Parameter	Description	Options
Port	(Display only) Port number.	9 (trunk only)
Received Trace Mode	Sets the received trace mode.	- Off/None - Manual
Disable AIS/RDI on TIM-S	If a TIM on section overhead alarm arises because of a J0 overhead string mismatch, no alarm indication signal is sent to downstream nodes if this box is checked.	- Checked (AIS/RDI on TIM-S is disabled) - Unchecked (AIS/RDI on TIM-S is not disabled)
Transmit Section Trace String Size	Sets the trace string size.	1 byte 16 byte
Transmit	Displays the current transmit string; sets a new transmit string. You can click the button on the right to change the display. Its title changes, based on the current display mode. Click Hex to change the display to hexadecimal (button changes to ASCII); click ASCII to change the display to ASCII (button changes to Hex).	String of trace string size
Expected	Displays the current expected string; sets a new expected string. You can click the button on the right to change the display. Its title changes, based on the current display mode. Click Hex to change the display to hexadecimal (button changes to ASCII); click ASCII to change the display to ASCII (button changes to Hex).	String of trace string size
Received	(Display only) Displays the current received string. You can click Refresh to manually refresh this display, or select the Auto-refresh every 5 sec check box to keep this panel updated.	String of trace string size
Auto-refresh	If checked, automatically refreshes the display every 5 seconds.	Checked/unchecked (default)

- Step 4** Click **Apply**.
- Step 5** Return to your originating procedure (NTP).

DLP-G341 Change the 10G Data Muxponder SONET or SDH Line Thresholds

Purpose	This task changes the SONET or SDH line threshold settings for the MXP_MR_10DME_C and MXP_MR_10DME_L muxponder cards.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

- Step 1** In node view (single-shelf mode) or shelf view (multishelf view), double-click the MXP_MR_10DME_C or MXP_MR_10DME_L card where you want to change the line threshold settings.
- Step 2** Click the **Provisioning > Line Thresholds > SONET Thresholds (ANSI)** or **SDH Thresholds (ETSI)** tabs.
- Step 3** Modify any of the settings as shown in [Table 5-61](#).



Note You must modify Near End and Far End independently; 15 Min and 1 Day independently; and Line and Section independently. To do so, choose the appropriate radio button and click **Refresh**.



Note In [Table 5-61](#), some parameters and options do not apply to all 4x2.5G muxponder cards. If the parameter or options do not apply, they do not appear in CTC.

Table 5-61 *MXP_MR_10DME_C or MXP_MR_10DME_L Card Line Threshold Settings*

Parameter	Description	Options - ONS 15454	Options - ONS 15454 SDH
Port	(Display only) Port number	9 (Trunk)	9 (Trunk)
EB	Path Errored Block indicates that one or more bits are in error within a block	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Line or Section (near end only) Choose an option in each category and click Refresh .	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Multiplex Section or Regeneration Section (near end only) Choose an option in each category and click Refresh .

Table 5-61 MXP_MR_10DME_C or MXP_MR_10DME_LCard Line Threshold Settings (continued)

Parameter	Description	Options - ONS 15454	Options - ONS 15454 SDH
CV	Coding violations	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Line or Section (near end only) Choose an option in each category and click Refresh.	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Multiplex Section or Regeneration Section (near end only) Choose an option in each category and click Refresh.
ES	Errored seconds	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Line or Section (near end only) Choose an option in each category and click Refresh.	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Multiplex Section or Regeneration Section (near end only) Choose an option in each category and click Refresh.
SES	Severely errored seconds	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Line or Section (near end only) Choose an option in each category and click Refresh.	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Multiplex Section or Regeneration Section (near end only) Choose an option in each category and click Refresh.
SEFS	(Near End Section or Regeneration Section only) Severely errored framing seconds	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Line or Section (near end only) Choose an option in each category and click Refresh.	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Multiplex Section or Regeneration Section (near end only) Choose an option in each category and click Refresh.
BBE	Background block errors	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Line or Section (near end only) Choose an option in each category and click Refresh.	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Multiplex Section or Regeneration Section (near end only) Choose an option in each category and click Refresh.

Table 5-61 ***MPX_MR_10DME_C or MPX_MR_10DME_L Card Line Threshold Settings (continued)***

Parameter	Description	Options - ONS 15454	Options - ONS 15454 SDH
FC	(Line or Multiplex Section only) Failure count	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Line or Section (near end only) Choose an option in each category and click Refresh .	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Multiplex Section or Regeneration Section (near end only) Choose an option in each category and click Refresh .
UAS	(Line or Multiplex Section only) Unavailable seconds	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Line or Section (near end only) Choose an option in each category and click Refresh .	Numeric. Threshold display options include: - Direction—Near End or Far End - Interval—15 Min (minutes) or 1 day - Types—Multiplex Section or Regeneration Section (near end only) Choose an option in each category and click Refresh .

Step 4 Click **Apply**.

Step 5 Return to your originating procedure (NTP).

DLP-G337 Change the 10G Data Muxponder Line RMON Thresholds for Ethernet, 1G FC/FICON, or ISC/ISC3 Payloads

Purpose	This task changes the line threshold settings for MPX_MR_10DME_C and MPX_MR_10DME_L cards carrying Ethernet, FC/FICON, or ISC/ISC3 payloads.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

- Step 1** In node view (single-shelf mode) or shelf view (multishelf view), display the MPX_MR_10DME_C or MPX_MR_10DME_L card where you want to change the line threshold settings in card view.
- Step 2** Click the **Provisioning > Line Thresholds > RMON Thresholds** tabs.
- Step 3** Click **Create**. The Create Threshold dialog box appears.
- Step 4** From the Port drop-down list, choose the applicable port, either the payload port, for example “1-1 (ONE_GE)”, or the equivalent ITU-T G.7041 GFP (Generic Frame Procedure) port.

- Step 5** From the Variable drop-down list, choose an Ethernet, FC, FICON, or ISC variable. See [Table 5-62](#) for a list of available Ethernet variables, [Table 5-63](#) for a list of FC and FICON variables, and [Table 5-64](#) for a list of ISC and ISC3 variables.

Table 5-62 *MXP_MR_10DME_C or MXP_MR_10DME_L Ethernet Variables*

Variable	Description
ifInOctets	Number of bytes received since the last counter reset.
rxTotalPkts	Total number of receive packets.
ifInErrors	Total number of receive errors.
ifOutOctets	The total number of octets transmitted out of the interface, including framing characters.
txTotalPkts	Total number of transmitted packets.
mediaIndStatsRxFramesTruncated	Total number of frames received that are less than 5 bytes. This value is a part of HDLC and GFP port statistics.
mediaIndStatsRxFramesTooLong	Number of received frames that exceed the MTU. This value is part of HDLC and GFP port statistics.
mediaIndStatsRxFramesBadCRC	Number of receive data frames with payload CRC errors when HDLC framing is used.
mediaIndStatsTxFramesBadCRC	Number of transmitted data frames with payload CRC errors when HDLC framing is used.
8b10bInvalidOrderedSetsDispErrorsSum	Number of code violations/running disparity errors in the 8b/10b encoded characters received.

Table 5-63 *MXP_MR_10DME_C or MXP_MR_10DME_L FC/FICON Variables*

Variable	Description
ifInOctets	Number of bytes received since the last counter reset.
rxTotalPkts	Total number of receive packets.
ifInErrors	Total number of receive errors.
ifOutOctets	The total number of octets transmitted out of the interface, including framing characters.
txTotalPkts	Total number of transmitted packets.
ifOutOversizePkts	Total number of oversized packets output from the interface.
mediaIndStatsRxFramesTruncated	Total number of frames received that are less than 5 bytes. This value is a part of HDLC and GFP port statistics.
mediaIndStatsRxFramesTooLong	Number of received frames that exceed the MTU. This value is part of HDLC and GFP port statistics.
mediaIndStatsRxFramesBadCRC	Number of receive data frames with payload CRC errors when HDLC framing is used.
mediaIndStatsTxFramesBadCRC	Number of transmitted data frames with payload CRC errors when HDLC framing is used.
fcStatsZeroTxCredits	This is a count that increments when the FC/FICON Tx credits go from a non-zero value to zero.

Table 5-63 *MXP_MR_10DME_C or MXP_MR_10DME_L FC/FICON Variables (continued)*

fcStatsRxRecvrReady	Number of received RDY (Receive Ready) order set.
fcStatsTxRecvrReady	Number of transmitted RDY (Receive Ready) order set.
8b10bInvalidOrderedSetsDispErrorsSum	Number of Code Violations/Running Disparity errors in the 8b/10b encoded characters received

Table 5-64 *MXP_MR_10DME_C or MXP_MR_10DME_L ISC and ISC3 Variables*

Variable	Description
ifInOctets	Number of bytes received since the last counter reset.
rxTotalPkts	Total number of receive packets.
ifOutOctets	The total number of octets transmitted out of the interface, including framing characters.
txTotalPkts	Total number of transmitted packets.

- Step 6** From the Alarm Type drop-down list, indicate whether the event will be triggered by the rising threshold, the falling threshold, or both the rising and falling thresholds.
- Step 7** From the Sample Type drop-down list, choose either **Relative** or **Absolute**. Relative restricts the threshold to use the number of occurrences in the user-set sample period. Absolute sets the threshold to use the total number of occurrences, regardless of time period.
- Step 8** Type in an appropriate number of seconds for the Sample Period.
- Step 9** Type in the appropriate number of occurrences for the Rising Threshold.
- For a rising type of alarm, the measured value must move from below the falling threshold to above the rising threshold. For example, if a network is running below a rising threshold of 1000 collisions every 15 seconds and a problem causes 1001 collisions in 15 seconds, the excess occurrences trigger an alarm.
- Step 10** Enter the appropriate number of occurrences in the Falling Threshold field. In most cases a falling threshold is set lower than the rising threshold.
- A falling threshold is the counterpart to a rising threshold. When the number of occurrences is above the rising threshold and then drops below a falling threshold, it resets the rising threshold. For example, when the network problem that caused 1001 collisions in 15 seconds subsides and creates only 799 collisions in 15 seconds, occurrences fall below a falling threshold of 800 collisions. This resets the rising threshold so that if network collisions again spike over a 1000 per 15-second period, an event again triggers when the rising threshold is crossed. An event is triggered only the first time a rising threshold is exceeded (otherwise, a single network problem might cause a rising threshold to be exceeded multiple times and cause a flood of events).
- Step 11** Click **OK**.
- Step 12** To view all RMON thresholds, click **Show All RMON thresholds**. If not, continue with [Step 13](#)
- Step 13** Return to your originating procedure (NTP).

DLP-G338 Provision the 10G Data Muxponder Trunk Port Alarm and TCA Thresholds

Purpose	This task changes the MXP_MR_10DME_C and MXP_MR_10DME_L trunk port alarm and TCA thresholds.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Step 1 In node view (single-shelf mode) or shelf view (multishelf view), double-click the MXP_MR_10DME_C or MXP_MR_10DME_L card where you want to change the trunk port alarm and TCA settings.

Step 2 Click the **Provisioning > Optics Thresholds** tabs.



Note You must modify 15 Min and 1 Day independently. To do so, choose the appropriate radio button and click **Refresh**.



Note Do not modify the Laser Bias parameters.

Step 3 If TCA is not selected, click **TCA** and then click Refresh. If it is selected, continue with [Step 4](#).

Step 4 Provision the trunk port (Port 9) TCA thresholds as follows:

- RX Power High: -9 dBm
- RX Power Low: -18 dBm
- TX Power High: 9 dBm
- TX Power Low: 0 dBm

Step 5 Under Types, click the **Alarm** radio button and click **Refresh**.



Note Do not modify the Laser Bias parameters.

Step 6 Provision the trunk port (Port 9) Alarm thresholds as follows:

- RX Power High: -8 dBm
- RX Power Low: -20 dBm
- TX Power High: 7 dBm
- TX Power Low: 3 dBm



Note You must modify 15 Min and 1 Day independently. To do so, choose the appropriate radio button and click **Refresh**.

- Step 7** Click **Apply**.
- Step 8** Return to your originating procedure (NTP).

DLP-G339 Provision the 10G Data Muxponder Client Port Alarm and TCA Thresholds

Purpose	This task provisions the client port alarm and TCA thresholds for the MXP_MR_10DME_C and MXP_MR_10DME_L cards.
Tools/Equipment	None
Prerequisite Procedures	DLP-G278 Provision the Optical Line Rate, page 5-9 DLP-G46 Log into CTC, page 2-27
Required/As Needed	Required
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

- Step 1** In node view (single-shelf mode) or shelf view (multishelf view), double-click the MXP_MR_10DME_C and MXP_MR_10DME_L card where you want to change the client port alarm and TCA settings.
- Step 2** Click the **Provisioning > Optics Thresholds** tabs. The TCA thresholds are shown by default.
- Step 3** Referring to [Table 5-65](#), provision the client ports (Ports 1 through 8) TCA thresholds for RX Power High, RX Power Low, TX Power High, and TX Power Low based on the client interface at the other end. For additional information about client SFP and XFP interfaces, also known as Pluggable Port Modules (PPMs), refer to the “Hardware Specifications” appendix in the *Cisco ONS 15454 DWDM Reference Manual*.



Note Do not modify the Laser Bias parameters.



Note You must modify 15 Min and 1 Day independently. To do so, choose the appropriate radio button and click **Refresh**.



Note The PPM port rate can be viewed on the Provisioning > Pluggable Port Modules tab. For more information about SFPs and XFPs, refer to the “Hardware Specifications” chapter in the *Cisco ONS 15454 DWDM Reference Manual*, or the *Installing GBIC, SFP and XFP Optics Modules in Cisco ONS 15454, 15454 SDH, 15327, 15600, and 15310-CL Platforms* document available in the ONS 15454 production documentation website on www.cisco.com.

Table 5-65 *MXP_MR_10DME_C and MXP_MR_10DME_L Card Client Interfaces TCA Thresholds*

PPM Port Rate	Pluggable Port Module (XFP)	TCA RX Power High	TCA RX Power Low	TCA TX Power High	TCA TX Power Low
FC1G	15454-SFP-GEFC-SX 15454E-SFP-GEFC-S ONS-SE-G2F-SX	0	-17	3	-16
	15454-SFP-GE+-LX 15454E-SFP-GE+-LX ONS-SE-G2F-LX	-3	-20	3	-16
FC2G	15454-SFP-GEFC-SX 15454E-SFP-GEFC-S ONS-SE-G2F-SX	0	-15	3	-16
	15454-SFP-GE+-LX 15454E-SFP-GE+-LX ONS-SE-G2F-LX	-3	-20	3	-16
FICON1G	15454-SFP-GEFC-SX 15454E-SFP-GEFC-S ONS-SE-G2F-SX	0	-17	3	-16
	15454-SFP-GE+-LX 15454E-SFP-GE+-LX ONS-SE-G2F-LX	-3	-20	3	-16
FICON2G	15454-SFP-GEFC-SX 15454E-SFP-GEFC-S ONS-SE-G2F-SX	0	-17	3	-16
	15454-SFP-GE+-LX 15454E-SFP-GE+-LX ONS-SE-G2F-LX	-3	-20	3	-16
ISC3 PEER 1G	ONS-SE-G2F-SX	0	-17	3	-16
	ONS-SE-G2F-LX	0	-20	3	-16
ISC3 PEER 2G					
FC4G	ONS-SE-4G-MM	0	-12	4	-15
	ONS-SE-4G-SM	-1	-15	4	-15
FICON4G	ONS-SE-4G-MM	0	-12	4	-15
	ONS-SE-4G-SM	-1	-15	4	-15

Step 4 Click **Apply**.

Step 5 Repeat Steps 3 and 4 to provision each additional client port.

Step 6 Under Types, click the **Alarm** radio button and click **Refresh**.

Step 7 Referring to Table 5-66, provision the client port (Ports 1 through 8) Alarm thresholds for RX Power High, RX Power Low, TX Power High, and TX Power Low based on the client interface that is provisioned.

**Note**

You must modify 15 Min and 1 Day independently. To do so, choose the appropriate radio button and click **Refresh**.

Table 5-66 *MXP_MR_10DME_C and MXP_MR_10DME_L Card Client Interface Alarm Thresholds*

PPM Port Rate	Pluggable Port Module (XFP)	Alarm RX Power Low	Alarm RX Power High	Alarm TX Power Low	Alarm TX Power High
FC1G	15454-SFP-GEFC-SX 15454E-SFP-GEFC-S ONS-SE-G2F-SX	-20	3	-13	-1
	15454-SFP-GE+-LX 15454E-SFP-GE+-LX ONS-SE-G2F-LX	-23	0	-13	0
FC2G	15454-SFP-GEFC-SX 15454E-SFP-GEFC-S ONS-SE-G2F-SX	-18	3	-13	-1
	15454-SFP-GE+-LX 15454E-SFP-GE+-LX ONS-SE-G2F-LX	-23	0	-13	0
FICON1G	15454-SFP-GEFC-SX 15454E-SFP-GEFC-S ONS-SE-G2F-SX	-20	3	-13	-1
	15454-SFP-GE+-LX 15454E-SFP-GE+-LX ONS-SE-G2F-LX	-23	0	-13	0
FICON2G	15454-SFP-GEFC-SX 15454E-SFP-GEFC-S ONS-SE-G2F-SX	-20	3	-13	-1
	15454-SFP-GE+-LX 15454E-SFP-GE+-LX ONS-SE-G2F-LX	-23	0	-13	0
ISC3 PEER 1G	ONS-SE-G2F-SX	-20	3	-13	-1
	ONS-SE-G2F-LX	-23	0	-13	0
ISC3 PEER 2G					
FC4G	ONS-SE-4G-MM	-15	3	-11	-1
	ONS-SE-4G-SM	-18	2	-11	0
FICON4G	ONS-SE-4G-MM	-15	3	-11	-1
	ONS-SE-4G-SM	-18	2	-11	0

Step 8 Click **Apply**.

Step 9 Repeat Steps 7 and 8 to provision each additional client port. When you have finished provisioning client ports, continue with [Step 10](#).

Step 10 Return to your originating procedure (NTP).

DLP-G366 Change the 10G Data Muxponder OTN Settings

Purpose	This task changes the OTN settings for the MXP_MR_10DME_C and MXP_MR_10DME_L cards.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

- Step 1** In node view (single-shelf mode) or shelf view (multishelf view), double-click the MXP_MR_10DME_C and MXP_MR_10DME_L card where you want to change the OTN settings.
- Step 2** Click the **Provisioning > OTN** tabs, then choose one of the following subtabs: **OTN Lines**, **G.709 Thresholds**, **FEC Thresholds**, or **Trail Trace Identifier**.
- Step 3** Modify any of the settings described in Tables [5-15](#) through [5-18](#).



Note You must modify Near End and Far End; 15 Min and 1 Day; and SM and PM independently. To do so, choose the appropriate radio button and click **Refresh**.

[Table 5-67](#) describes the values on the Provisioning > OTN > OTN Lines tab.

Table 5-67 MXP_MR_10DME_C and MXP_MR_10DME_L Card OTN Line Settings

Parameter	Description	Options
Port	(Display only) Displays the port number.	9 (Trunk)
G.709 OTN	Sets the OTN lines according to ITU-T G.709.	• Enable • Disable
FEC	Sets the OTN lines to forward error correction (FEC).	• Standard • Enhanced
SF BER	(Display only) Sets the signal fail bit error rate.	• 1E-5
SD BER	Sets the signal degrade bit error rate.	• 1E-5 • 1E-6 • 1E-7 • 1E-8 • 1E-9
Asynch/Synch Mapping	Sets how the ODUk (client payload) is mapped to the optical channel (OTUk).	• Asynch mapping • Synch mapping

Table 5-68 describes the values on the Provisioning > OTN > G.709 Thresholds tab.

Table 5-68 MXP_MR_10DME_C and MXP_MR_10DME_L Card ITU-T G.709 Threshold Settings

Parameter	Description	Options
Port ¹	(Display only) Port number.	9 (Trunk)
ES	Errored seconds	Numeric. Can be set for Near End or Far End, for 15-minute or one-day intervals, or for SM (OTUk) or PM (ODUk). Select a bullet and click Refresh .
SES	Severely errored seconds	Numeric. Can be set for Near End or Far End, for 15-minute or one-day intervals, or for SM (OTUk) or PM (ODUk). Select a bullet and click Refresh .
UAS	Unavailable seconds	Numeric. Can be set for Near End or Far End, for 15-minute or one-day intervals, or for SM (OTUk) or PM (ODUk). Select a bullet and click Refresh .
BBE	Background block errors	Numeric. Can be set for Near End or Far End, for 15-minute or one-day intervals, or for SM (OTUk) or PM (ODUk). Select a bullet and click Refresh .
FC	Failure counter	Numeric. Can be set for Near End or Far End, for 15-minute or one-day intervals, or for SM (OTUk) or PM (ODUk). Select a bullet and click Refresh .

1. Latency for a 1G-FC payload without ITU-T G.709 is 4 microseconds, and with ITU-T G.709 is 40 microseconds. Latency for a 2G-FC payload without ITU-T G.709 is 2 microseconds, and with ITU-T G.709 is 20 microseconds. Consider these values when planning a FC network that is sensitive to latency.

Table 5-69 describes the values on the Provisioning > OTN > FEC Threshold tab.

Table 5-69 MXP_MR_10DME_C and MXP_MR_10DME_L Card FEC Threshold Settings

Parameter	Description	Options
Port	(Display only) Port number.	2
Bit Errors Corrected	Sets the value for bit errors corrected.	Numeric. Can be set for 15-minute or one-day intervals.
Uncorrectable Words	Sets the value for uncorrectable words.	Numeric. Can be set for 15-minute or one-day intervals.

Table 5-70 describes the values on the Provisioning > OTN > Trail Trace Identifier tab.

Table 5-70 MXP_MR_10DME_C and MXP_MR_10DME_L Card Trail Trace Identifier Settings

Parameter	Description	Options
Port	(Display only) Port number.	2
Level	Sets the level.	- Section - Path
Received Trace Mode	Sets the trace mode.	- Off/None - Manual

Table 5-70 ***MXP_MR_10DME_C and MXP_MR_10DME_L Card Trail Trace Identifier Settings (continued)***

Parameter	Description	Options
Transmit	Displays the current transmit string; sets a new transmit string. You can click the button on the right to change the display. Its title changes, based on the current display mode. Click Hex to change the display to hexadecimal (button changes to ASCII); click ASCII to change the display to ASCII (button changes to Hex).	String of trace string size
Disable FDI on TTIM	If a Trace Identifier Mismatch on Section overhead alarm arises because of a J0 overhead string mismatch, no Forward Defect Indication (FDI) signal is sent to the downstream nodes if this box is checked.	• Checked (FDI on TTIM is disabled) • Unchecked (FDI on TTIM is not disabled)
Expected	Displays the current expected string; sets a new expected string. You can click the button on the right to change the display. Its title changes, based on the current display mode. Click Hex to change the display to hexadecimal (button changes to ASCII); click ASCII to change the display to ASCII (button changes to Hex).	String of trace string size
Received	(Display only) Displays the current received string. You can click Refresh to manually refresh this display, or check the Auto-refresh every 5 sec check box to keep this panel updated.	String of trace string size

Step 4 Click **Apply**.

Step 5 Return to your originating procedure (NTP).

NTP-G162 Change the TXP or MXP ALS Maintenance Settings

Purpose	This task changes the ALS maintenance settings for the TXP and MXP cards.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher


Note

The automatic laser shutdown (ALS) function is normally disabled for TXP and MXP cards. Enable ALS only when TXP and MXP cards are directly connected to each other.

- Step 1** In node view (single-shelf mode) or shelf view (multishelf mode), double-click the TXP or MXP card where you want to change the ALS maintenance settings.
- Step 2** Click the **Maintenance > ALS** tabs.
- Step 3** Modify any of the settings described in [Table 5-71](#). The provisionable parameters are listed in the Options column in the table.

Table 5-71 ALS Settings

Parameter	Description	Options
OSRI	Optical safety remote interlock. When set to On, the TXP/MXP card TX output power is shut down.	From the drop-down list, choose one of the following: - On - Off
ALS Mode	Automatic laser shutdown. ALS provides the ability to shut down the TXP/MXP TX laser when the TXP/MXP RX detects an LOS.	From the drop-down list, choose one of the following: - Disable—Deactivates ALS. - Auto Restart—(Default) ALS is active. The power is automatically shut down when needed and automatically tries to restart using a probe pulse until the cause of the failure is repaired. - Manual Restart - Manual Restart for Test
Recovery Pulse Duration	(Display only) Displays the duration of the optical power pulse that begins when an amplifier restarts.	—
Recovery Pulse Interval	(Display only) Displays the interval between optical power pulses.	—

Table 5-71 **ALS Settings (continued)**

Parameter	Description	Options
Currently Shutdown	(Display only) Displays the current status of the laser.	—
Request Laser Restart	If checked, allows you to restart the laser for maintenance.	Checked or unchecked

Step 4 Click **Apply**. If the change affects traffic, a warning message displays. Click **Yes** to complete the change.

Step 5 Return to your originating procedure (NTP).

NTP-G192 Force FPGA Update

Purpose	This task forces an upgrade of the FPGA image on the MXP_MR_10DME_C and MXP_MR_10DME_L cards.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher



Note Perform [Step 1](#) through [Step 4](#) if you are updating the node software. Otherwise continue with [Step 5](#) to force FPGA image upgrade on MXP_MR_10DME_C or MXP_MR_10DME_L card.

-
- Step 1** Close the CTC window, if open.
- Step 2** Delete the CTC Cache from the CTC Launcher browser window.
- Step 3** Close the CTC Launcher browser window.
- Step 4** Relaunch the CTC Launcher browser window on the TCC.
- Step 5** In node view (single-shelf mode) or shelf view (multishelf mode), double-click the MXP_MR_10DME_C or MXP_MR_10DME_L card to be upgraded.
- Step 6** Click the **Provisioning > Line** tabs.
- Click the **Admin State** table cell and choose **OOS,DSBLD** (ANSI) or **Locked,Disabled** (ETSI).
 - Click **Apply**, then **Yes**.
- Step 7** Click the **Provisioning > Card** tabs.
- Step 8** Change the Card Mode as needed:
- FC-GE_ISC—Choose this option if you will provision any of the following PPM port rates: FC1G (Ports 1-1 through 4-1), FC2G (Ports 1-1 and 3-1 only), FICON1G (Ports 1-1 through 4-1), FICON2G (Ports 1-1 and 3-1 only), ONE_GE (Ports 1-1 through 4-1), ISC3 COMPAT (Ports 1-1 through 4-1), ISC3 PEER 1G (Ports 1-1 through 4-1), and ISC3 PEER 2G (Ports 1-1 and 3-1 only).
 - FC4G—Choose this option if you will provision an FC4G or FICON4G PPM (Port 1-1 only).

- Step 9** Click the **Force FPGA Update** button. This upgrades the FPGA image in the MXP_MR_10DME_C or MXP_MR_10DME_L card, as appropriate. The MXP_MR_10DME_C or MXP_MR_10DME_L card reboots and the FPGA now contains the updated image.
- Step 10** Click the **Provisioning > Line** tabs.
- Click the **Admin State** table cell and choose **IS** (ANSI) or **Unlocked** (ETSI).
 - Click **Apply**, then **Yes**.
- Stop. You have completed this procedure.**

NTP-G196 Force FPGA Update when the Card is part of a Protection Group

Purpose	This procedure forces an upgrade of the FPGA image on the MXP_MR_10DME_C and MXP_MR_10DME_L cards when the card is part of a protection group.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher



Note

This procedure applies to a near-end node that has two MXP_MR_10DME_C or MXP_MR_10DME_L cards, one card acting as the working card and the other as the protect card. The far-end node has a similar configuration. The near-end working card trunk port is connected to the far-end working card trunk port. The near-end protect card trunk port is connected to the far-end protect card trunk port.



Note

Perform [Step 1](#) through [Step 4](#) if you are updating the node software. Otherwise, continue with [Step 5](#) to force FPGA image upgrade on MXP_MR_10DME_C or MXP_MR_10DME_L card.

- Step 1** Close the CTC window, if open.
- Step 2** Delete the CTC Cache from the CTC Launcher browser window.
- Step 3** Close the CTC Launcher browser window.
- Step 4** Relaunch the CTC Launcher browser window on the TCC.
- Step 5** Ensure traffic is running on the near-end and far-end working cards for each protection group on the MXP_MR_10DME_C or MXP_MR_10DME_L card.
- Step 6** In node view (single-node mode) or multishelf view (multishelf mode), click the **Provisioning > Protection** tab.
- Step 7** For each protection group, verify that the working card client port is reported as working/active and the protect card client port is reported as protect/standby.
- Step 8** Repeat Steps [6](#) and [7](#) for the far-end node.

- Step 9** For each protection group on the near-end and far-end nodes, complete the “[DLP-G182 Apply a Lockout](#)” task on page 10-41 to prevent traffic from switching to the protect card.
- Step 10** At the near-end and far-end nodes, complete the “[NTP-G192 Force FPGA Update](#)” procedure on page 5-120 to force an upgrade of the FPGA image on the protect card.
- Step 11** For each protection group on the near-end and far-end nodes, complete the “[DLP-G183 Clear a Lock-On or Lockout](#)” task on page 10-42 to remove a lockout and return a protection group to its usual switching method.
- Step 12** For each protection group on the near-end and far-end nodes, complete the “[DLP-G179 Apply a Force Y-Cable or Splitter Protection Switch](#)” task on page 10-39 to move traffic from the working to the protect card.
- Step 13** At the near-end and far-end nodes, complete the “[NTP-G192 Force FPGA Update](#)” procedure on page 5-120 to force an upgrade of the FPGA image on the working card.
- Step 14** For each protection group on the near-end and far-end nodes, complete the “[DLP-G180 Clear a Manual or Force Y-Cable or Splitter Protection Switch](#)” task on page 10-40 to clear a Force protection switch on the working card. If the protection group is revertive, this operation causes the traffic to revert to the working card. If the protection group is non-revertive, this operation causes the traffic to remain on the protect card.

Stop. You have completed this procedure.
