



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 Troubleshooting Guide* or the *Cisco ONS 15454 SDH 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 MXP accept PPMs.
2. [NTP-G33 Create a Y-Cable Protection Group, page 5-10](#)—Complete this procedure, as needed, for TXP and MXP cards that will be protected with Y-cable protection.
3. [NTP-G96 Modify Line Settings and PM Parameter Thresholds for TXP_MR_10G and TXP_MR_10E Cards, page 5-12](#)—As needed, complete this procedure to change the transmission settings for TXP_MR_10G and TXP_MR_10E cards.
4. [NTP-G97 Modify Line Settings and PM Parameter Thresholds for MXP_2.5G_10G and MXP_2.5G_10E Cards, page 5-31](#)—As needed, complete this procedure to change the transmission settings for MXP_2.5G_10G and MXP_2.5G_10E cards.
5. [NTP-G98 Modify Line Settings and PM Parameter Thresholds for TXP_MR_2.5G and TXPP_MR_2.5G Cards, page 5-48](#)—As needed, complete this procedure to change the transmission settings for TXP_MR_2.5G and TXPP_MR_2.5G cards.

6. [NTP-G99 Modify Line Settings and PM Parameter Thresholds for MXP_MR_2.5G and MXPP_MR_2.5G Cards, page 5-65](#)—As needed, complete this procedure to change the transmission settings for MXP_MR_2.5G and MXPP_MR_2.5G cards.

NTP-G128 Manage Pluggable Port Modules

Purpose	Complete this procedure to provision a multirate PPM, provision or change the optical line rate of a multirate PPM, or delete a PPM. If a single-rate PPM is installed, the PPM screen will autoprovision and no further steps are necessary.
Tools/Equipment	None
Prerequisite Procedures	DLP-G63 Install an SFP or XFP, page 3-45
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher



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). In Cisco Transport Controller (CTC), SFPs are called PPMs.

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- Step 1** Complete the [“DLP-G46 Log into CTC” task on page 2-25](#) 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:
- Verify that the alarm filter is not turned on. See the [“DLP-G128 Disable Alarm Filtering” task on page 8-28](#) as necessary.
 - Verify that no unexplained conditions appear on the network. If unexplained conditions appear, resolve them before continuing. Refer to the *Cisco ONS 15454 Troubleshooting Guide* or the *Cisco ONS 15454 SDH Troubleshooting Guide*.
 - Complete the [“DLP-G114 Export CTC Data” task on page 8-4](#) to export alarm and condition information.
- Step 3** Complete the [“DLP-G277 Provision a Multirate PPM” task on page 5-3](#). If you preprovisioned a multirate PPM ([DLP-G273 Preprovision an SFP or XFP Slot, page 3-46](#)), skip this step and continue with [Step 4](#). Single-rate PPMs do not require provisioning.
- Step 4** If you are provisioning an IBM External Time Reference – Control Link Oscillator (ETR_CLO) or InterSystem Coupling link (ISC) service on the PPM, complete [“DLP-G274 Verify Topologies for ETR_CLO and ISC Services” task on page 5-4](#). Otherwise, continue with [Step 5](#).
- Step 5** Complete the [“DLP-G278 Provision the Optical Line Rate” task on page 5-6](#) to assign a line rate to a TXP or MXP port.
- Step 6** Complete the [“DLP-G279 Change the Optical Line Rate” task on page 5-8](#) as needed. [Table 5-1 on page 5-7](#) lists the available rates for each TXP and MXP card.
- Step 7** Complete the [“DLP-G280 Delete a PPM” task on page 5-8](#) as needed.
- Stop. You have completed this procedure.**
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DLP-G277 Provision a Multirate PPM

Purpose	This task provisions a multirate PPM in CTC. If the PPM was preprovisioned using the “DLP-G273 Preprovision an SFP or XFP Slot” task on page 3-46 , or the SFP or XFP is physically installed, 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.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-25
Required/As Needed	Required
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

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- Step 1** In node view, double-click the TXP or MXP card where you want to provision PPM settings.
- Step 2** Click the **Provisioning > Pluggable Port Modules** tabs.
- Step 3** In the Pluggable Port Modules area, click **Create**. The Create PPM dialog box appears.
- Step 4** 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.
-  **Note** The first port can be created only if the trunk is in the Out-of-Service and Management, Disabled (OOS-MA,DSBLD) service state (ANSI) (or the Locked-enabled,disabled service state [ETSI]).
-
- Step 5** Click **OK**. The newly created port appears on the Pluggable Port Modules area. The row on the Pluggable Port Modules area turns white and the Actual Equipment Type column lists the equipment name.
- Step 6** Verify that the PPM appears in the list on the Pluggable Port Modules area. If it does not, repeat Steps 3 through 5.
- Step 7** Repeat the task to provision a second PPM.
- Step 8** Return to your originating procedure (NTP).
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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. These services cannot be provisioned on all DWDM topologies.
Tools/Equipment	Cisco MetroPlanner site plan.
Prerequisite Procedures	None
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

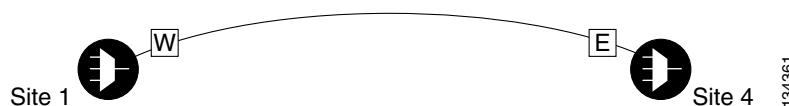
Step 1 Display your site plan in Cisco MetroPlanner.

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 the following 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.

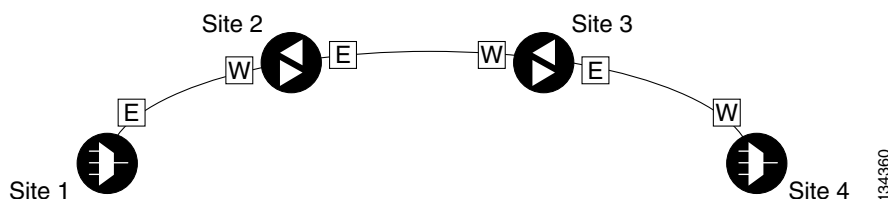
Figure 5-1 Single-Span Topology



- Point-to-Point—Two terminal sites with the following 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 the following 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 line amplifier nodes installed.

Figure 5-3 Hubs with No Line Amplifiers

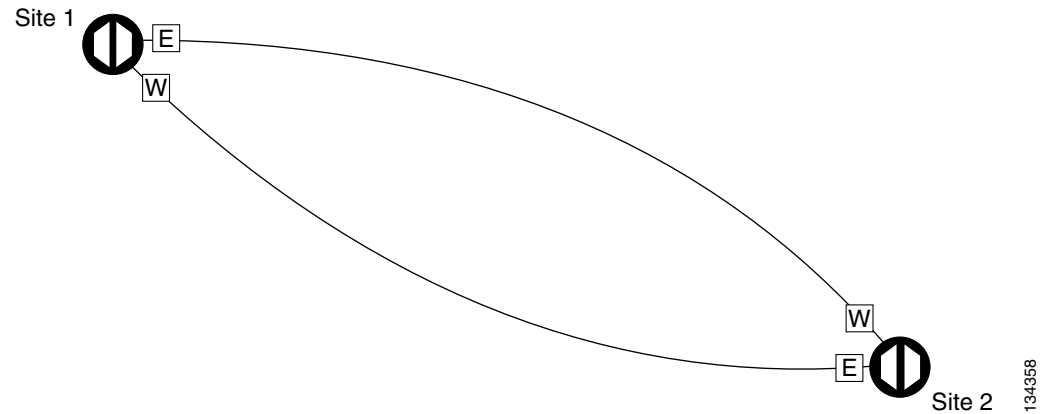
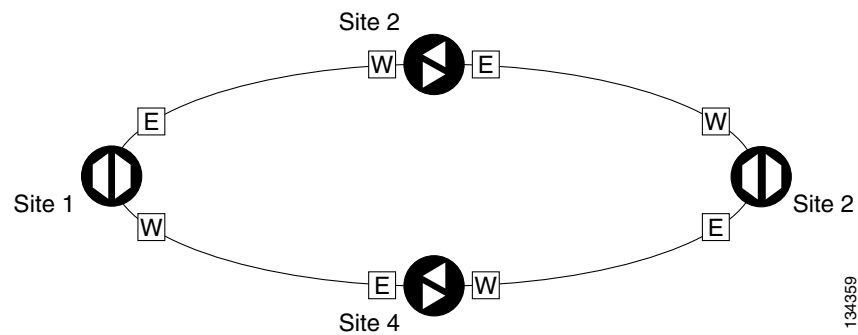


Figure 5-4 Hubs with Line Amplifiers



Step 3 Return to your originating procedure (NTP).

DLP-G278 Provision the Optical Line Rate

Purpose	This task provisions the line rate on a multirate PPM. Single-rate PPMs do not need to be provisioned.
Tools/Equipment	None
Prerequisite Procedures	DLP-G277 Provision a Multirate PPM, page 5-3 DLP-G274 Verify Topologies for ETR_CLO and ISC Services, page 5-4 , if you are provisioning an ETR_CLO service. DLP-G46 Log into CTC, page 2-25
Required/As Needed	Required
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

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- Step 1** In node view, double-click the TXP or MXP card where you want to provision PPM ports. If the data rate you are provisioning is DV-6000, HDTV, ESCON, SDI/D1 Video, ISC-3, 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 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 5-1](#) for definitions of the supported rates on the TXP or MXP card.
- Step 5** Click **OK**. The row on the Pluggable Ports area turns light blue until the actual SFP is installed, and then the row turns white.
- Step 6** Repeat Steps [3](#) through [5](#) to configure the port rates as needed.

Table 5-1 PPM Port Types

Card	Port Type
TXP_MR_2.5G and 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 (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 CON 1.06 Gbps (IBM signal) • FICON2G—Fiber CON 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 and MXP_2.5G_10E	• OC-48/STM16—2.48 Gbps
TXP_MR_10E	• OC-192/STM-64—10 Gbps • 10G Ethernet LAN Phy—10 Gbps Ethernet • 10G Fibre Channel—10 Gbps Fibre Channel
MXP_MR_2.5G and MXPP_MR_2.5G	• FC1G—Fibre Channel 1.06 Gbps • FC2G—Fibre Channel 2.125 Gbps • FICON1G—Fiber CON 1.06 Gbps (IBM signal) • FICON2G—Fiber CON 2.125 Gbps (IBM signal) • ONE_GE—One Gigabit Ethernet 1.125 Gbps



Note The TXP_MR_10G card is the only TXP or MXP card that does not accept PPMs.

Step 7 Return to your originating procedure (NTP).

DLP-G279 Change the Optical Line Rate

Purpose	This task edits PPM port rates for the TXP and MXP cards. Perform this task if you want to change the port rate on a multirate PPM that is already provisioned.
Tools/Equipment	None
Prerequisite Procedures	DLP-G277 Provision a Multirate PPM, page 5-3 DLP-G46 Log into CTC, page 2-25
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

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- Step 1** In node view, double-click the TXP or MXP card where you want to edit the PPM port rate.
- Step 2** Click the **Provisioning > Pluggable Port Modules** tabs.
- Step 3** Click the port with the port rate you that want to change in the Pluggable Ports area. The highlight changes to dark blue.
- Step 4** Click **Edit**. The Edit Port Rate dialog box appears.
- Step 5** In the Change To field, use the drop-down list to select the new port rate and click **OK**. [Table 5-1 on page 5-7](#) lists the available rates.
- Step 6** Click **Yes** in the Confirm Port Rate Change dialog box.
- Step 7** Return to your originating procedure (NTP).
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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-G46 Log into CTC, page 2-25 DLP-G63 Install an SFP or XFP, page 3-45 or DLP-G273 Preprovision an SFP or XFP Slot, page 3-46
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher



Note This task does not apply to the TXP_MR_10G card.

- Step 1** In node 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 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, or has overhead circuits. You can delete a port if the trunk is in service and the client is in the OOS-MA,DSBLD (ANSI)/Locked-enabled,disabled (ETSI) service state, with the exception of the last port. You can delete the last port only if the trunk is in a OOS-MA,DSBLD (ANSI)/Locked-enabled,disabled (ETSI) service state.

- a. Click the PPM line that you want to delete that appears in the Pluggable Port Modules area. 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:

- CTC shows an empty slot 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 3-47](#).

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 (TXP_MR_10G, TXP_MR_10E, or TXP_MR_2.5G) or two muxponder (MXP_2.5G_10G, MXP_2.5G_10E, MXP_MR_2.5G, MXPP_MR_2.5G) cards. For additional information about Y-cable protection, see the “16.9.1 Y-Cable Protection” section on page 16-114.
Tools/Equipment	Installed TXP or MXP cards. Cisco MetroPlanner Traffic Matrix
Prerequisite Procedures	NTP-G15 Install the Common Control Cards, page 1-72 NTP-G14 Install DWDM Equipment, page 1-67 DLP-G46 Log into CTC, page 2-25 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

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 5-2](#). This table describes the protection types available in the ONS 15454 for DWDM client cards.

Table 5-2 Protection Types

Type	Cards	Description and Installation Requirements
Y-cable	MXP_2.5_10G MXP_2.5_10E TXP_MR_10G TXP_MR_10E TXP_MR_2.5G MXP_MR_2.5G	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 PPMs 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 PPM is provisioned in the Pluggable Port Module area, and the payload type and rate is provisioned for it in the Selected PPM area.

The PPM payload and payload rate must be the same for both TXP or MXP cards. If they are not the same, for example, if the PPM payload and payload rate are not the same, you must either change the provisioned payload rate to match, or replace the PPM (SFP or XFP).

Step 4 In node view, click the **Provisioning > Protection** tabs.

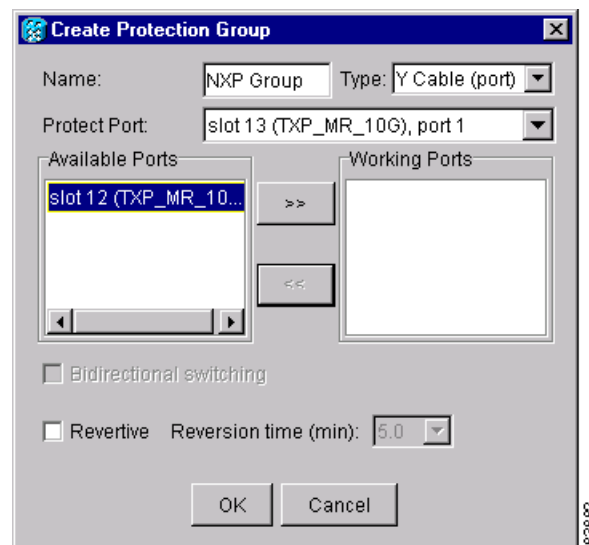
Step 5 In the Protection Groups area, click **Create**.

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 [“NTP-G29 Preprovision a Slot” procedure on page 3-37](#).

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



Step 7 From the Available Ports list, choose 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.

Step 9 Click **OK**.

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

Stop. You have completed this procedure.

NTP-G96 Modify Line Settings and PM Parameter Thresholds for TXP_MR_10G and TXP_MR_10E Cards

Purpose	This procedure changes the line and threshold settings for TXP_MR_10G and TXP_MR_10E cards.
Tools/Equipment	None
Prerequisite Procedures	NTP-G32 Install the Transponder and Muxponder Cards, page 3-43 DLP-G63 Install an SFP or XFP, page 3-45 DLP-G277 Provision a Multirate PPM, page 5-3 (if necessary) DLP-G278 Provision the Optical Line Rate, page 5-6 (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 2-25 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-G216 Change Card Settings for TXP_MR_10G and TXP_MR_10E Cards, page 5-13](#)
 - [DLP-G217 Change Line Settings for TXP_MR_10G and TXP_MR_10E Cards, page 5-14](#)
 - [DLP-G218 Change Section Trace Settings for the TXP_MR_10G and TXP_MR_10E Cards, page 5-17](#)
 - [DLP-G219 Change the TXP_MR_10G or TXP_MR_10E Card Line Thresholds for SONET or SDH Payloads, page 5-19](#)
 - [DLP-G319 Change the TXP_MR_10G or TXP_MR_10E Card Line Thresholds for 10G Ethernet LAN Phy, page 5-21](#)
 - [DLP-G301 Provision the TXP_MR_10G and TXP_MR_10E Trunk Port Alarm and TCA Thresholds, page 5-24](#)

- [DLP-G302 Provision the TXP_MR_10G and TXP_MR_10E Client Port Alarm and TCA Thresholds, page 5-25](#)
- [DLP-G221 Change OTN Settings for TXP_MR_10G and TXP_MR_10E Cards, page 5-27](#)

Stop. You have completed this procedure.

DLP-G216 Change Card Settings for TXP_MR_10G and TXP_MR_10E Cards

Purpose	This task changes the card settings for TXP_MR_10G and TXP_MR_10E multirate (10 Gbps) transponder cards.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-25
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

- Step 1** In node view, double-click the TXP_MR_10G or TXP_MR_10E 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 5-3](#).

Table 5-3 TXP_MR_10G and TXP_MR_10E Card Settings

Parameter	Description	Options – ONS 15454	Options – ONS 15454 SDH
Termination Mode	Sets the mode of operation. See the “16.12 Termination Modes” section on page 16-117 for more details.	• Transparent • Section (TXP_MR_10E only) • Line	• Transparent • Regeneration Section (TXP_MR_10E only) • Multiplex Section

Table 5-3 *TXP_MR-10G and TXP_MR_10E Card Settings*

Parameter	Description	Options – ONS 15454	Options – ONS 15454 SDH
AIS/Squelch Configuration	(TXP_MR_10E only) Sets the transparent termination mode configuration.	- Squelch - AIS	- Squelch - AIS
Wavelength	Sets the wavelength of the DWDM side optical transmitter.	- First Tunable Wavelength - Further wavelengths in 100-GHz ITU spacing - Supported wavelengths are in white and marked by asterisks (**); unsupported wavelengths are gray. Note The four available wavelengths are listed in the Card Parameters section of the window and also on the Maintenance > Info tab.	- First Tunable Wavelength - Further wavelengths in 100-GHz ITU spacing - Supported wavelengths are in white and marked by asterisks (**); unsupported wavelengths are gray. Note The four available wavelengths are listed in the Card Parameters section of the window and also on the Maintenance > Info tab.

Step 4 Click **Apply**.

Step 5 Return to your originating procedure (NTP).

DLP-G217 Change Line Settings for TXP_MR_10G and TXP_MR_10E Cards

Purpose	This task changes the line settings for TXP_MR_10G and TXP_MR_10E transponder cards.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-25
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Step 1 In node view, double-click the TXP_MR_10G or TXP_MR_10E card where you want to change the line settings.

Step 2 Click the **Provisioning > Line > SONET (including 10G Ethernet WAN phy)** tabs.

Step 3 Modify any of the settings described in [Table 5-4](#).



Note In [Table 5-4](#), some parameter tabs do not always apply to both the TXP_MR_10G cards and the TXP_MR_10E cards. If a tab does not apply, it will not appear in CTC.

Table 5-4 *TXP_MR_10G and TXP_MR_10E Transponder Card Line Settings*

Parameter	Description	Options – ONS 15454	Options – ONS 15454 SDH
Port	(Display only) Displays the port number.	1-1 (OC192) 2 (Trunk)	1-1 (STM64) 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 7-10.	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 7-10.
Admin State	Sets the port service state. For more information about administrative states, see Appendix C, “DWDM Administrative and Service States.”	- IS - IS,AINS - OOS,DSBLD - OOS,MT	- Unlocked - Unlocked,automaticInService - Locked,disabled - Locked,maintenance
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, see Appendix C, “DWDM Administrative and Service States.”	- 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
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
Type	(SONET [ANSI] or SDH [ETSI] including 10G Ethernet WAN Phy only) The optical transport type.	- SONET - SDH	- SONET - SDH

Table 5-4 *TXP_MR_10G and TXP_MR_10E Transponder Card Line Settings (continued)*

Parameter	Description	Options – ONS 15454	Options – ONS 15454 SDH
ALS Mode	Sets the automatic laser shutdown (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.	- 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.	- 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.
ProvidesSync	(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_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
Send DoNotUse	(TXP_MR_10E, OC192 only) Sets the Send DoNotUse card state. When checked, sends a do not use (DUS) message on the S1 byte.	Checked or unchecked	Checked or unchecked
Max Size	(TXP_MR_10E, 10_GE 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, 10_GE LAN Phy only) Sets the incoming MAC address.	Value of MAC address. 6 bytes in hexadecimal format.	Value of MAC address. 6 bytes in hexadecimal format.

Table 5-4 *TXP_MR_10G and TXP_MR_10E Transponder Card Line Settings (continued)*

Parameter	Description	Options – ONS 15454	Options – ONS 15454 SDH
Wavelength	Displays the wavelength of the client port.	- First Tunable Wavelength - Further wavelengths: 1310 nm to 1550 nm 100-GHz ITU spacing Coarse wavelength division multiplexing (CWDM) spacing - Supported wavelengths are marked by asterisks (**)	- First Tunable Wavelength - Further wavelengths: 1310 nm to 1550 nm 100-GHz ITU spacing CWDM spacing - 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 Section Trace Settings for the TXP_MR_10G and TXP_MR_10E Cards

Purpose	This task changes the section trace settings for the TXP_MR_10G and TXP_MR_10E transponder cards.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-25
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher



Note The Section Trace tab is available for the TXP_MR_10G and TXP_MR_10E cards only if no PPM or an OC192 PPM has been provisioned. The tab is not available if a TEN_GE LAN Phy or FC10G PPM has been provisioned.

- Step 1** In node view, double-click the TXP_MR_10G or TXP_MR_10E 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 5-5](#).

Table 5-5 *TXP_MR_10G and TXP_MR_10E Transponder Card Section Trace Settings*

Parameter	Description	Options – ONS 15454	Options — ONS 15454 SDH
Port	Sets the port number.	1-1 (OC192) 2—Trunk	1-1 (STM64) 2—Trunk
Trace Mode	Sets the trace mode.	- Off/None - Manual	- Off/None - Manual
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
Expected	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
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 field updated.	String of trace string size	String of trace string size

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

DLP-G219 Change the TXP_MR_10G or TXP_MR_10E Card Line Thresholds for SONET or SDH Payloads

Purpose	This task changes the line threshold settings for TXP_MR_10G and TXP_MR_10E transponder cards carrying SONET or SDH payloads, including the physical 10G Ethernet WAN payload.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-25
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

- Step 1** In node view, double-click the TXP_MR_10G or TXP_MR_10E card where you want to change the line threshold settings.
- Step 2** Click the **Provisioning > Line Thresholds > SONET Thresholds** tabs.
- Step 3** Modify any of the settings described in [Table 5-6](#).



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 5-6 TXP_MR_10G and TXP_MR_10E Transponder Card Line Threshold Settings

Parameter	Description	Options – ONS 15454	Options – ONS 15454 SDH
Port	(Display only) Port number	1-1 (OC192) 2 (Trunk)	1-1 (STM64) 2 (Trunk)
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 5-6 TXP_MR_10G and TXP_MR_10E Transponder Card Line Threshold Settings (continued)

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	(Section only) Severely errored framing seconds	Numeric. Can be set for Far End for 15-minute or one-day intervals for Section only. Choose an interval option and click Refresh .	Numeric. Can be set for Far End for 15-minute or one-day intervals for Regeneration Section only. Choose an interval option and click Refresh .
FC	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	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 TXP_MR_10G or TXP_MR_10E Card Line Thresholds for 10G Ethernet LAN Phy

Purpose	This task changes the line threshold settings for TXP_MR_10G and TXP_MR_10E transponder cards carrying the physical 10G Ethernet LAN payload.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-25
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

- Step 1** Display the TXP_MR_10G or TXP_MR_10E 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 5-7](#) for a list of available Ethernet thresholds.

Table 5-7 TXP_MR_10G and TXP_MR_10GE 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, which 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.
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.

Table 5-7 TXP_MR_10G and TXP_MR_10GE LAN Phy Variables (continued)

Variable	Description
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.
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).

Table 5-7 TXP_MR_10G and TXP_MR_10GE LAN Phy Variables (continued)

Variable	Description
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, 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-G301 Provision the TXP_MR_10G and TXP_MR_10E Trunk Port Alarm and TCA Thresholds

Purpose	This task provisions the TXP_MR_10G and TXP_MR_10E trunk port alarm and threshold crossing alert (TCA) thresholds.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-25
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

- Step 1** In node view, double-click the TXP_MR_10G or TXP_MR_10E card where you want to change the trunk port alarm and TCA settings.
- Step 2** Click the **Provisioning > Optics Thresholds** tabs.
- Step 3** Referring to [Table 5-8](#), 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.

- Step 4** Click **Apply**.

Table 5-8 TXP_MR_10G and TXP_MR_10E Trunk Port TCA Thresholds

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

- Step 5** Under Types, click the **Alarm** radio button and click **Refresh**.
- Step 6** Referring to [Table 5-9](#), 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**.

- Step 7** Click **Apply**.

Table 5-9 TXP_MR_10G and TXP_MR_10E Trunk Port Alarm Thresholds

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

Step 8 Return to your originating procedure (NTP).

DLP-G302 Provision the TXP_MR_10G and TXP_MR_10E Client Port Alarm and TCA Thresholds

Purpose	This task provisions the client port alarm and TCA thresholds for the TXP_MR_10G and TXP_MR_10E cards.
Tools/Equipment	None
Prerequisite Procedures	DLP-G278 Provision the Optical Line Rate, page 5-6 DLP-G46 Log into CTC, page 2-25
Required/As Needed	Required
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

- Step 1** In node view, double-click the TXP_MR_10G or TXP_MR_10E 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 5-10](#), 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 [Appendix B, “Hardware Specifications.”](#)



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 4 Click **Apply**.

Table 5-10 TXP_MR_10E and TXP_MR_10G 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
SONET (or SDH)	TXP_MR_10E uses ONS-XC-10G-S1 TXP_MR_10G (XFP not present)	-11	-1	-12	5
10G Ethernet LAN Phy	TXP_MR_10E uses ONS-XC-10G-S1 TXP_MR_10G (XFP not present)	-14	1	-12	5
10G Ethernet WAN PHY	TXP_MR_10E uses ONS-XC-10G-S1 TXP_MR_10G (XFP not present)	-14	1	-12	5

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

Step 6 Referring to [Table 5-11](#), 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 5-11 TXP_MR_10E and TXP_MR_10G 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
SONET (or SDH)	TXP_MR_10E uses ONS-XC-10G-S1 TXP_MR_10G (XFP not present)	-14	2	-9	2
10G Ethernet LAN Phy	TXP_MR_10E uses ONS-XC-10G-S1 TXP_MR_10G (XFP not present)	-17	4	-9	2
10G Ethernet WAN PHY	TXP_MR_10E uses ONS-XC-10G-S1 TXP_MR_10G (XFP not present)	-17	4	-9	2

Step 7 Click **Apply**.

Step 8 Return to your originating procedure (NTP).

DLP-G221 Change OTN Settings for TXP_MR_10G and TXP_MR_10E Cards

Purpose	This task changes the line optical transport network (OTN) settings for TXP_MR_10G and TXP_MR_10E transponder cards.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-25
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

- Step 1** In node view, double-click the TXP_MR_10G or TXP_MR_10E card where you want to change the OTN settings.
- Step 2** Click one of 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 [5-12](#) through [5-15](#).



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 5-12](#) describes the values on the Provisioning > OTN > OTN Lines tab.

Table 5-12 TXP_MR_10G and TXP_MR_10E Transponder Card OTN Lines Settings

Parameter	Description	Options
Port #	(Display only) Port number.	2
G.709 OTN	Sets the OTN lines according to ITU-T G.709. Check box to enable.	- Enabled - Disabled
FEC	Sets the OTN lines forward error correction (FEC) mode. FEC mode can be Disabled, Enabled or Enhanced FEC mode can be enabled (to provide greater range and lower bit error rate).	- Enabled—(TXP_MR_10G only) FEC is on. - Disabled—FEC is off. - Standard—(TXP_MR_10E only) Standard FEC is on. - Enhanced—(TXP_MR_10E only) Enhanced FEC is on.

Table 5-12 TXP_MR_10G and TXP_MR_10E Transponder Card OTN Lines Settings (continued)

Parameter	Description	Options
SD BER	Sets the signal degrade bit error rate.	• 1E-5 • 1E-6 • 1E-7 • 1E-8 • 1E-9
Asynch/Synch Mapping	(TXP_MR_10E only) The card can perform multiplexing per ITU-T G.709. The ODUk (client SONET/SDH payload) can be mapped to the Optical Channel (OTUk) either asynchronously or synchronously with this setting.	• Asynch mapping • Synch mapping

Table 5-13 describes the values on the Provisioning > OTN > G.709 Thresholds tab.

Table 5-13 TXP_MR_10G and TXP_MR_10E Transponder Card ITU-T G.709 Threshold Settings

Parameter	Description	Options
Port	(Display only) Port number.	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.

Table 5-13 *TXP_MR_10G and TXP_MR_10E Transponder Card ITU-T G.709 Threshold Settings*

Parameter	Description	Options
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 .
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 5-14 describes the values on the Provisioning > OTN > FEC Thresholds tab.

Table 5-14 *TXP_MR_10G and TXP_MR_10E Transponder 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 5-15 describes the values on the Provisioning > OTN > Trail Trace Identifier tab.

Table 5-15 TXP_MR_10G and TXP_MR_10E Transponder Card Trail Trace Identifier Settings

Parameter	Description	Options
Port	Sets the port number.	1 2
Level	Sets the level.	- Section - Path
Trace Mode	Sets the trace mode.	- Off/None - Auto - Manual
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 field updated.	String of trace string size

Step 4 Click **Apply**.

Step 5 Return to your originating procedure (NTP).

NTP-G97 Modify Line Settings and PM Parameter Thresholds for MXP_2.5G_10G and MXP_2.5G_10E Cards

Purpose	This procedure changes the line and threshold settings for MXP_2.5G_10G and MXP_2.5G_10E muxponder cards.
Tools/Equipment	None
Prerequisite Procedures	NTP-G32 Install the Transponder and Muxponder Cards, page 3-43. DLP-G63 Install an SFP or XFP, page 3-45 DLP-G277 Provision a Multirate PPM, page 5-3 (if necessary) DLP-G278 Provision the Optical Line Rate, page 5-6 (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 2-25 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 Card Settings for MXP_2.5G_10G and MXP_2.5G_10E Cards, page 5-32](#)
 - [DLP-G223 Change Line Settings for MXP_2.5G_10G and MXP_2.5G_10E Cards, page 5-34](#)
 - [DLP-G224 Change Section Trace Settings for MXP_2.5G_10G and MXP_2.5G_10E Cards, page 5-36](#)
 - [DLP-G225 Change Trunk Settings for MXP_2.5G_10G and MXP_2.5G_10E Cards, page 5-38](#)
 - [DLP-G226 Change Line Thresholds Settings for MXP_2.5G_10G and MXP_2.5G_10E Cards, page 5-39](#)
 - [DLP-G303 Provision the MXP_2.5G_10G and MXP_2.5G_10E Trunk Port Alarm and TCA Thresholds, page 5-41](#)
 - [DLP-G304 Provision the MXP_2.5G_10G and MXP_2.5G_10E Client Port Alarm and TCA Thresholds, page 5-43](#)
 - [DLP-G228 Change Line OTN Settings for MXP_2.5G_10G and MXP_2.5G_10E Cards, page 5-44](#)
- 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 Card Settings for MXP_2.5G_10G and MXP_2.5G_10E Cards

Purpose	This task changes the card settings for MXP_2.5G_10G or MXP_2.5G_10E muxponder cards, including payload type, termination mode, and wavelength.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-25
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

-
- Step 1** In node view, double-click the MXP_2.5G_10G or and MXP_2.5G_10E 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 5-16](#).

Table 5-16 MXP_2.5G_10G or MXP_2.5G_10E Muxponder 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 card is 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. See the “16.12 Termination Modes” section on page 16-117 for more information.	For ANSI platforms: - Transparent - Section (MXP_2.5G_10E only) - Line (MXP_2.5G_10E only) For ETSI platforms: - Transparent - Multiplex Section (MXP_2.5G_10E only) - Regeneration Section (MXP_2.5G_10E only)
Wavelength	Sets the wavelength of the DWDM side optical transmitter. You can set the wavelength to the First Tunable Wavelength or to further wavelengths in 100 GHz ITU spacing.	- First Tunable Wavelength - Further wavelengths in 100-GHz ITU grid specification - Supported wavelengths are in white and marked by asterisks (**); unsupported wavelengths are gray Note The four available wavelengths are listed in the Card Parameters section of the window and also in the Maintenance > Info tab.
AIS/Squelch	(MXP_2.5G_10E only) Sets the transparent termination mode configuration.	- Ais - Squelch
Card Parameters	Displays the settings for the card.	Display only

Step 4 Click **Apply**.

Step 5 Return to your originating procedure (NTP).

DLP-G223 Change Line Settings for MXP_2.5G_10G and MXP_2.5G_10E Cards

Purpose	This task changes the line settings for MXP_2.5G_10G or MXP_2.5G_10E muxponder cards.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-25
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Step 1 Double-click the MXP_2.5G_10G or MXP_2.5G_10E 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 5-17](#).



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 5-17 MXP_2.5G_10G or MXP_2.5G_10E Muxponder Card Line Settings

Parameter	Description	Options
Port #	(Display only) Port number. Ports 1 to 4 are client ports (OC-48/STM-16). Port 5 (TXP_2.5G_10G) is the DWDM trunk (OC-192/STM-64) that provides wavelength services.	1 2 3 4 5 (MXP_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 7-10 .
Admin State	Sets the port service state unless network conditions prevent the change. For more information about administrative states, see Appendix C, “DWDM Administrative and Service States.”	- 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 5-17 *MXP_2.5G_10G or MXP_2.5G_10E Muxponder Card Line 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, see Appendix C, “DWDM Administrative and Service States.”	- 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. 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.
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
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
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

Table 5-17 *MXP_2.5G_10G or MXP_2.5G_10E Muxponder Card Line Settings (continued)*

Parameter	Description	Options
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
Send DoNotUse	When checked, sends a DUS message on the S1 byte. (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.	• Autoprovision (default) • I1 • S1 • S2 • L1 • L2 • L3
Wavelength	Displays the wavelength of the client port.	• First Tunable Wavelength • Further wavelengths: 1310 nm to 1550 nm 100-GHz ITU spacing, CWDM spacing • Supported wavelengths are marked by asterisks (**)

Step 4 Click **Apply**.

Step 5 Return to your originating procedure (NTP).

DLP-G224 Change Section Trace Settings for MXP_2.5G_10G and MXP_2.5G_10E Cards

Purpose	This task changes the section trace settings for MXP_2.5G_10G and MXP_2.5G_10E muxponder cards.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-25
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 6 In node view, double-click the MXP_2.5G_10G or MXP_2.5G_10E card where you want to change the section trace settings.

Step 7 Click the **Provisioning > Line > Section Trace** tabs.

Step 8 Modify any of the settings described in [Table 5-18](#).

Table 5-18 *TXP_MR_10G and MXP_MR_10E Card Section Trace Settings*

Parameter	Description	Options
Port	Sets the port number.	1 2 3 4
Trace Mode	Sets the trace mode.	- Off/None - Manual
Section Trace String Size	Sets the trace string size. Select either radio button.	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 field updated.	String of trace string size

Step 9 Click **Apply**.

Step 10 Return to your originating procedure (NTP).

DLP-G225 Change Trunk Settings for MXP_2.5G_10G and MXP_2.5G_10E Cards

Purpose	This task provisions the trunk settings for MXP_2.5G_10G and MXP_2.5G_10E muxponder cards.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-25
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

- Step 1** In node view, double-click the MXP_2.5G_10G or MXP_2.5G_10E card where you want to change the section trace settings.
- Step 2** Click the **Provisioning > Line > Trunk** tab.
- Step 3** Modify any of the settings described in [Table 5-19](#).

Table 5-19 MXP_2.5G_10G and MXP_2.5G_10E Muxponder 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
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 7-10.
Admin State	Sets the port service state unless network conditions prevent the change. For more information about administrative states, see Appendix C, “DWDM Administrative and Service States.”	- 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	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, see Appendix C, “DWDM Administrative and Service States.”	- 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 5-19 **MXP_2.5G_10G and MXP_2.5G_10E Muxponder 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.	- 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	(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-G226 Change Line Thresholds Settings for MXP_2.5G_10G and MXP_2.5G_10E Cards

Purpose	This task changes the line threshold settings for MXP_2.5G_10G and MXP_2.5G_10E muxponder cards.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-25
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

- Step 1** In node view, double-click the MXP_2.5G_10G or MXP_2.5G_10E 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 5-18](#).

**Note**

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

**Note**

In [Table 5-20](#), some parameter tabs or selections do not always apply to both the MXP_2.5G_10G and the MXP_2.5G_10E card. If the tabs or selections do not apply, they do not appear in CTC.

Table 5-20 *MXP_2.5G_10G and MXP_2.5G_10E Card Line Threshold Settings*

Parameter	Description	ONS 15454 Options	ONS 15454 SDH Options
Port	(Display only) Port number	1-1 (OC192) 2 (Trunk)	1-1 (STM64) 2 (Trunk)
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	(Section only) Severely errored framing seconds	Numeric. Can be set for Far End for 15-minute or one-day intervals for Section only. Choose an interval option and click Refresh .	Numeric. Can be set for Far End for 15-minute or one-day intervals for Regeneration Section only. Choose an interval option and click Refresh .

Table 5-20 MXP_2.5G_10G and MXP_2.5G_10E Card Line Threshold Settings (continued)

Parameter	Description	ONS 15454 Options	ONS 15454 SDH Options
FC	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	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 MXP_2.5G_10G and MXP_2.5G_10E Trunk Port Alarm and TCA Thresholds

Purpose	This task changes the MXP_2.5G_10G and MXP_2.5G_10E trunk port alarm and TCA thresholds.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-25
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Step 1 In node view, double-click the MXP_2.5G_10G or MXP_2.5G_10E card where you want to change the trunk port alarm and TCA settings.

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

Step 3 Select 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 5-21](#), 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.

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

Table 5-21 *MXP_2.5G_10G and MXP_2.5G_10E Trunk Port TCA Thresholds*

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

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

- Step 7** Referring to [Table 5-22](#), provision the trunk port (Port 5) 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 5-22 *MXP_2.5G_10G and MXP_2.5G_10E Trunk Port Alarm Thresholds*

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

- Step 8** Click **Apply**.

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

DLP-G304 Provision the MXP_2.5G_10G and MXP_2.5G_10E Client Port Alarm and TCA Thresholds

Purpose	This task provisions the client port alarm and TCA thresholds for the MXP_2.5G_10G and MXP_2.5G_10E cards.
Tools/Equipment	None
Prerequisite Procedures	DLP-G278 Provision the Optical Line Rate, page 5-6 DLP-G46 Log into CTC, page 2-25
Required/As Needed	Required
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

- Step 1** In node view, double-click the MXP_2.5G_10G or MXP_2.5G_10E 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 5-23](#), provision the 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. For additional information about client SFP and XFP interfaces, also known as PPMs, refer to [Appendix B, “Hardware Specifications.”](#)



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

- Step 4** Click **Apply**.

Table 5-23 MXP_2.5G_10G and MXP_2.5G_10E 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-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

- 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 5-24](#), provision the 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**.

Table 5-24 MXP_2.5G_10G and MXP_2.5G_10E 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-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

- Step 8** Click **Apply**.
- Step 9** Repeat Steps 7 and 8 to provision each additional client port. Otherwise, continue with [Step 10](#).
- Step 10** Return to your originating procedure (NTP).

DLP-G228 Change Line OTN Settings for MXP_2.5G_10G and MXP_2.5G_10E Cards

Purpose	This task changes the line OTN settings for MXP_2.5G_10G and MXP_2.5G_10E muxponder cards.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-25
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

- Step 1** In node view, double-click the MXP_2.5G_10G or MXP_2.5G_10E 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 5-25 through 5-28.



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 5-25](#) describes the values on the Provisioning > OTN > OTN Lines tab.



Note In [Table 5-25](#), some parameter tabs or values do not always apply to both the MXP_2.5G_10G and the MXP_2.5G_10E card. When the tabs or values do not apply, they do not appear to the user.

Table 5-25 MXP_2.5G_10G and MXP_2.5G_10E Muxponder Card Line OTN Settings

Parameter	Description	Options
Port #	(Display only) Displays the port number.	5
G.709 OTN	Sets the OTN lines according to ITU-T G.709.	- Enabled - Disabled
FEC	Sets the OTN line FEC mode. FEC mode can be Disabled or Enabled. Enhanced 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.	- Enabled—(MXP_2.5G_10G only) FEC is on - Disabled—FEC is off - Standard—(MXP_2.5G_10E only) FEC is on - Enhanced—(MXP_2.5G_10E only) Enhanced FEC is on
SF BER	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	(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 5-26 describes the values on the Provisioning > OTN > OTN G.709 Thresholds tab.

Table 5-26 MXP_2.5G_10G and MXP_2.5G_10E Muxponder Card ITU-T G.709 Threshold Settings

Parameter	Description	Options
Port	(Display only) Port number	5
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. 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. 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 5-26 MXP_2.5G_10G and MXP_2.5G_10E Muxponder 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 .

Table 5-27 describes the values on the Provisioning > OTN > FEC Thresholds tab.

Table 5-27 MXP_2.5G_10G and MXP_2.5G_10E Muxponder Card FEC Threshold Settings

Parameter	Description	Options
Port	(Display only) Displays the port number.	5
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 5-28 describes the values on the Provisioning > OTN > Trail Trace Identifier tab.

Table 5-28 MXP_2.5G_10G and MXP_2.5G_10E Muxponder Card 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
Level	Sets the level.	- Section - Path
Trace Mode	Sets the trace mode.	- Off/None - Manual

Table 5-28 *MXP_2.5G_10G and MXP_2.5G_10E Muxponder 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; 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 field updated.	String of trace string size

Step 4 Click **Apply**.

Step 5 Return to your originating procedure (NTP).

NTP-G98 Modify Line Settings and PM Parameter Thresholds for TXP_MR_2.5G and TXPP_MR_2.5G Cards

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 3-43 DLP-G63 Install an SFP or XFP, page 3-45 DLP-G277 Provision a Multirate PPM, page 5-3 (if necessary) DLP-G278 Provision the Optical Line Rate, page 5-6 (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 2-25 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 Card Settings for TXP_MR_2.5G and TXPP_MR_2.5G Cards, page 5-49](#)
 - [DLP-G230 Change Line Settings for TXP_MR_2.5G and TXPP_MR_2.5G Cards, page 5-50](#)
 - [DLP-G231 Change Section Trace Settings for TXP_MR_2.5G and TXPP_MR_2.5G Cards, page 5-53](#)
 - [DLP-G232 Change TXP_MR_2.5G and TXPP_MR_2.5G Cards Line Threshold Settings for SONET or SDH Payloads, page 5-54](#)
 - [DLP-G320 Change the TXP_MR_2.5G or TXPP_MR_2.5G Card Line Thresholds for 1G Ethernet or 1G FC/FICON Payloads, page 5-56](#)
 - [DLP-G305 Provision the TXP_MR_2.5G and TXPP_MR_2.5G Trunk Port Alarm and TCA Thresholds, page 5-57](#)
 - [DLP-G306 Provision the TXP_MR_2.5G and TXPP_MR_2.5G Cards Client Port Alarm and TCA Thresholds, page 5-58](#)
 - [DLP-G234 Change OTN Settings for TXP_MR_2.5G and TXPP_MR_2.5G Cards, page 5-62](#)

Stop. You have completed this procedure.

DLP-G229 Change Card Settings for TXP_MR_2.5G and TXPP_MR_2.5G Cards

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 2-25
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

- Step 1** In node 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 5-29](#).

Table 5-29 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). See the “16.12 Termination Modes” section on page 16-117 for more information.	- Transparent - Section (ANSI) or Regeneration Section (ETSI) - Line (ANSI) or Multiplex Section (ETSI)
Wavelength	Sets the wavelength of the DWDM side optical transmitter.	- First Tunable Wavelength - Further wavelengths in 100-GHz ITU spacing - Supported wavelengths are in white and marked by asterisks (**); unsupported wavelengths are gray. Note The four available wavelengths are listed in the Card Parameters section of the window and also in the Maintenance > Info tab.

Table 5-29 *TXP_MR_2.5G and TXPP_MR_2.5G Transponder Card Settings (continued)*

Parameter	Description	Options
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 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 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 Line Settings for TXP_MR_2.5G and TXPP_MR_2.5G Cards

Purpose	This task changes the line settings for TXP_MR_2.5G and TXPP_MR_2.5G transponder cards.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-25
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

- Step 1** In node 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** tabs and any additional PPM tabs depending on the client interface. Tabs and parameter selections vary according to PPM provisioning.
- Step 3** Modify any of the settings described in [Table 5-30](#).

Table 5-30 *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 3 (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 7-10.
Admin State	Sets the port service state unless network conditions prevent the change. For more information about administrative states, see Appendix C, “DWDM Administrative and Service States.”	- 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	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, see Appendix C, “DWDM Administrative and Service States.”	- 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. 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.
SF BER	(OC-N and STM-N payloads only) Sets the signal fail bit error rate.	1E-3 1E-4 1E-5

Table 5-30 *TXP_MR_2.5G and TXPP_MR_2.5G Transponder Card Line Settings (continued)*

Parameter	Description	Options
SD BER	(OC-N and STM-N payloads only) Sets the signal degrade bit error rat.	• 1E-5 • 1E-6 • 1E-7 • 1E-8 • 1E-9
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
Reach	Displays the optical reach distance of the client port.	• Autoprovision (default) • I1 • S1 • S2 • L1 • L2 • L3
Wavelength	Displays the wavelength of the client port.	• First Tunable Wavelength • Further wavelengths:1310 nm to 1550 nm 100-GHz ITU spacing, CWDM spacing • Supported wavelengths are marked by asterisks (**)

Step 4 Click **Apply**.

Step 5 Return to your originating procedure (NTP).

DLP-G231 Change Section Trace Settings for TXP_MR_2.5G and TXPP_MR_2.5G Cards

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 2-25
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, 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 5-31](#).

Table 5-31 TXP_MR_2.5G and TXPP_MR_2.5G Transponder Card Section Trace Settings

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

Table 5-31 TXP_MR_2.5G and TXPP_MR_2.5G Transponder Card Section Trace Settings

Parameter	Description	Options
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

Step 4 Click **Apply**.

Step 5 Return to your originating procedure (NTP).

DLP-G232 Change TXP_MR_2.5G and TXPP_MR_2.5G Cards Line Threshold Settings for SONET or SDH Payloads

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 2-25
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Step 1 In node 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 5-32](#).

Table 5-32 *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
Port	(Display only) Port number	1 2 3 (TXPP_MR_2.5G card only)
CV	Coding violations	Numeric. Can be set for Near End or Far End, for 15-minute or one-day intervals, or for Line (Far End only), Section, or Path. Select the bullet and click Refresh .
ES	Errored seconds	Numeric. Can be set for Near End or Far End, for 15-minute or one-day intervals, or for Line (Far End only), Section, or Path. Select the 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 Line (Far End only), Section, or Path. Select the bullet and click Refresh .
SEFS	(Section only) Severely errored framing seconds	Numeric. Can be set for Far End, for 15-minute or one-day intervals for Section only. Select the bullet and click Refresh .
FC	(Line only) Failure count	Numeric. Can be set for Near End or Far End, for 15-minute or one-day intervals for Line only. Select the bullet and click Refresh .
UAS	(Line only) Unavailable seconds	Numeric. Can be set for Near End or Far End, for 15-minute or one-day intervals, for Line only. Select the bullet and click Refresh .

Step 4 Click **Apply**.

Step 5 Return to your originating procedure (NTP).

DLP-G320 Change the TXP_MR_2.5G or TXPP_MR_2.5G Card Line Thresholds for 1G Ethernet or 1G FC/FICON Payloads

Purpose	This task changes the line 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 2-25
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 5-33](#) for a list of available Ethernet thresholds.

Table 5-33 ***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.
rxTotalPkts	Total number of received packets.
8b10bStatsEncodingDispErrors	Number of 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, 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 TXP_MR_2.5G and TXPP_MR_2.5G Trunk Port Alarm and TCA Thresholds

Purpose	This task changes the TXP_MR_2.5G and TXPP_MR_2.5G trunk port alarm and TCA thresholds.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-25
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

- Step 1** In node 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 16-54 on page 16-89](#) and determine whether it is 2R or 3R.
- Step 4** Click the **Provisioning > Optics Thresholds** tabs.
- Step 5** Click the **15 Min** PM interval radio button and click **Refresh**.
- Step 6** Referring to [Table 5-34](#), provision the trunk port (Port 2) 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.

- Step 7** Click **Apply**.

Table 5-34 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 8** Under Types, click the **Alarm** radio button and click **Refresh**.
- Step 9** Provision the trunk port (Port 2) Alarm thresholds for RX Power High to -7 dBm and the RX Power Low to -26 dBm.
- Step 10** Click **Apply**.
- Step 11** Click the **1 Day** PM interval radio button, 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 TXP_MR_2.5G and TXPP_MR_2.5G Cards 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 5-6 DLP-G46 Log into CTC, page 2-25
Required/As Needed	Required
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

- Step 1** In node 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 5-35](#), 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 [Appendix B, “Hardware Specifications.”](#)



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 5-35 TXP_MR_2.5G and TXPP_MR_2.5G Card Client Interface TCA Thresholds

Port Type (by CTC)	Pluggable Port Module (SFP or XFP)	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	-17	0	-16	3
	15454-SFP-GE+-LX 15454E-SFP-GE+-LX	-20	-3	-16	3
ESCON	15454-SFP-200 15454E-SFP-200	-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	-20	-3	-16	3
PASS-THRU	2R MODE (not specified)	Service Dependent			
FC1G	15454-SFP-GEFC-SX 15454E-SFP-GEFC-S	-17	0	-16	3
	15454-SFP-GE+-LX 15454E-SFP-GE+-LX	-20	-3	-16	3
FC2G	15454-SFP-GEFC-SX 15454E-SFP-GEFC-S	-15	0	-16	3
	15454-SFP-GE+-LX 15454E-SFP-GE+-LX	-20	-3	-16	3
FICON1G	15454-SFP-GEFC-SX 15454E-SFP-GEFC-S	-17	0	-16	3
	15454-SFP-GE+-LX 15454E-SFP-GE+-LX	-20	-3	-16	3
FICON2G	15454-SFP-GEFC-SX 15454E-SFP-GEFC-S	-17	0	-16	3
	15454-SFP-GE+-LX 15454E-SFP-GE+-LX	-20	-3	-16	3

Table 5-35 *TXP_MR_2.5G and TXPP_MR_2.5G Card Client Interface TCA Thresholds (continued)*

Port Type (by CTC)	Pluggable Port Module (SFP or XFP)	TCA RX Power Low	TCA RX Power High	TCA TX Power Low	TCA TX Power High
ETR_CLO	15454-SFP-200 15454E-SFP-200	-17	0	-16	3
ISC compat	15454-SFP-GE+-LX 15454E-SFP-GE+-LX	-20	-3	-16	3
ISC peer	15454-SFP-GE+-LX 15454E-SFP-GE+-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 5-36](#), 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 5-36 *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	-20	3	-13	-1
	15454-SFP-GE+-LX 15454E-SFP-GE+-LX	-23	0	-13	0
ESCON	15454-SFP-200 15454E-SFP-200	-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	-23	0	-13	0

Table 5-36 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
PASS-THRU	2R MODE (not specified)	Service Dependent			
FC1G	15454-SFP-GEFC-SX 15454E-SFP-GEFC-S	-20	3	-13	-1
	15454-SFP-GE+-LX 15454E-SFP-GE+-LX	-23	0	-13	0
FC2G	15454-SFP-GEFC-SX 15454E-SFP-GEFC-S	-18	3	-13	-1
	15454-SFP-GE+-LX 15454E-SFP-GE+-LX	-23	0	-13	0
FICON1G	15454-SFP-GEFC-SX 15454E-SFP-GEFC-S	-20	3	-13	-1
	15454-SFP-GE+-LX 15454E-SFP-GE+-LX	-23	0	-13	0
FICON2G	15454-SFP-GEFC-SX 15454E-SFP-GEFC-S	-20	3	-13	-1
	15454-SFP-GE+-LX 15454E-SFP-GE+-LX	-23	0	-13	0
ETR_CLO	15454-SFP-200 15454E-SFP-200	-20	3	-13	-1
ISC compat	15454-SFP-GE+-LX 15454E-SFP-GE+-LX	-23	0	-13	0
ISC peer	15454-SFP-GE+-LX 15454E-SFP-GE+-LX	-23	0	-13	0

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

DLP-G234 Change OTN Settings for TXP_MR_2.5G and TXPP_MR_2.5G Cards

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 2-25
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

- Step 1** In node 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 [5-37](#) through [5-40](#).



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 5-37](#) describes the values on the Provisioning > OTN > OTN Lines tab.

Table 5-37 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
G.709 OTN	Sets the OTN lines according to ITU-T G.709.	- Enabled - Disabled
FEC	Sets the OTN lines to FEC.	- Enabled - Disabled
SF BER	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

[Table 5-38](#) describes the values on the Provisioning > OTN > G.709 Thresholds tab.

Table 5-38 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
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 1G-FC payload without ITU-T G.709 is 4 microseconds, and with ITU-T G.709 is 40 microseconds. Latency for 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 5-39 describes the values on the Provisioning > OTN > FEC Threshold tab.

Table 5-39 TXP_MR_2.5G and TXPP_MR_2.5G Transponder 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 5-40 describes the values on the Provisioning > OTN > Trail Trace Identifier tab.

Table 5-40 TXP_MR_2.5G and TXPP_MR_2.5G Transponder Card Trail Trace Identifier Settings

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

Table 5-40 *TXP_MR_2.5G and TXPP_MR_2.5G Transponder Card Trail Trace Identifier Settings*

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 field updated.	String of trace string size

Step 4 Click **Apply**.

Step 5 Return to your originating procedure (NTP).

NTP-G99 Modify Line Settings and PM Parameter Thresholds for MXP_MR_2.5G and MXPP_MR_2.5G Cards

Purpose	This procedure changes the line and threshold settings for 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 3-43 DLP-G63 Install an SFP or XFP, page 3-45 DLP-G277 Provision a Multirate PPM, page 5-3 (if necessary) DLP-G278 Provision the Optical Line Rate, page 5-6 (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 2-25 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-G235 Change Card Settings for MXP_MR_2.5G and MXPP_MR_2.5G Cards, page 5-66](#)
 - [DLP-G236 Change Client Line Settings for MXP_MR_2.5G and MXPP_MR_2.5G Cards, page 5-67](#)
 - [DLP-G237 Change Distance Extension Settings for MXP_MR_2.5G and MXPP_MR_2.5G Cards, page 5-69](#)
 - [DLP-G238 Change OC-48/STM-16 Settings for MXP_MR_2.5G and MXPP_MR_2.5G Cards, page 5-71](#)
 - [DLP-G239 Change Section Trace Settings for MXP_MR_2.5G and MXPP_MR_2.5G Cards, page 5-73](#)
 - [DLP-G240 Change MXP_MR_2.5G and MXPP_MR_2.5G Card Line Threshold Settings for SONET or SDH Payloads, page 5-74](#)
 - [DLP-G321 Change the MXP_MR_2.5G or MXPP_MR_2.5G Card Line Thresholds for 1G Ethernet or 1G FC/FICON Payloads, page 5-77](#)
 - [DLP-G307 Provision the MXP_MR_2.5G and MXPP_MR_2.5G Trunk Port Alarm and TCA Thresholds, page 5-79](#)
 - [DLP-G308 Provision the MXP_MR_2.5G and MXPP_MR_2.5G Client Port Alarm and TCA Thresholds, page 5-80](#)



Note To use the Alarm Profiles tab, including creating alarm profiles and suppressing alarms, see [Chapter 8, “Manage Alarms.”](#)

Stop. You have completed this procedure.

DLP-G235 Change Card Settings for MXP_MR_2.5G and MXPP_MR_2.5G Cards

Purpose	This task changes the card settings for MXP_MR_2.5G and MXPP_MR_2.5G muxponder cards.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-25
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher



Note

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

- Step 1** In node view, double-click the MXP_MR_2.5G or MXPP_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 5-41](#).

Table 5-41 MXP_MR_2.5G and MXPP_MR_2.5G Muxponder Card Settings

Parameter	Description	Options
Card Mode	Sets the mode of operation (option only supported for SONET/SDH payloads). Note This setting is not currently supported. The only option available currently is FC-GE.	FC-GE
Wavelength	Sets the wavelength of the DWDM side optical transmitter.	- First Tunable Wavelength - Further wavelengths in 100-GHz ITU spacing - Supported wavelengths are in white and marked by asterisks (**); unsupported wavelengths are gray. Note The four available wavelengths are listed in the Card Parameters section of the window and also in the Maintenance > Info tab.

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

DLP-G236 Change Client Line Settings for MXP_MR_2.5G and MXPP_MR_2.5G Cards

Purpose	This task changes the 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 2-25
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

- Step 1** In node 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 service tab as described in [Table 5-42](#).

Table 5-42 MXP_MR_2.5G and MXPP_MR_2.5G Muxponder Card Client Service Tab 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 7-10.
Admin State	Sets the port service state unless network conditions prevent the change. For more information about administrative states, see Appendix C, “DWDM Administrative and Service States.”	- 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	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, see Appendix C, “DWDM Administrative and Service States.”	- 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 5-42 *MXP_MR_2.5G and MXPP_MR_2.5G Muxponder Card Client Service Tab 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.
Reach	Displays the optical reach distance of the client port.	The Reach options depend on the traffic type that has been selected.
Wavelength	Displays the wavelength of the client port.	- First Tunable Wavelength - Further wavelengths: 1310 nm to 1550 nm 100-GHz ITU spacing CWDM spacing - Supported wavelengths are marked by asterisks (**)

Step 4 Click **Apply**.

Step 5 Return to your originating procedure (NTP).

DLP-G237 Change Distance Extension Settings for MXP_MR_2.5G and MXPP_MR_2.5G Cards

Purpose	This task changes the distance extension settings for MXP_MR_2.5G and MXPP_MR_2.5G muxponder cards. Distance extension should be enabled when the distance between the MXP_MR_2.5G/ MXPP_MR_2.5G source and destination cards is greater than 5 km and/or when the Fibre Channel switch buffer is set to 128 bytes or less.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-25
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**

If distance extension is enabled for one MXP_MR_2.5G/MXPP_MR_2.5G card, it must be enabled on the MXP_MR_2.5G/MXPP_MR_2.5G card at the other end. A GFP-DE-MISMATCH alarm is raised if distance extension is enabled for a card at only one end.

**Note**

The MXP_MR_2.5G/MXPP_MR_2.5G cards can operate with different Fibre Channel switch buffers at each end. However, the traffic flow will be unequal.

**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, 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 > Distance Extension** tabs. Tabs and parameter selections vary according to PPM provisioning.
- Step 3** Modify any of the settings for the Distance Extension tab as described in [Table 5-43](#).

Table 5-43 *MXP_MR_2.5G and MXPP_MR_2.5G Muxponder Card Line Distance Extension Settings*

Parameter	Description	Options
Port #	(Display only) Port number.	1 2
Enable Distance Extension	If checked, allows end-to-end distances up to 1600 km for FC1G and up to 800 km for FC2G through a flow control scheme based on the transparent-mode Generic Framing Protocol (GFP-T). GFP-T flow control enables the node to be part of a storage area network (SAN) with long-distance remote nodes. Cisco recommends that you enable distance extension when one or both of the following conditions exist: - The distance between the source and destination MXP_MR_2.5G/MXPP_MR_2.5G cards is greater than 5 km. - The FC switch buffer at either end is less than 128 bytes. If distance extension is enabled, the Fibre Channel switch must be set to Interop or Open Fabric mode, depending on the switch. By default, the MXP_MR_2.5G/MXPP_MR_2.5G card interoperates with the Cisco Multilayer Director Switch (MDS) storage products.	Checked or unchecked
Auto Detect Credits	(Available only when distance extension is enabled). If checked, enables the node to detect the transmit credits from a remote node. Credits are used for link flow control and for Extended Link Protocol (ELP) login frames between Fibre Channel/FICON switch E ports. If distance extension is enabled, Cisco recommends that you enable Auto Detect Credits.	Checked or unchecked
Credits Available	If Auto Detect Credits is not enabled, sets the number of credits when an ELP login frame setting is missing or if the ELP login frame cannot be detected.	Numeric. Values are 2 through 256 in multiples of 2.

Table 5-43 *MXP_MR_2.5G and MXPP_MR_2.5G Muxponder Card Line Distance Extension Settings (continued)*

Parameter	Description	Options
Autoadjust GFP Buffer Threshold	If checked, the threshold of the GFP buffer between two MXP_MR_2.5G or two MXPP_MR_2.5G cards is automatically adjusted. This guarantees the best utilization of the SONET/SDH transport by balancing bandwidth and latency.	Checked or unchecked
GFP Buffers Available	If Autoadjust GFP Buffer Threshold is not checked, sets the GFP buffer depth. For shorter SONET transport distances, Cisco recommends lower values to decrease latency. For longer SONET transport distances, Cisco recommends higher values to provide higher bandwidth.	Numeric. Possible values are 16 through 1200 in multiples of 16.

Step 4 Click **Apply**.

Step 5 Return to your originating procedure (NTP).

DLP-G238 Change OC-48/STM-16 Settings for MXP_MR_2.5G and MXPP_MR_2.5G Cards

Purpose	This task changes the OC-48/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 2-25
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher



Note OC-48/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, 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 5-44](#).

Table 5-44 *MXP_MR_2.5G and MXPP_MR_2.5G Muxponder Card Line SONET or SDH Tab 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 7-10.
Admin State	Sets the port service state unless network conditions prevent the change. For more information about administrative states, see Appendix C, “DWDM Administrative and Service States.”	- 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	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, see Appendix C, “DWDM Administrative and Service States.”	- 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
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)

Table 5-44 *MXP_MR_2.5G and MXPP_MR_2.5G Muxponder Card Line SONET or SDH Tab 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.
ProvidesSync	Sets the ProvidesSync card parameter. If checked, the card is provisioned as an 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 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-G239 Change Section Trace Settings for MXP_MR_2.5G and MXPP_MR_2.5G Cards

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 2-25
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Step 1 In node 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 5-45](#).

Table 5-45 *MXP_MR_2.5G and MXPP_MR_2.5G Muxponder Card Line Section Trace Tab 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)
Trace Mode	Sets the trace mode.	- Off/None - Manual
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 field updated.	String of trace string size

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

DLP-G240 Change MXP_MR_2.5G and MXPP_MR_2.5G Card Line Threshold Settings for SONET or SDH Payloads

Purpose	This task changes the line threshold settings for MXP_MR_2.5G and MXPP_MR_2.5G muxponder cards for SONET or SDH payloads.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-25
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

- Step 1** In node 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 5-46](#).

**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 5-46 *MXP_MR_2.5G and MXPP_MR_2.5G Muxponder 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)
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 .

Table 5-46 *MXP_MR_2.5G and MXPP_MR_2.5G Muxponder Card Line Threshold Settings (continued)*

Field	Description	ONS 15454 Options	ONS 15454 SDH Options
SEFS	(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 .
FC	(Line only) Failure count.	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 .
UAS	(Line 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 MXP_MR_2.5G or MXPP_MR_2.5G Card 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_10E transponder cards carrying the 1G Ethernet or 1G FC/FICON payloads.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-25
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

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- 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 5-47](#) for a list of available Ethernet thresholds.

Table 5-47 *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.
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.

Table 5-47 *MXP_MR_2.5G and MXPP_MR_2.5G Card 1G Ethernet or 1G FC/FICON Variables (continued)*

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, 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 MXP_MR_2.5G and MXPP_MR_2.5G 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 2-25
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Step 1 In node 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 (Port 9) 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 (Port 9) 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 MXP_MR_2.5G and MXPP_MR_2.5G 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 5-6 DLP-G46 Log into CTC, page 2-25
Required/As Needed	Required
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

- Step 1** In node view, double-click the MXP_MR_2.5G and 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 5-48](#), 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 [Appendix B, “Hardware Specifications.”](#)



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**.

- Step 4** Click **Apply**.

Table 5-48 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	-17	0	-16	3
	15454-SFP-GE+-LX 15454E-SFP-GE+-LX	-20	-3	-16	3
FC2G	15454-SFP-GEFC-SX 15454E-SFP-GEFC-S	-15	0	-16	3
	15454-SFP-GE+-LX 15454E-SFP-GE+-LX	-20	-3	-16	3
FICON1G	15454-SFP-GEFC-SX 15454E-SFP-GEFC-S	-17	0	-16	3
	15454-SFP-GE+-LX 15454E-SFP-GE+-LX	-20	-3	-16	3

Table 5-48 *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
FICON2G	15454-SFP-GEFC-SX 15454E-SFP-GEFC-S	-17	0	-16	3
	15454-SFP-GE+-LX 15454E-SFP-GE+-LX	-20	-3	-16	3
ONE_GE	15454-SFP-GEFC-SX 15454E-SFP-GEFC-S	-17	0	-16	3
	15454-SFP-GE+-LX 15454E-SFP-GE+-LX	-20	-3	-16	3

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 5-49, 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 5-49 *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	-20	3	-13	-1
	15454-SFP-GE+-LX 15454E-SFP-GE+-LX	-23	0	-13	0
FC2G	15454-SFP-GEFC-SX 15454E-SFP-GEFC-S	-18	3	-13	-1
	15454-SFP-GE+-LX 15454E-SFP-GE+-LX	-23	0	-13	0
FICON1G	15454-SFP-GEFC-SX 15454E-SFP-GEFC-S	-20	3	-13	-1
	15454-SFP-GE+-LX 15454E-SFP-GE+-LX	-23	0	-13	0
FICON2G	15454-SFP-GEFC-SX 15454E-SFP-GEFC-S	-20	3	-13	-1
	15454-SFP-GE+-LX 15454E-SFP-GE+-LX	-23	0	-13	0

Table 5-49 *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
ONE_GE	15454-SFP-GEFC-SX 15454E-SFP-GEFC-S	-20	3	-13	-1
	15454-SFP-GE+-LX 15454E-SFP-GE+-LX	-23	0	-13	0

Step 8 Click **Apply**.

Step 9 Repeat Steps [7](#) and [8](#) to provision each additional client port. Otherwise, continue with [Step 10](#).

Step 10 Return to your originating procedure (NTP).
