CHAPTER 8

Monitor Performance

This chapter explains how to enable and view performance monitoring (PM) statistics for the Cisco ONS 15454. PM parameters are used by service providers to gather, store, set thresholds, and report performance data for early detection of problems. For more PM information, details, and definitions, refer to the *Cisco ONS 15454 DWDM Reference Manual*.

Note Unless otherwise specified, "ONS 15454" refers to both ANSI and ETSI shelf assemblies.

Before You Begin

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

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

1. NTP-G73 Change the PM Display, page 8-2—Complete as needed to change the displayed PM counts.
2. NTP-G74 Monitor DWDM Card Performance, page 8-10—Complete as needed to monitor performance for dense wavelength division multiplexing (DWDM) cards, which includes the OSCM, OSC-CSM, 32MUX-O, 32DMX, 32DMX-O, 32DMX-L, 40-MUX-C, 40-DMX-C, 40-WSS-C, 40-WXC-C, 4MD-xx.x, AD-xC-xx.x, AD-xB-xx.x, 32WSS, 32WSS-L, OPT-BST, OPT-PRE, OPT-BST-L, OPT-AMP-L, and OPT-AMP-17-C cards.
3. NTP-G75 Monitor Transponder and Muxponder Performance, page 8-22—Complete as needed to monitor performance for all transponder (TXP), muxponder (MXP), Xponder (GE_XP and 10GE_XP), and ADM-10G cards.

Note For additional information regarding PM parameters, refer to Telcordia GR-499-CORE, GR-253-CORE, GR-820-CORE (titled *Generic Digital Transmission* Surveillance), and GR-1230-CORE, and to the ANSI T1.231 document titled *Digital Hierarchy - Layer 1 In-Service Digital Transmission Performance Monitoring*.

NTP-G73 Change the PM Display

Purpose	This procedure enables you to change the appearance of PM counts by selecting drop-down list or radio button options in the Performance window.
Tools/Equipment	None
Prerequisite Procedures	Before you monitor performance, be sure you have created the appropriate circuits and provisioned the card according to your specifications. For more information, see Chapter 7, "Create Optical Channel Circuits and Provisionable Patchcords," Chapter 5, "Provision Transponder and Muxponder Cards," and Chapter 11, "Change DWDM Card Settings."
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

Step 1 Complete the "DLP-G46 Log into CTC" task on page 2-27 at the node that you want to monitor. If you are already logged in, continue with Step 2.

Step 2 As needed, use the following tasks to change the display of PM counts:

- DLP-G131 Refresh PM Counts at 15-Minute Intervals, page 8-3
- DLP-G132 Refresh PM Counts at One-Day Intervals, page 8-4
- DLP-G133 View Near-End PM Counts, page 8-5
- DLP-G134 View Far-End PM Counts, page 8-5
- DLP-G135 Reset Current PM Counts, page 8-6
- DLP-G136 Clear Selected PM Counts, page 8-7
- DLP-G410 Clear All PM Thresholds, page 8-8
- DLP-G137 Set the Auto-Refresh Interval for Displayed PM Counts, page 8-9
- DLP-G138 Refresh PM Counts for a Different Port, page 8-10

Stop. You have completed this procedure.

DLP-G131 Refresh PM Counts at 15-Minute Intervals

Purpose	This task changes the window view to display PM counts in 15-minute intervals.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

Step 1 In node view (single-shelf mode), or shelf view (multishelf mode), double-click the DWDM, TXP, or MXP card where you want to change the PM count display interval. The card view appears.

Step 2 Click the **Performance** tab.

Step 3 If you want to change the PM interval to 15 minutes for a subtab, click the relevant subtab(s), located on the left side of the Performance tab.

Note Performance subtabs vary depending on the card.

Step 4 If you want to change the PM interval to 15 minutes for a specific port, select the port from the Ports drop-down list (where available).

Step 5 To go to any of the tabs, subtabs, or ports (found in the Ports drop-down list where available) for the card where you want to set the PM count interval, click the subtab and choose the port, if applicable from the drop-down list.

Step 6 Click the **15 min** radio button.

Step 7 Click **Refresh**. PM parameters appear in 15-minute intervals synchronized with the time of day.

Step 8 View the Curr column to find PM counts for the current 15-minute interval.

Each monitored performance parameter has corresponding threshold values for the current time period. If the value of the counter exceeds the threshold value for a particular 15-minute interval, a threshold crossing alert (TCA) is raised. The number represents the counter value for each specific PM parameter.

Step 9 View the Prev-*n* columns to find PM counts for the previous 15-minute intervals.

Note If a complete 15-minute interval count is not possible, the value appears with a yellow background. An incomplete or incorrect count can be caused by monitoring for less than 15 minutes after the counter started, changing the node timing settings, changing the time zone settings, replacing a card, resetting a card, or changing port service states. When the problem is corrected, the subsequent 15-minute interval appears with a white background.

Step 10 Return to your originating procedure (NTP).

DLP-G132 Refresh PM Counts at One-Day Intervals

Purpose	This task changes the window view to display PM parameters in 1-day intervals.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

Step 1 In node view (single-shelf mode), or shelf view (multishelf mode), double-click the DWDM, TXP, or MXP card where you want to change the PM interval. The card view appears.

Step 2 Click the **Performance** tab.

Step 3 If you want to refresh the PM counts for a subtab, click the relevant subtab(s), located along the left side of the Performance tab.

Note Performance subtabs vary depending on the card.

Step 4 If you want to refresh the PM counts for a specific port, select the port from the Ports drop-down list (where available).

Step 5 Click the **1 day** radio button.

Step 6 Click **Refresh**. Performance monitoring appears in 1-day intervals synchronized with the time of day.

Step 7 View the Curr column to find PM counts for the current 1-day interval.

Each monitored performance parameter has corresponding threshold values for the current time period. If the value of the counter exceeds the threshold value for a particular 1-day interval, a TCA is raised. The number represents the counter value for each specific PM parameter.

Step 8 View the Prev-*n* columns to find PM counts for the previous 1-day intervals.

Note If a complete count over a 1-day interval is not possible, the value appears with a yellow background. An incomplete or incorrect count can be caused by monitoring for less than 24 hours after the counter started, changing node timing settings, changing the time zone settings, replacing a card, resetting a card, or changing port service states. When the problem is corrected, the subsequent 1-day interval appears with a white background.

Step 9 Return to your originating procedure (NTP).

DLP-G133 View Near-End PM Counts

Purpose	This task enables you to view near-end PM counts for the selected card and port.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

Step 1 In node view (single-shelf mode), or shelf view (multishelf mode), double-click the DWDM, TXP, or MXP card where you want to view near end PM counts. The card view appears.

Step 2 Click the **Performance** tab.

Step 3 If you want to view the near-end PM counts for a subtab, click the relevant subtab(s), located on the left side of the Performance tab.

Note Performance subtabs vary depending on the card.

Step 4 If you want to view near-end PM counts for a specific port, select the port from the Ports drop-down list (where available).

Step 5 Click the **Near End** radio button, where available. (Viewing near-end PM counts is not available on some tabs.)

Step 6 Click **Refresh**. All current PM parameters for the selected card on the incoming signal appear. For PM parameter definitions, refer to the "Performance Monitoring" chapter in the *Cisco ONS 15454 DWDM Reference Manual*.

Step 7 View the Curr column to find PM counts for the current time interval.

Step 8 View the Prev-*n* columns to find PM counts for the previous time intervals.

Step 9 Return to your originating procedure (NTP).

DLP-G134 View Far-End PM Counts

Purpose	This task enables you to view far-end PM parameters for the selected card and port.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

Note Far-end PM parameters are not available for all ports.

Step 1 In node view (single-shelf mode), or shelf view (multishelf mode), double-click the DWDM, TXP, or MXP card where you want to view far-end PM counts. The card view appears.

Step 2 Click the **Performance** tab.

Step 3 If you want to view far-end PM counts for a subtab, click the relevant subtab(s), located along the left side of the Performance tab.

Note Performance subtabs vary depending on the card.

Step 4 If you want to view far-end PM counts for a specific port, select the port from the Ports drop-down list (where available).

Step 5 Click the **Far End** radio button, where available. (Viewing far-end PM counts is not available on some tabs.)

Step 6 Click **Refresh**. All PM parameters recorded by the far-end node for the selected card on the outgoing signal appear. For PM parameter definitions, refer to the "Performance Monitoring" chapter in the *Cisco ONS 15454 DWDM Reference Manual*.

Step 7 View the Curr column to find PM counts for the current time interval.

Step 8 View the Prev-*n* columns to find PM counts for the previous time intervals.

Step 9 Return to your originating procedure (NTP).

DLP-G135 Reset Current PM Counts

Purpose	This task clears the current PM count, but it does not clear the cumulative PM count. This task allows you to see how quickly PM counts rise.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

Step 1 In node view (single-shelf mode), or shelf view (multishelf mode), double-click the DWDM, TXP, or MXP card where you want to reset the current PM counts. The card view appears.

Step 2 Click the **Performance** tab.

Step 3 If you want to reset the PM counts for a subtab, click the relevant subtab(s), located along the left side of the Performance tab.

Note Performance subtabs vary depending on the card.

Step 4 If you want to reset the PM counts for a specific port, select the port from the Ports drop-down list (where available).

Note For all TXP and MXP cards and the GE_XP, 10GE_XP, and ADM-10G card, you cannot change the PM count interval on the Optics PM > Current Values tab.

Step 5 Click **Baseline**.

Note The Baseline button clears the PM counts that appear in the current time interval but does not clear the PM counts on the card. When the current time interval expires or the window view changes, the total number of PM counts on the card and in the window appears in the appropriate column. The baseline values are discarded if you change views to a different window and then return to the Performance window.

Step 6 View the current statistics columns to observe changes to PM counts for the current time interval.

Step 7 Return to your originating procedure (NTP).

DLP-G136 Clear Selected PM Counts

Purpose	This task uses the Clear button to clear specified PM counts depending on the option selected.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Superuser only

Caution Pressing the Clear button can mask problems if used incorrectly. This button is commonly used for testing purposes. After pressing this button, the current bin is marked invalid. Also note that the unavailable seconds (UAS) count is not cleared if you were counting UAS; therefore, this count could be unreliable when you press Clear.

Step 1 In node view (single-shelf mode), or shelf view (multishelf mode), double-click the DWDM, TXP, or MXP card where you want to clear the PM counts. The card view appears.

Step 2 Click the **Performance** tab.

Step 3 If you want to clear the selected PM counts for a subtab, click the relevant subtab(s), located along the left side of the Performance tab.

Note Performance subtabs vary depending on the card.

Step 4 If you want to clear the selected PM counts for a specific port, select the port from the Ports drop-down list (where available).

Note For all TXP and MXP cards and the GE_XP, 10GE_XP, and ADM-10G card, you cannot change the PM count interval on the Optics PM > Current Values tab.

Step 5 Click **Clear**.

Step 6 From the Clear Statistics dialog box, click one of the following radio buttons:

- **Displayed statistics**: Clearing displayed statistics erases all PM counts associated with the current combination of statistics on the selected port from the card and the window. This means that the selected time interval, direction, and signal type counts are erased from the card and the window.
- **All statistics for port** *x*: Clearing all statistics for port *x* erases all PM counts associated with all combinations of the statistics on the selected port from the card and the window. This means that all time intervals, directions, and signal type counts are erased from the card and the window.
- **All statistics for card**: Clearing all statistics for card erases all PM counts for all ports from the card and the window.

Step 7 From the Clear Statistics dialog box, click **OK** to clear the selected statistics. Click **Yes** to confirm the change.

Step 8 Verify that the selected PM counts have been cleared.

Step 9 Return to your originating procedure (NTP).

DLP-G410 Clear All PM Thresholds

Purpose	This task clears and resets all PM thresholds to the default values.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Superuser only

Caution Pressing the Reset button can mask problems if used incorrectly. This button is commonly used for testing purposes.

Step 1 In node view (single-shelf mode), or shelf view (multishelf mode), double-click the card where you want to view PM thresholds. The card view appears.

Step 2 Click the **Provisioning** tab.

Step 3 Click the **Thresholds** subtabs. The subtab names vary depending on the card selected.

Step 4 Click **Reset to Default**.

Step 5 Click **Yes** in the Reset to Default dialog box.

Step 6 Verify that the PM thresholds have been reset.

Step 7 Return to your originating procedure (NTP).

DLP-G137 Set the Auto-Refresh Interval for Displayed PM Counts

Purpose	This task changes the window auto-refresh intervals for updating the PM counts.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

Step 1 In node view (single-shelf mode), or shelf view (multishelf mode), double-click the card where you want to set the auto-refresh interval for displayed PM counts. The card view appears.

Step 2 Click the **Performance** tab.

Step 3 If you want to set the PM auto-refresh interval for a subtab, click the relevant subtab(s), located along the left side of the Performance tab.

Note Performance subtabs vary depending on the card.

Step 4 If you want to set the PM auto-refresh interval for a specific port, select the port from the Ports drop-down list (where available).

Step 5 From the Auto-refresh drop-down list, choose one of the following options:

- **None**: This option disables the auto-refresh feature.
- **15 Seconds**: This option sets the window auto-refresh at 15-second time intervals.
- **30 Seconds**: This option sets the window auto-refresh at 30-second time intervals.
- **1 Minute**: This option sets the window auto-refresh at 1-minute time intervals.
- **3 Minutes**: This option sets the window auto-refresh at 3-minute time intervals.
- **5 Minutes**: This option sets the window auto-refresh at 5-minute time intervals.

Step 6 Click **Refresh**. The PM counts for the newly selected auto-refresh time interval appear.

Depending on the selected auto-refresh interval, the displayed PM counts automatically update when each refresh interval completes. If the auto-refresh interval is set to None, the PM counts that appear are not updated unless you click Refresh.

Step 7 Return to your originating procedure (NTP).

DLP-G138 Refresh PM Counts for a Different Port

Purpose	This task changes the window view to display PM counts for another port on a TXP and MXP cards, GE_XP, 10GE_XP, and ADM-10G cards.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

Step 1 In node view (single-shelf mode), or shelf view (multishelf mode), double-click the DWDM, TXP, or MXP card where you want to refresh PM counts for a different port. The card view appears.

Step 2 Click the **Performance** tab.

Step 3 In the Port drop-down list, choose a port.

Step 4 Click **Refresh**. The PM counts for the newly selected port appear.

Step 5 Return to your originating procedure (NTP).

NTP-G74 Monitor DWDM Card Performance

Purpose	This procedure enables you to view, transmit, and receive performance information for OSCM, OSC-CSM, 32MUX-O, 32DMX, 32DMX-O, 32DMX-L, 40-MUX-C, 40-DMX-C, 40-WSS-C, 40-WXC-C, 4MD-xx.x, AD-xC-xx.x, AD-xB-xx.x, 32WSS, 32WSS-L, OPT-BST, OPT-PRE, OPT-BST-L, OPT-AMP-L, and OPT-AMP-17-C cards and ports during selected time intervals to detect possible performance problems.
Tools/Equipment	None
Prerequisite Procedures	Before you monitor performance, be sure you have created the appropriate circuits and provisioned the card according to your specifications. For more information, see Chapter 7, "Create Optical Channel Circuits and Provisionable Patchcords" and Chapter 11, "Change DWDM Card Settings."
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

Step 1 Complete the "DLP-G46 Log into CTC" procedure on page 2-27 at the node that you want to monitor. If you are already logged in, continue with Step 2.

Step 2 Complete the following tasks as needed:

- DLP-G139 View PM Parameters for OSCM and OSC-CSM cards, page 8-11.
- DLP-G140 View Power Statistics for Optical Amplifier Cards, page 8-13.

- DLP-G141 View Optical Power Statistics for 32MUX-O, 32WSS, 32WSS-L, 32DMX-O, 32DMX, 32DMX-L, 40-WSS-C, 40-WXC-C, 40-MUX-C, and 40-DMX-C Cards, page 8-15.
- DLP-G276 View Optical Power Statistics for 4MD-xx.x Cards, page 8-16
- DLP-G142 View Power Statistics for AD-1C-xx.x, AD-2C-xx.x, and AD-4C-xx.x Cards, page 8-18.
- DLP-G143 View Power Statistics for AD-1B-xx.x and AD-4B-xx.x Cards, page 8-20.
- DLP-G475 View the PM Parameters for All Facilities, page 8-21

Note To refresh, reset, or clear PM counts, see the "NTP-G73 Change the PM Display" procedure on page 8-2.

Stop. You have completed this procedure.

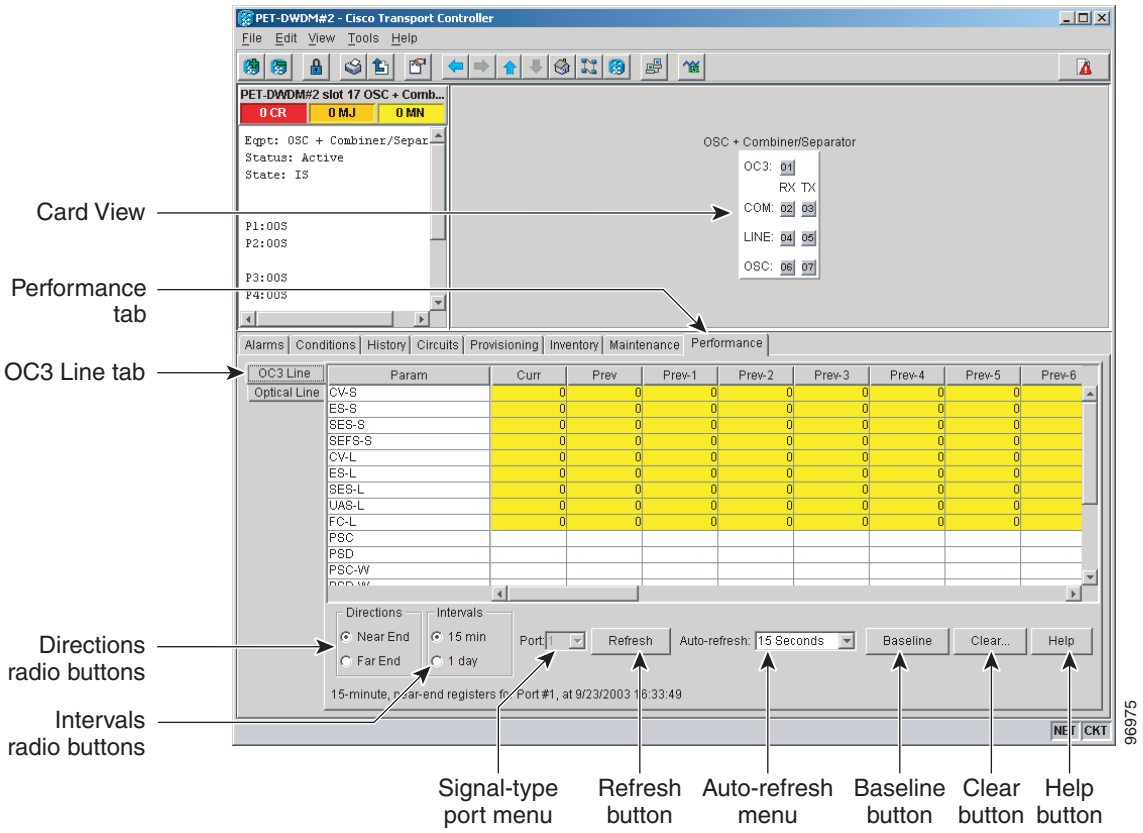
DLP-G139 View PM Parameters for OSCM and OSC-CSM cards

Purpose	This task enables you to view optical service channel (OSC) PM counts at selected time intervals on optical service channel cards and ports (OSCM or OSC-CSM) to detect possible performance problems.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

Step 1 In node view (single-shelf mode), or shelf view (multishelf mode), double-click the OSCM or OSC-CSM card where you want to view PM counts. The card view appears.

Step 2 Click the **Performance > OC3 Line** tabs (Figure 8-1).

Figure 8-1 OC3 Line Tab in the Optical Service Channel Card View Performance Window



Step 3 Click **Refresh**. PMs appear for the OC3 (Port 1).

Step 4 Click the **Optical Line** tab.

Step 5 In the Port drop-down list, choose the optical line port where you want to view the power statistics:

- 2—COM RX
- 3—COM TX
- 4—LINE RX (available only on the OSC-CSM card)
- 5—LINE TX (available only on the OSC-CSM card)
- 6—OSC RX (available only on the OSC-CSM card)
- 7—OSC TX (available only on the OSC-CSM card)

Step 6 Click **Refresh**. The minimum, maximum, and average optical power statistics for the selected line port appear.

Step 7 Return to your originating procedure (NTP).

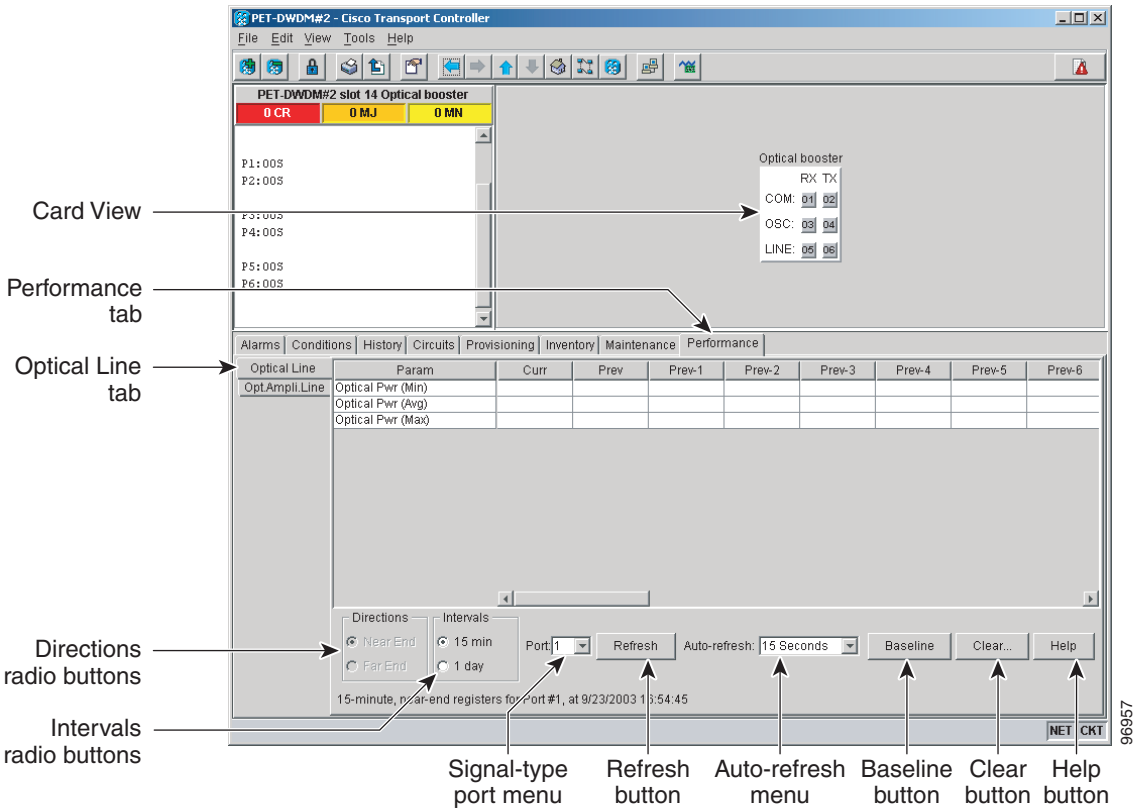
DLP-G140 View Power Statistics for Optical Amplifier Cards

Purpose	This task enables you to view the power statistics on optical amplifier cards, including the OPT-PRE, OPT-BST, OPT-BST-L, OPT-AMP-L, OPT-AMP-C, or OPT-AMP-17-C.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

Step 1 In node view (single-shelf mode), or shelf view (multishelf mode), double-click the optical amplifier card where you want to view PM counts. The card view appears.

Step 2 Click the **Performance** > **Optical Line** tabs (Figure 8-2).

Figure 8-2 Optical Line Tab in the Optical Amplifier Card View Performance Window



Step 3 In the Port drop-down list, choose an optical line port where you want to view the optical power statistics:

- For the OPT-PRE card, the following ports are available to view:
  - 1—COM RX
  - 3—DC RX

  - 4—DC TX
- For the OPT-BST and OPT-BST-E cards, the following ports are available to view:
  - 1—COM RX
  - 2—COM TX
  - 4—OSC TX
- For the OPT-BST-L card, the following ports are available to view:
  - 1—COM RX
  - 2—COM TX
  - 4—OSC TX
- For the OPT-AMP-L card, the following ports are available to view:
  - 1—COM RX
  - 2—COM TX
  - 4—OSC TX
  - 7—DC RX
  - 8—DC TX
- For the OPT-AMP-17-C card, the following ports are available to view:
  - 1—COM RX
  - 2—COM TX
  - 4—OSC TX

Step 4 Click **Refresh**. Optical power statistics for the selected port appear.

Step 5 Click the **Opt. Ampli. Line** tab.

Step 6 Click **Refresh**. Optical power statistics for the optical amplifier output port appear:

- COM TX, Port 02 for the OPT-PRE card
- Line TX, Port 06 for the OPT-BST card
- Line TX, Port 06 for the OPT-AMP-17-C card

Step 7 Return to your originating procedure (NTP).

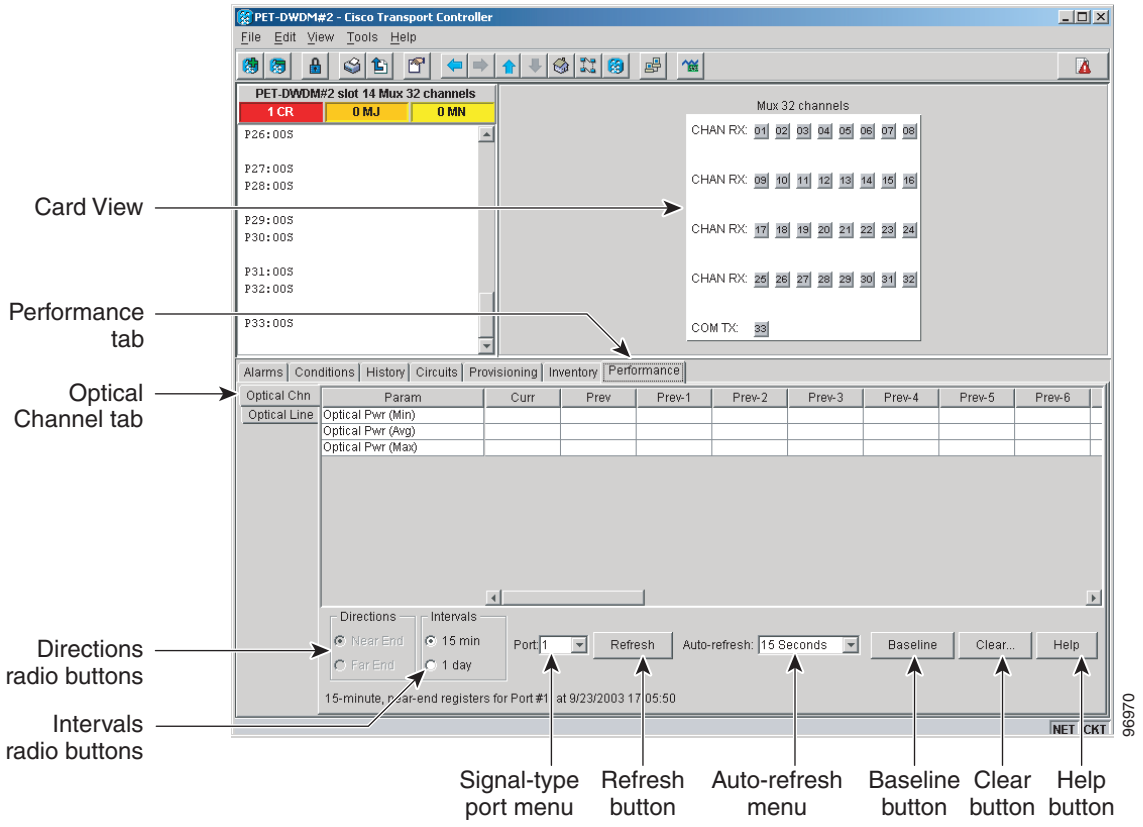
DLP-G141 View Optical Power Statistics for 32MUX-O, 32WSS, 32WSS-L, 32DMX-O, 32DMX, 32DMX-L, 40-WSS-C, 40-WXC-C, 40-MUX-C, and 40-DMX-C Cards

Purpose	This task enables you to view optical power statistics for a 32MUX-O, 32WSS, 32WSS-L, 32DMX-O, 32DMX, 32DMX-L, 40-WSS-C, 40-WXC-C, 40-MUX-C, or 40-DMX-C card.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

Step 1 In node view (single-shelf mode), or shelf view (multishelf mode), double-click the card where you want to view PM counts. The card view appears.

Step 2 Click the **Performance** > **Optical Chn** tabs (Figure 8-3).

Figure 8-3 Optical Channel Tab in the Multiplexer/Demultiplexer Card View Performance Window



Step 3 In the Port drop-down list, select the port where you want to view the optical power statistics.

- 32MUX-O—optical channel receive port (CHAN RX), Ports 01 through 32.
- 40-MUX-C—optical channel receive port (CHAN RX), Ports 01 through 40.
- 32WSS and 32WSS-L—optical channel receive port (ADD RX) Ports 01 through 32, or a pass-through port (PT), Ports 33 through 64.
- 32DMX-O, 32DMX, and 32DMX-L—optical channel transmit port (CHAN TX), Ports 01 through 32.
- 40-DMX-C—optical channel transmit port (CHAN TX), Ports 01 through 40.
- 40-WSS-C—optical add receive port (ADD RX), Ports 01 through 40
- 40-WXC-C—optical per channel power on port COM-TX . Select one of the provisioned wavelengths.

Step 4 Click **Refresh**. Optical channel power statistics (minimum, maximum, average) for the selected port appear.

Step 5 Click the **Optical Line** tab.

Step 6 For the 32WSS and 32WSS-L card, use the Port drop-down list to select the port where you want to monitor power statistics (65, 66, 67, 68, or 69). For a 32DMX, 32DMX-L, or 32DMX-O card, accept the default port (33). For the 40-WXC-C card, use the Port drop-down list to select the port where you want to monitor power statistics (10,11,12, or 13).

Step 7 Click **Refresh**. Optical channel power statistics (minimum, maximum, average) for the selected port appear.

Step 8 Return to your originating procedure (NTP).

Note To view the Optical Side graphs of the 32WSS, 32WSS-L, 40-WSS-C, 40-WSS-CE, and 40-WXC-C Cards, see *section "10.5, ROADM Power Equalization Monitoring"* of *Chapter 10, Network Reference* in the *Cisco ONS 15454 DWDM Reference Manual, Release 8.5.x*.

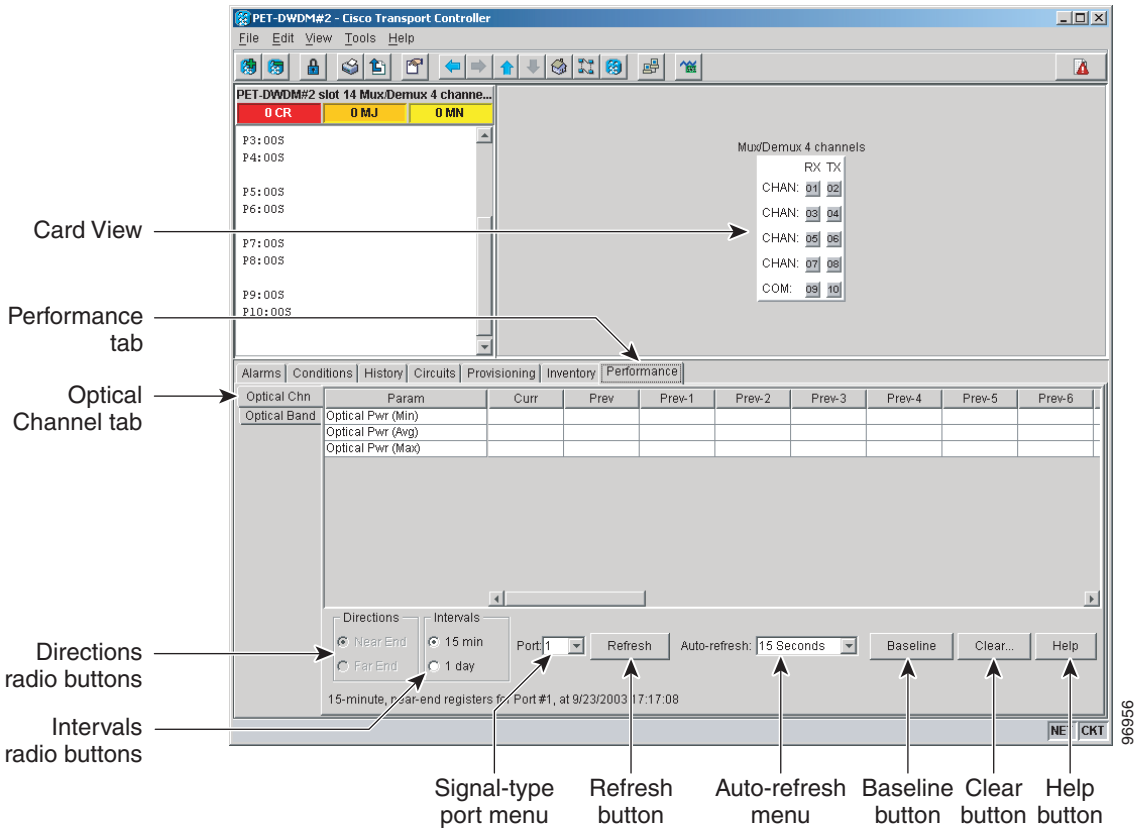
DLP-G276 View Optical Power Statistics for 4MD-xx.x Cards

Purpose	This task enables you to view the minimum, maximum, and average optical power statistics for a 4MD-xx.x card channel and band ports.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

Step 1 In node view (single-shelf mode), or shelf view (multishelf mode), double-click the 4MD-xx.x card where you want to view the optical power statistics. The card view appears.

Step 2 Click the **Performance** > **Optical Chn** tabs (Figure 8-4).

Figure 8-4 Optical Channel Tab in the 4MD-xx.x Card View Performance Window



Step 3 In the Port drop-down list, choose the channel port where you want to view the power statistics (port 1 through 8 for CHAN Ports 01 through 08).

Step 4 Click **Refresh**. The minimum, maximum, and average optical power for the selected channel port appear.

Step 5 To change the auto-refresh interval, click **Auto Refresh** and choose one of the automatic refresh intervals: None, 15 seconds, 30 seconds, 1 minute, 3 minutes, or 5 minutes.

Step 6 Click the **Optical Band** tab.

Step 7 In the Port drop-down list, choose the band port where you want to view the power statistics (band port 9 or 10 for COM Ports 09 and 10).

Step 8 Click **Refresh**. The minimum, maximum, and average optical power for the selected band port appear.

Step 9 To change the auto-refresh interval, click **Auto Refresh** and choose one of the automatic refresh intervals: None, 15 seconds, 30 seconds, 1 minute, 3 minutes, or 5 minutes.

Step 10 Return to your originating procedure (NTP).

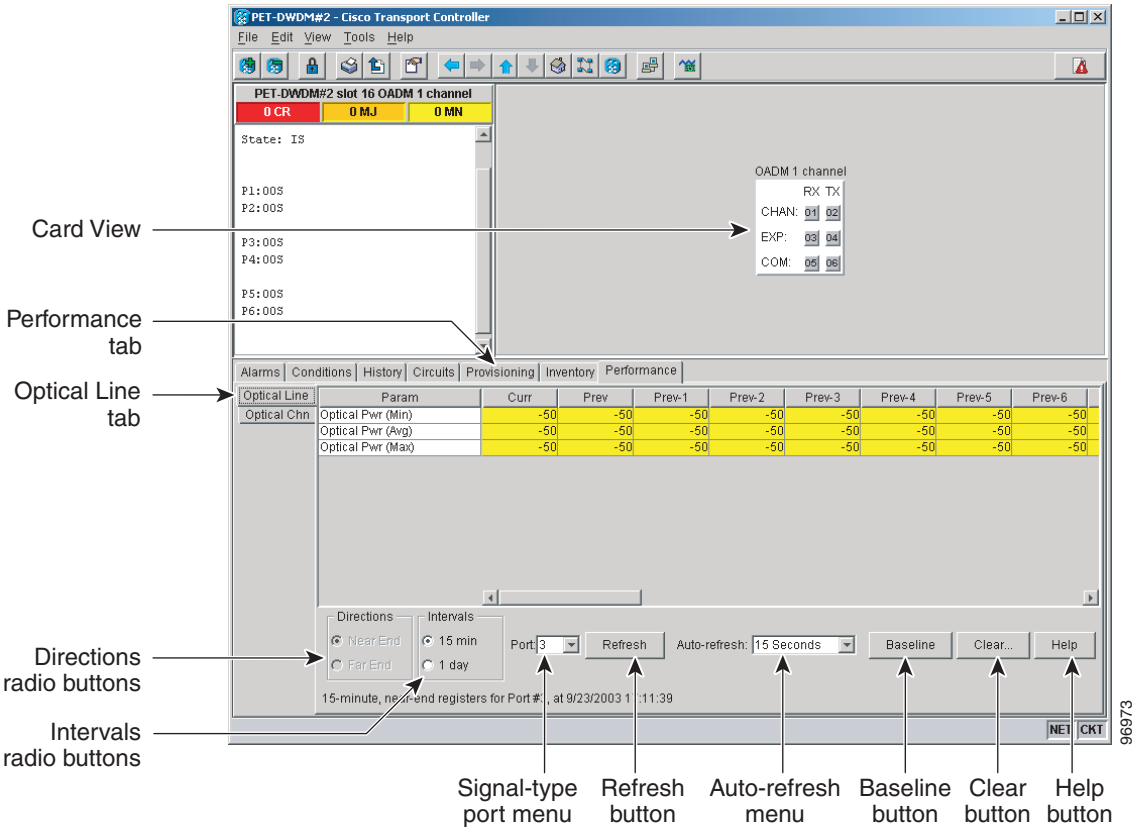
DLP-G142 View Power Statistics for AD-1C-xx.x, AD-2C-xx.x, and AD-4C-xx.x Cards

Purpose	This task enables you to view channel optical add/drop multiplexer (OADM) minimum, maximum, and average power statistics on an AD-1C-xx.x, AD-2C-xx.x, or AD-4C-xx.x card.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

Step 1 In node view (single-shelf mode), or shelf view (multishelf mode), double-click the optical AD-xC-xx.x card where you want to view the optical power statistics. The card view appears.

Step 2 Click the **Performance** > **Optical Line** tabs (Figure 8-5).

Figure 8-5 Optical Line Tab in the Channel Filter OADM Card View Performance Window



Step 3 In the Port drop-down list, choose an optical line port (Table 8-1) where you want to view the optical power statistics.

Table 8-1 Channel OADM Optical Line Ports

Port Name	AD-1C-xx.x Port Numbers	AD-2C-xx.x Port Numbers	AD-4C-xx.x Port Numbers
EXP RX	3	5	9
EXP TX	4	6	10
COM RX	5	7	11
COM TX	6	8	12

Step 4 Click **Refresh**. Optical line power statistics for the selected port appear.

Step 5 Click the **Optical Chn** tab.

Step 6 In the Port drop-down list, choose an optical channel port (Table 8-2) where you want to view the optical power statistics.

Table 8-2 Channel OADM Optical Channel Ports

Port Name	AD-1C-xx.x Port Numbers	AD-2C-xx.x Port Numbers	AD-4C-xx.x Port Numbers
CHAN RX	1	1	1
CHAN TX	2	2	2
CHAN RX	—	3	3
CHAN TX	—	4	4
CHAN RX	—	—	5
CHAN TX	—	—	6
CHAN RX	—	—	7
CHAN TX	—	—	8

Step 7 Click **Refresh**. Optical channel PM statistics for the selected port appear.

Step 8 Return to your originating procedure (NTP).

DLP-G143 View Power Statistics for AD-1B-xx.x and AD-4B-xx.x Cards

Purpose	This task enables you to view band OADM minimum, maximum, and average power statistics on an AD-1B-xx.x or AD-4B-xx.x card.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

Step 1 In node view (single-shelf mode), or shelf view (multishelf mode), double-click the optical AD-xB-xx.x card where you want to view the optical power statistics. The card view appears.

Step 2 Click the **Performance > Optical Line** tabs.

Step 3 In the Port drop-down list, choose an optical line port (Table 8-3) where you want to view the optical power statistics.

Table 8-3 OADM Optical Line Ports

Port Name	AD-1B-XX.x Port Numbers	AD-4B-xx.x Port Numbers
EXP RX	3	9
EXP TX	4	10
COM RX	5	11
COM TX	6	12

Step 4 Click **Refresh**. Optical line power statistics for the selected port appear.

Step 5 Click the **Optical Band** tab.

Step 6 In the Port drop-down list, choose an optical band port (Table 8-4) where you want to view the optical power statistics.

Table 8-4 OADM Optical Band Ports

Port Name	AD-1B-xx.x Port Numbers	AD-4B-xx.x Port Numbers
BAND RX	1	1
BAND TX	2	2
BAND RX	—	3
BAND TX	—	4
BAND RX	—	5
BAND TX	—	6
BAND RX	—	7
BAND TX	—	8

Step 7 Click **Refresh**. Optical channel PM statistics for the selected port appear.

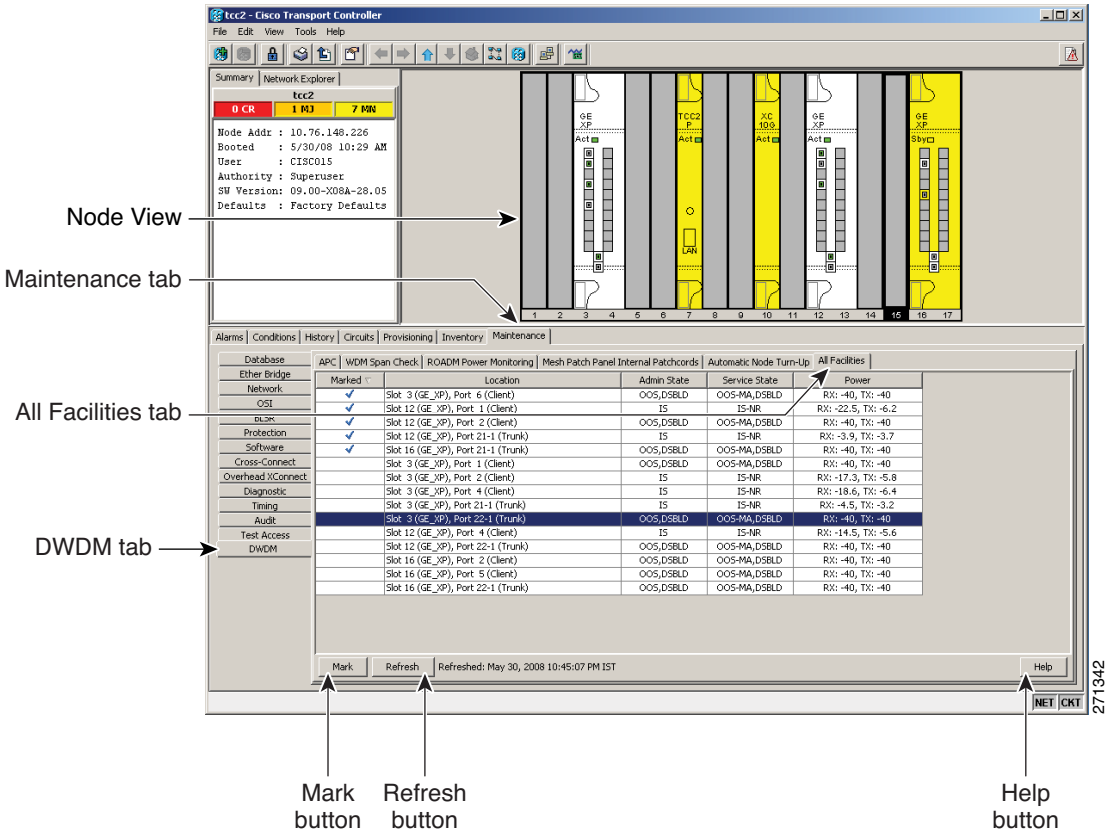
Step 8 Return to your originating procedure (NTP).

DLP-G475 View the PM Parameters for All Facilities

Purpose	This task enables you to view the admin state, service state and power level for all facilities on DWDM cards to detect possible performance problems.
Tools/Equipment	None
Prerequisite Procedures	"DLP-G46 Log into CTC" task on page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

Step 1 In the node view, click **Maintenance> DWDM> All Facilities** tabs (Figure 8-6).

Figure 8-6 All Facilities Tab on the Node ViewPerformance Window



Step 2 View the admin states, service states and power levels for all the facilities.

Step 3 Use the Mark button to selectively mark or unmark facilities. The marked facilities can be sorted on the Marked column. Sorting helps to group all the marked facilities in the table.

Step 4 Return to your originating procedure (NTP).

NTP-G75 Monitor Transponder and Muxponder Performance

Purpose	This procedure enables you to view node near-end or far-end performance during selected time intervals on a TXP, MXP, Xponder (GE_XP and 10GE_XP) or ADM-10G card to detect possible performance problems. Transponder cards include the TXP_MR_10G, TXP_MR_10E, TXP_MR_2.5G, TXPP_MR_2.5G, TXP_MR_10E_C, and TXP_MR_10E_L. Muxponder cards include the MXP_MR_2.5G, MXPP_MR_2.5G, MXP_MR_10DME_C., MXP_MR_10DME_L, MXP_2.5G_10G, MXP_2.5G_10E, MXP_2.5G_10E_C, and MXP_2.5G_10E_L.
Tools/Equipment	None
Prerequisite Procedures	Before you monitor performance, be sure you have created the appropriate circuits and provisioned the card according to your specifications. For more information, see Chapter 7, "Create Optical Channel Circuits and Provisionable Patchcords," Chapter 5, "Provision Transponder and Muxponder Cards,"or Chapter 11, "Change DWDM Card Settings."
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

Step 1 Complete the "DLP-G46 Log into CTC" task on page 2-27 at the node that you want to monitor. If you are already logged in, continue with Step 2.

Note To view optical transport network (OTN) PMs, the OTN parameters must be enabled. For more information, see Chapter 5, "Provision Transponder and Muxponder Cards."

Step 2 Complete the following tasks as needed to view PM parameters:

- DLP-G390 View Ethernet Statistic PM Parameters for GE_XP and 10GE_XP Cards, page 8-23
- DLP-G391 View Ethernet Utilization PM Parameters for GE_XP and 10GE_XP Cards, page 8-24
- DLP-G392 View Ethernet History PM Parameters for GE_XP and 10GE_XP Cards, page 8-24
- DLP-G393 Refresh Ethernet PM Counts at a Different Time Interval for GE_XP and 10GE_XP Cards, page 8-25
- DLP-G146 View Optics PM Parameters, page 8-26
- DLP-G147 View Payload PM Parameters, page 8-27
- DLP-G148 View OTN PM Parameters, page 8-29
- DLP-G149 View Payload Statistics PM Parameters, page 8-31

- DLP-G150 View Payload Utilization PM Parameters, page 8-33
- DLP-G151 View Payload History PM Parameters, page 8-34
- DLP-G152 View Payload SONET/SDH PM Parameters, page 8-36

Note To refresh, reset, or clear PM counts, see the "NTP-G73 Change the PM Display" procedure on page 8-2.

Stop. You have completed this procedure.

DLP-G390 View Ethernet Statistic PM Parameters for GE_XP and 10GE_XP Cards

Purpose	This task enables you to view current statistical PM counts on GE_XP and 10GE_XP cards and ports to detect possible performance problems.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

Step 1 In node view (single-shelf mode), or shelf view (multishelf mode), double-click the GE_XP or 10GE_XP card where you want to view the Ethernet statistics. The card view appears.

Step 2 Click the **Performance** > **Ether Ports** > **Statistics** tabs.

Step 3 Click **Refresh**. Performance monitoring statistics for each port on the card appear.

Step 4 View the PM parameter names appear in the Param column. The current PM parameter values appear in the Port # columns. For PM parameter definitions, refer to the "Performance Monitoring" chapter in the *Cisco ONS 15454 DWDM Reference Manual*.

Note To refresh, reset, or clear PM counts, see the "NTP-G73 Change the PM Display" procedure on page 8-2.

Step 5 Return to your originating procedure (NTP).

DLP-G391 View Ethernet Utilization PM Parameters for GE_XP and 10GE_XP Cards

Purpose	This task enables you to view line utilization PM counts on GE_XP and 10GE_XP cards and ports to detect possible performance problems.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

Step 1 In node view, double-click the GE_XP or 10GE_XP card where you want to view the Ethernet utilization. The card view appears.

Step 2 Click the **Performance > Ether Ports > Utilization** tabs.

Step 3 Click **Refresh**. The utilization percentages for each port on the card appear.

Step 4 View the Port # column to find the port you want to monitor.

The transmit (Tx) and receive (Rx) bandwidth utilization values for the previous time intervals appear in the Prev-*n* columns. For PM parameter definitions, refer to the "Performance Monitoring" chapter in the *Cisco ONS 15454 DWDM Reference Manual*.

Note To refresh, reset, or clear PM counts, see the "NTP-G73 Change the PM Display" procedure on page 8-2.

Step 5 Return to your originating procedure (NTP).

DLP-G392 View Ethernet History PM Parameters for GE_XP and 10GE_XP Cards

Purpose	This task enables you to view historical PM counts at selected time intervals on GE_XP and 10GE_XP cards and ports to detect possible performance problems.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

Step 1 In node view (single-shelf mode), or shelf view (multishelf mode), double-click the GE_XP and 10GE_XP card where you want to view the Ethernet history PM data. The card view appears.

Step 2 Click the **Performance > Ether Ports > History** tabs.

Step 3 Click **Refresh**. Performance monitoring statistics for each port on the card appear.

Step 4 View the PM parameter names that appear in the Param column. The PM parameter values appear in the Prev-*n* columns. For PM parameter definitions, refer to the "Performance Monitoring" chapter in the *Cisco ONS 15454 DWDM Reference Manual*.

Note To refresh, reset, or clear PM counts, see the "NTP-G73 Change the PM Display" procedure on page 8-2.

Step 5 Return to your originating procedure (NTP).

DLP-G393 Refresh Ethernet PM Counts at a Different Time Interval for GE_XP and 10GE_XP Cards

Purpose	This task changes the window view to display specified PM counts in time intervals depending on the interval option selected for GE_XP and 10GE_XP cards.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

Step 1 In node view (single-shelf mode), or shelf view (multishelf mode), double-click the GE_XP or 10GE_XP card where you want to view PM counts. The card view appears.

Step 2 Click the **Performance** tab.

Step 3 Click the **Ether Ports** > **Utilization** or the **Ether Ports** > **History** tabs.

Step 4 From the Interval drop-down list, choose one of four options:

- **1 min**: This option shows the specified PM counts in one-minute time intervals.
- **15 min**: This option shows the specified PM counts in 15-minute time intervals.
- **1 hour**: This option shows the specified PM counts in one-hour time intervals.
- **1 day**: This option shows the specified PM counts in one-day (24 hours) time intervals.

Step 5 Click **Refresh**. The PM counts refresh with values based on the selected time interval.

Step 6 Return to your originating procedure (NTP).

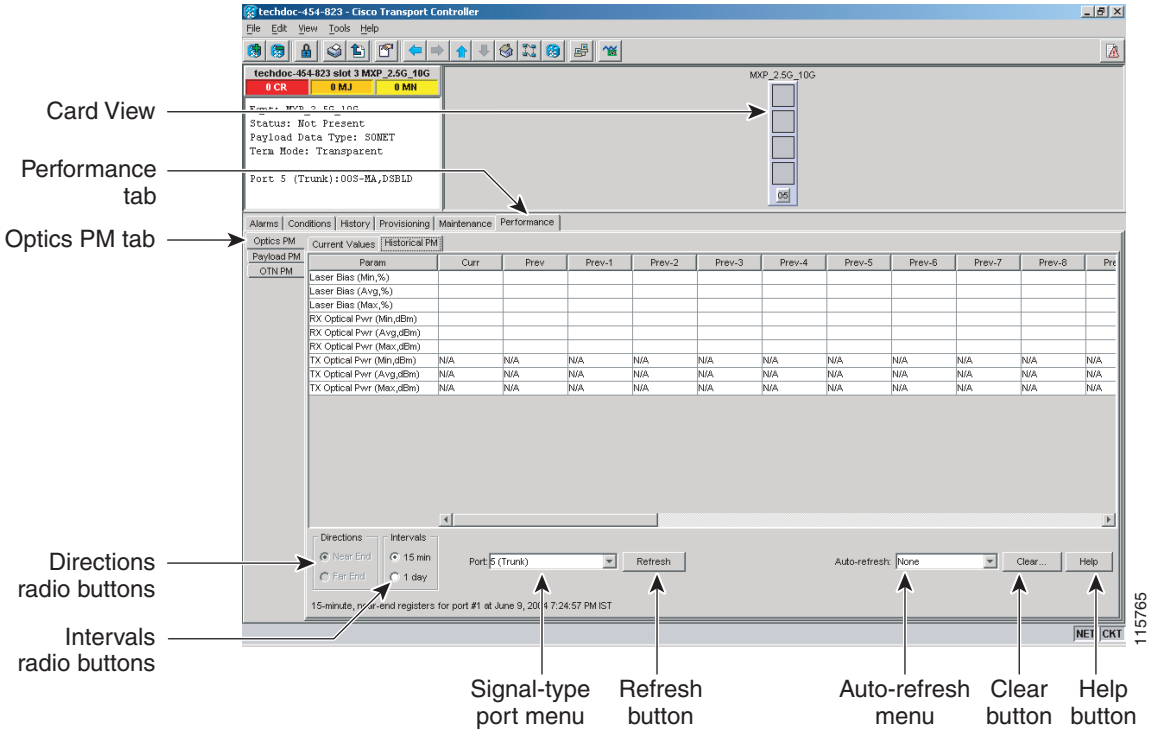
DLP-G146 View Optics PM Parameters

Purpose	This task enables you to view the optics PM counts on transponder cards (TXP_MR_10G, TXP_MR_2.5G, TXPP_MR_2.5G, TXP_MR_10E, TXP_MR_10E_C, TXP_MR_10E_L), muxponder cards (MXP_2.5G_10E, MXP_2.5G_10E_C, MXP_2.5G_10E_L, MXP_MR_2.5G, MXPP_MR_2.5G, MXP_2.5G_10G, MXP_MR_10DME_C, MXP_MR_10DME_L), or ADM-10G cards to detect possible performance problems.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

Step 1 In node view (single-shelf mode), or shelf view (multishelf mode), double-click the transponder or muxponder card where you want to view PM counts. The card view appears.

Step 2 Click the **Performance > Optics PM** tabs (Figure 8-7).

Figure 8-7 Viewing Optics Performance Monitoring Information



Step 3 View the PM parameter names that appear in the Param column of the Current Values and History PM tabs. The PM parameter values appear in the Curr (current) and Prev-*n* (previous) columns. For PM parameter definitions, refer to the "Performance Monitoring" chapter in the *Cisco ONS 15454 DWDM Reference Manual*.

Step 4 Return to your originating procedure (NTP).

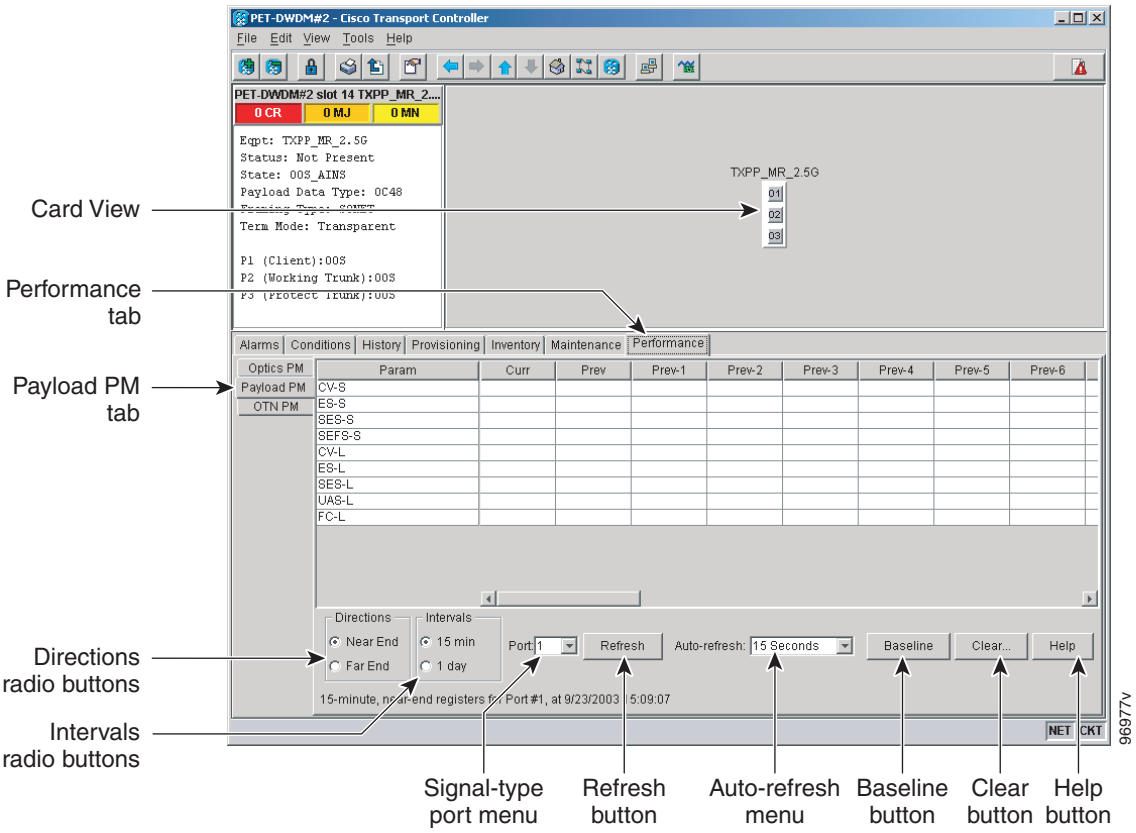
DLP-G147 View Payload PM Parameters

Purpose	This task enables you to view the payload PM counts on a transponder cards (TXP_MR_10G, TXP_MR_2.5G, TXPP_MR_2.5G, TXP_MR_10E, TXP_MR_10E_C, TXP_MR_10E_L), muxponder cards (MXP_2.5G_10E, MXP_2.5G_10E_C, MXP_2.5G_10E_L, MXP_MR_2.5G, MXPP_MR_2.5G, MXP_2.5G_10G, MXP_MR_10DME_C, MXP_MR_10DME_L), or ADM-10G cards to detect possible performance problems.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

Step 1 In node view (single-shelf mode), or shelf view (multishelf mode), double-click the transponder or muxponder card where you want to view PM counts. The card view appears.

Step 2 Click the **Performance > Payload PM** tabs (Figure 8-8).

Figure 8-8 Viewing Payload Performance Monitoring Information



Step 3 Go to any of the tabs, subtabs, or ports (found in the Ports drop-down list where available) for the card where you want to view the payload PM parameters by clicking on the desired subtab, and choosing the port from the Port drop-down list.

Step 4 View the PM parameter names that appear in the Param column of the SONET (or SDH), Utilization, Statistics, and History tabs The PM parameter values appear in the Curr (or current), and Prev-*n* (previous) columns. For PM parameter definitions, refer to the "Performance Monitoring" chapter in the *Cisco ONS 15454 DWDM Reference Manual*.

Note The payload PMs for data parameters can be viewed only after creating a pluggable port module (PPM). See the "NTP-G128 Manage Pluggable Port Modules" procedure on page 5-2 for more information about PPMs.

Note The PM parameters that appear depend on the data payload and framing type provisioned on the port. Unframed data payloads such as Enterprise System Connection (ESCON), DV6000, DSI/D1 video, and high-definition television (HDTV) do not provide payload PM information. The PM parameters that appear also depend on the PPM payload configured. The TXP_MR_10E card supports three payloads; the MXP_2.5G_10G and MXP_2.5G_10E cards support the OC48/STM16 payload; the MXP_MR_2.5G and MXPP_MR_2.5G cards support the 1G FC, 2G FC, 1G FICON, 2G FICON, and 1GE payloads, and the ADM-10G supports OC-3, OC-12, and Gigabit Ethernet (GE) payloads.

Step 5 Return to your originating procedure (NTP).

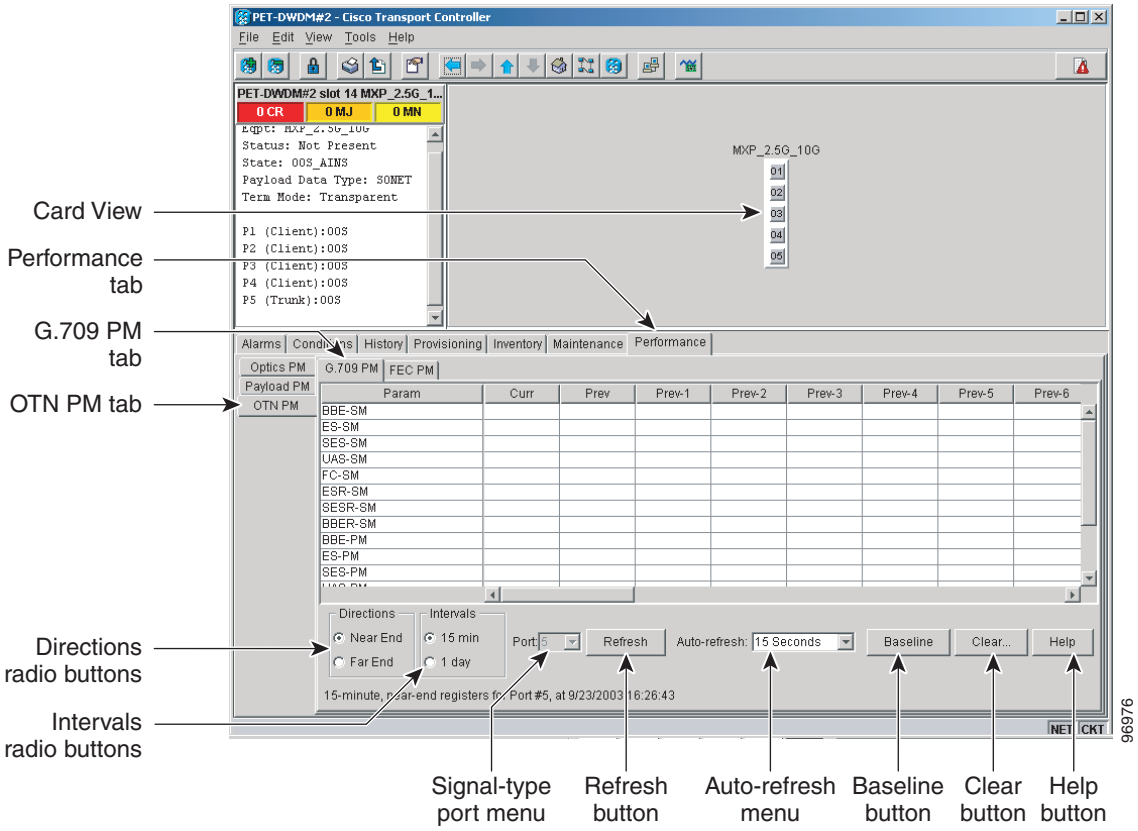
DLP-G148 View OTN PM Parameters

Purpose	This task enables you to view node near-end or far-end OTN PM parameters during selected time intervals on a TXP, MXP, or Xponder card to detect possible performance problems. Cards include: TXP_MR_10G, TXP_MR_2.5G, TXPP_MR_2.5G, TXP_MR_10E, TXP_MR_10E_C, TXP_MR_10E_L), MXP_MR_10DME_C, MXP_MR_10DME_L, MXP_2.5G_10E, MXP_MR_2.5G, MXPP_MR_2.5G, MXP_2.5G_10G, MXP_2.5G_10E_C, MXP_2.5G_10E_L, GE_XP, 10GE_XP, and ADM-10G.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27 ITU-T G.709 and FEC must be enabled using one of the following tasks: • DLP-G234 Change the 2.5G Multirate Transponder OTN Settings, page 5-36 • DLP-G221 Change the 10G Multirate Transponder OTN Settings, page 5-58 • DLP-G228 Change the 4x2.5G Muxponder Line OTN Settings, page 5-97 • DLP-G366 Change the 10G Data Muxponder OTN Settings, page 5-137 • DLP-G389 Change the GE_XP and 10GE_XP Optical Transport Network Settings, page 5-158 • DLP-G389 Change the GE_XP and 10GE_XP Optical Transport Network Settings, page 5-158 • DLP-G402 Change the ADM-10G OTN Settings, page 5-77
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

Step 1 In node view (single-shelf mode), or shelf view (multishelf mode), double-click the TXP or MXP card where you want to view PM counts. The card view appears.

Step 2 Click the **Performance > OTN PM > ITU-T G.709 PM** tabs (Figure 8-9).

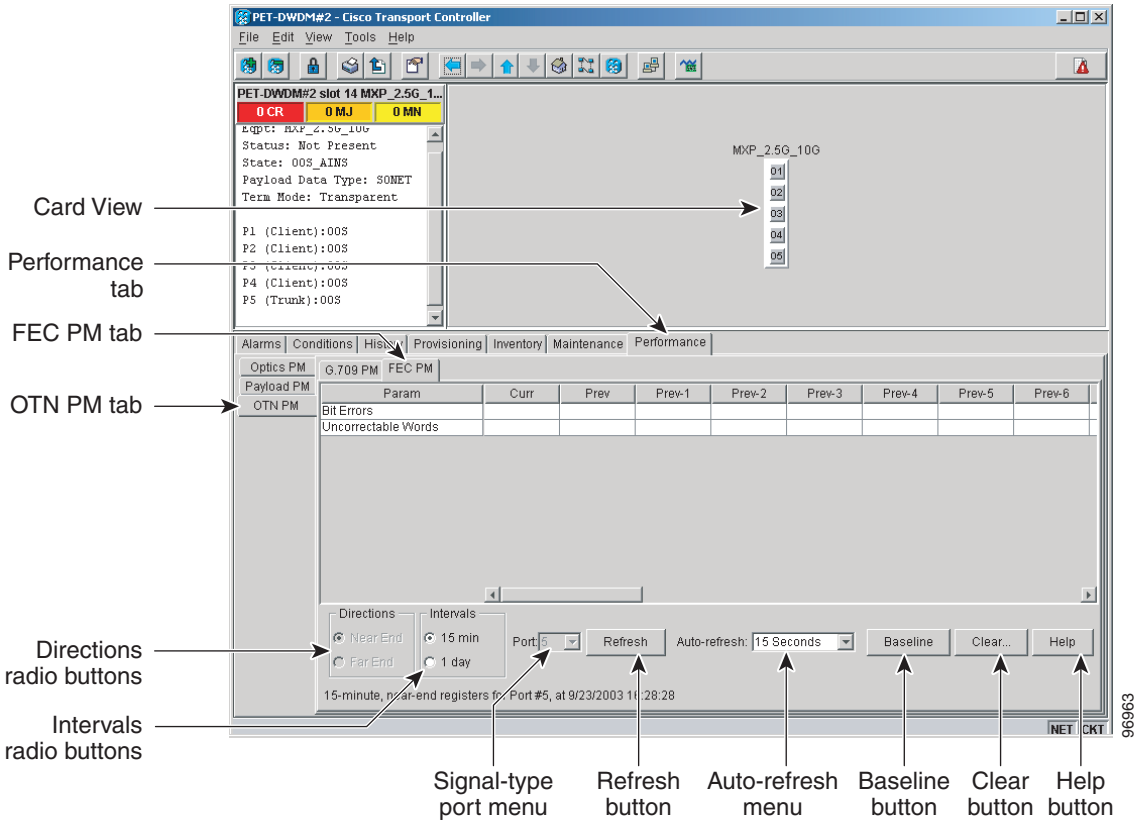
Figure 8-9 Viewing OTN ITU-T G.709 Performance Monitoring Information



Step 3 View the PM parameter names that appear in the Param column. The PM parameter values appear in the Curr (current) and Prev-*n* (previous) columns. For PM parameter definitions, refer to the "Performance Monitoring" chapter in the *Cisco ONS 15454 DWDM Reference Manual*.

Step 4 Click the **FEC PM** tab (Figure 8-10).

Figure 8-10 Viewing OTN FEC Performance Monitoring Information



Step 5 View the PM parameter names that appear in the Param column. The PM parameter values appear in the Curr (current) and Prev-*n* (previous) columns. For PM parameter definitions, refer to the "Performance Monitoring" chapter in the *Cisco ONS 15454 DWDM Reference Manual*.

Step 6 Return to your originating procedure (NTP).

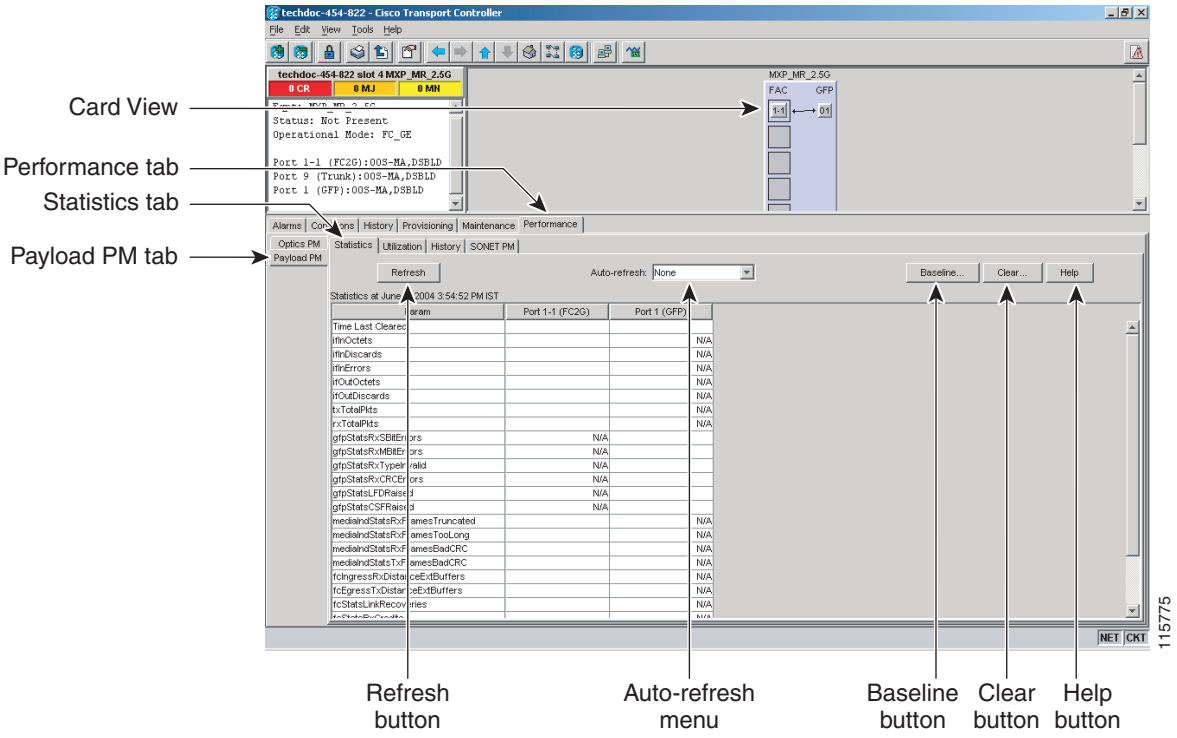
DLP-G149 View Payload Statistics PM Parameters

Purpose	This task enables you to view current statistical PM counts on an MXP_MR_2.5G or MXPP_MR_2.5G card and port to detect possible performance problems.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

Step 1 In node view (single-shelf mode), or shelf view (multishelf mode), double-click the MXP_MR_2.5G or MXPP_MR_2.5G card where you want to view PM counts. The card view appears.

Step 2 Click the **Performance > Payload PM > Statistics** tabs (Figure 8-11).

Figure 8-11 Statistics Tab on the Card View Performance Window



Step 3 Click **Refresh**. PM statistics appear for each port on the card.

Step 4 View the PM parameter names that appear in the Param column. The current PM parameter values appear in the Port # columns. For PM parameter definitions, refer to the "Performance Monitoring" chapter in the *Cisco ONS 15454 DWDM Reference Manual*.

Note To refresh, reset, or clear PM counts, see the "NTP-G73 Change the PM Display" procedure on page 8-2.

Step 5 Return to your originating procedure (NTP).

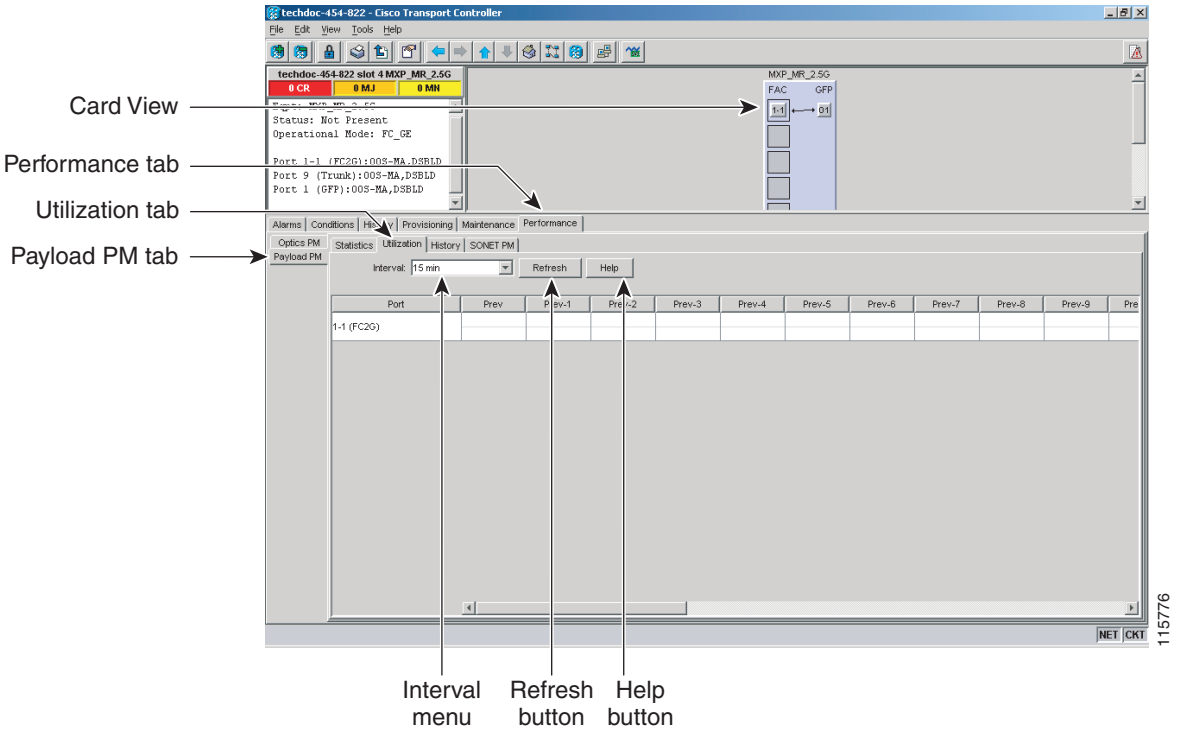
DLP-G150 View Payload Utilization PM Parameters

Purpose	This task enables you to view line utilization PM counts on an MXP_MR_2.5G or MXPP_MR_2.5G card and port to detect possible performance problems.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

Step 1 In node view (single-shelf mode), or shelf view (multishelf mode), double-click the MXP_MR_2.5G or MXPP_MR_2.5G card where you want to view PM counts. The card view appears.

Step 2 Click the **Performance > Payload PM > Utilization** tabs (Figure 8-12).

Figure 8-12 Utilization Tab on the Card View Performance Window



Step 3 Click **Refresh**. PM utilization values appear for each port on the card.

Step 4 View the appropriate row for the port you want to monitor.

Step 5 The transmit (Tx) and receive (Rx) bandwidth utilization values for the previous time intervals appear in the Prev-*n* columns. For PM parameter definitions, refer to the "Performance Monitoring" chapter in the *Cisco ONS 15454 DWDM Reference Manual*.

Note To refresh, reset, or clear PM counts, see the "NTP-G73 Change the PM Display" procedure on page 8-2.

Step 6 Return to your originating procedure (NTP).

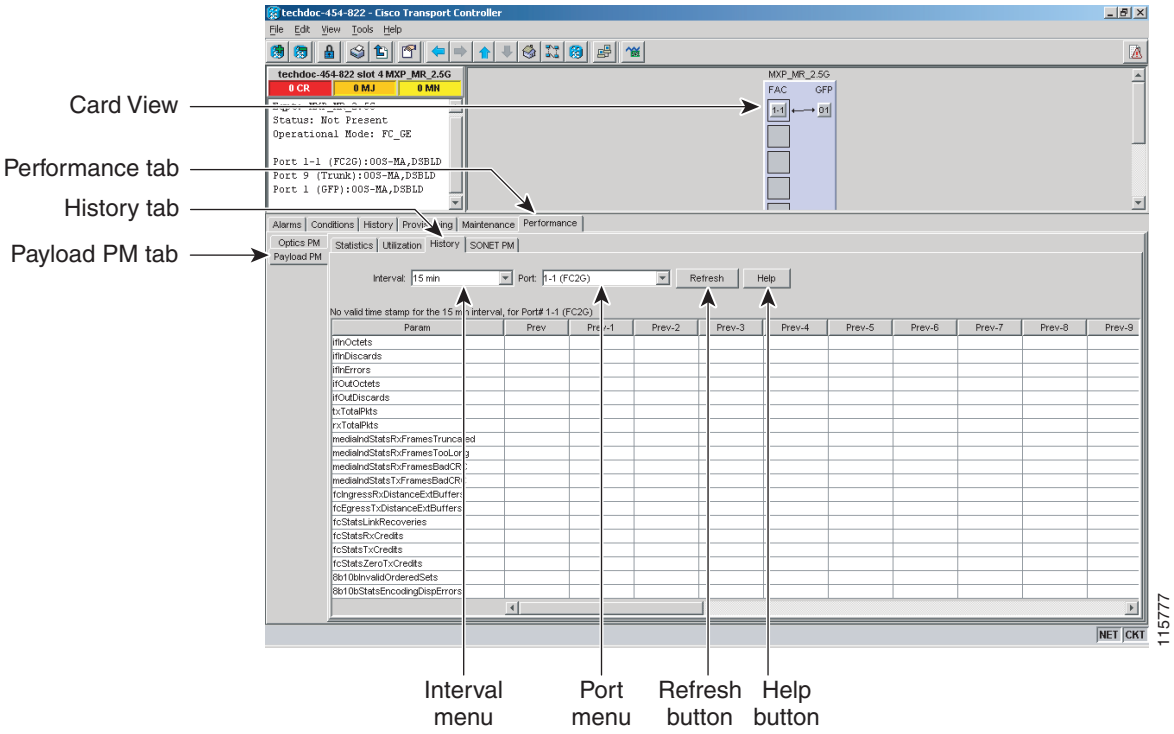
DLP-G151 View Payload History PM Parameters

Purpose	This task enables you to view historical PM counts at selected time intervals on an MXP_MR_2.5G or MXPP_MR_2.5G card and port to detect possible performance problems.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

Step 1 In node view (single-shelf mode), or shelf view (multishelf mode), double-click the MXP_MR_2.5G or MXPP_MR_2.5G card where you want to view PM counts. The card view appears.

Step 2 Click the **Performance > Payload PM > History** tabs (Figure 8-13).

Figure 8-13 History Tab on the Card View Performance Window



Step 3 Select the desired port from the Port drop-down list.

Step 4 Click **Refresh**. PM statistics appear for the selected port.

Step 5 View the PM parameter names that appear in the Param column. The PM parameter values appear in the Prev-*n* columns. For PM parameter definitions, refer to the "Performance Monitoring" chapter in the *Cisco ONS 15454 DWDM Reference Manual*.

Note To refresh, reset, or clear PM counts, see the "NTP-G73 Change the PM Display" procedure on page 8-2.

Step 6 Return to your originating procedure (NTP).

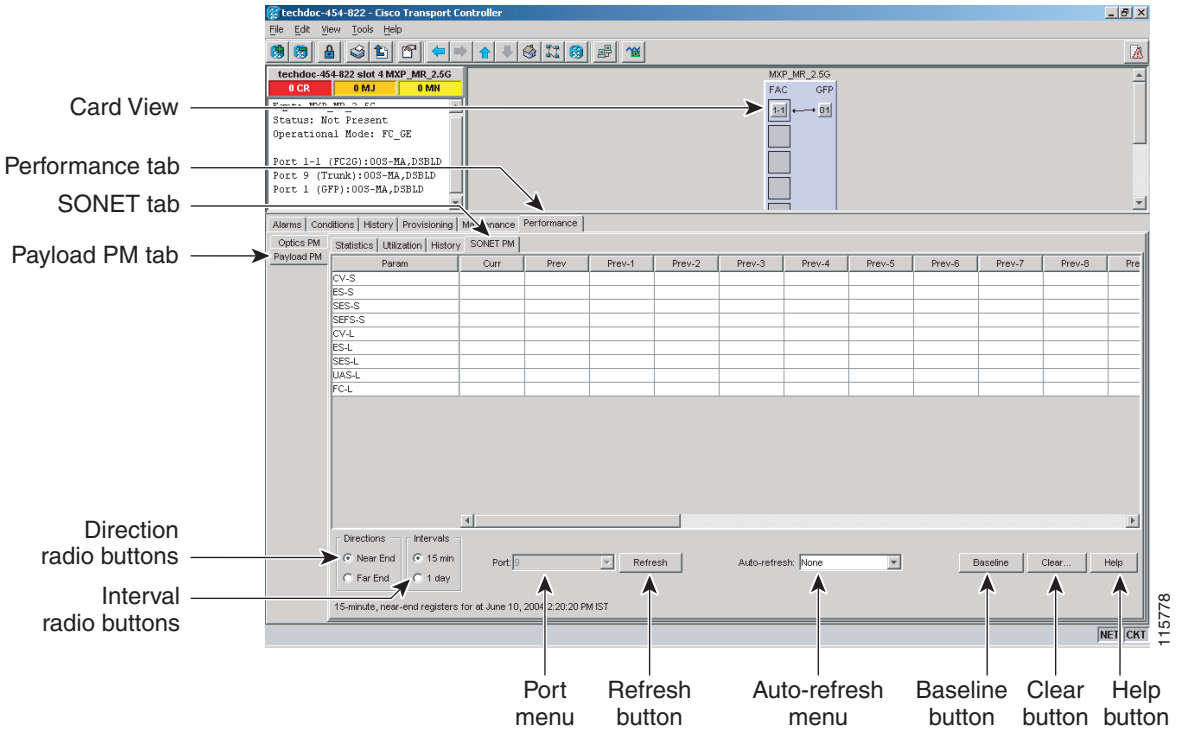
DLP-G152 View Payload SONET/SDH PM Parameters

Purpose	This task enables you to view SONET/SDH PM counts at selected time intervals on an MXP_MR_2.5G or MXPP_MR_2.5G card and port to detect possible performance problems.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

Step 1 In node view (single-shelf mode), or shelf view (multishelf mode), double-click the MXP_MR_2.5G or MXPP_MR_2.5G card where you want to view PM counts. The card view appears.

Step 2 Click the **Performance > Payload PM > SONET** or **SDH** tabs (Figure 8-14).

Figure 8-14 SONET PM Tab on the Card View Performance Window



Step 3 Click **Refresh**. PM statistics appear for the selected port.

Step 4 View the PM parameter names that appear in the Param column. The PM parameter values appear in the Prev-*n* columns. For PM parameter definitions, refer to the "Performance Monitoring" chapter in the *Cisco ONS 15454 DWDM Reference Manual*.

Note The MXP_MR_2.5G and MXPP_MR_2.5G cards support only the OC48/STM16 payload. Each payload has a set of PM parameters.

Note To refresh, reset, or clear PM counts, see the "NTP-G73 Change the PM Display" procedure on page 8-2.

Step 5 Return to your originating procedure (NTP).