



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 8-9](#)—Complete as needed to monitor dense wavelength division multiplexing (DWDM) performance.
3. [NTP-G75 Monitor Transponder and Muxponder Performance, page 8-20](#)—Complete as needed to monitor transponder (TXP) and muxponder (MXP) card performance.



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 display 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 Channels and Circuits,” 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 8-2](#)
- [DLP-G132 Refresh PM Counts at One-Day Intervals, page 8-3](#)
- [DLP-G133 View Near-End PM Counts, page 8-4](#)
- [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-G137 Set Auto-Refresh Interval for Displayed PM Counts, page 8-8](#)
- [DLP-G138 Refresh PM Counts for a Different Port, page 8-9](#)

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 along the left side of the Performance tab.
-  **Note** Performance subtabs vary, depending on the card viewed.
- 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** Go to any of the tabs, subtabs, or ports (found in the Ports drop-down list where available) for that card where you want to set the PM count interval by clicking on the desired subtab and choosing the port 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 viewed.

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 along the left side of the Performance tab.



Note Performance subtabs vary, depending on the card viewed.

- 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 PM parameters occurring 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 viewed.

- 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 viewed.

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 You cannot change the PM count interval on the TXP or MXP card Optics PM > Current Values tab.

Step 5 Click **Baseline**.



Note The Baseline button clears the PM counts displayed 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



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.

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- 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** Click the relevant subtab(s), located along the left side of the Performance tab.



Note Performance subtabs vary, depending on the card viewed.

- 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 You cannot clear the PM count interval on the TXP or MXP card 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-G137 Set 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 DWDM, TXP, or MXP 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** Click the relevant subtab, located along the left side of the Performance tab.



Note Performance subtabs vary, depending on the card viewed.

- 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 or MXP 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 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 Click the relevant subtab, located along the left side of the Performance tab.



Note Performance subtabs vary, depending on the card viewed.

Step 4 In the Port drop-down list, choose a port.

Step 5 Click **Refresh**. The PM counts for the newly selected port appear.

Step 6 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-O, 32DMX-L, 4MD, AD-xC-xx.x, AD-xB-xx.x, 32WSS, 32WSS-L, OPT-BST, OPT-PRE, OPT-BST-L, and OPT-AMP-L 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 Channels and Circuits” 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 Optical Service Channel PM Parameters](#), page 8-10.
- [DLP-G140 View Optical Amplifier Power Statistics](#), page 8-12.
- [DLP-G141 View Optical Power Statistics for 32MUX-O, 32WSS, 32WSS-L, 32DMX-O, 32DMX, and 32DMX-L Cards](#), page 8-13.
- [DLP-G276 View 4-Channel Multiplexer/Demultiplexer Optical Power Statistics](#), page 8-15
- [DLP-G142 View Channel Optical Add/Drop Multiplexer Power Statistics](#), page 8-16.
- [DLP-G143 View Band Optical Add/Drop Multiplexer Power Statistics](#), page 8-18.



Note To refresh, reset, or clear PM counts, see the “[NTP-G73 Change the PM Display](#)” procedure on page 8-2.

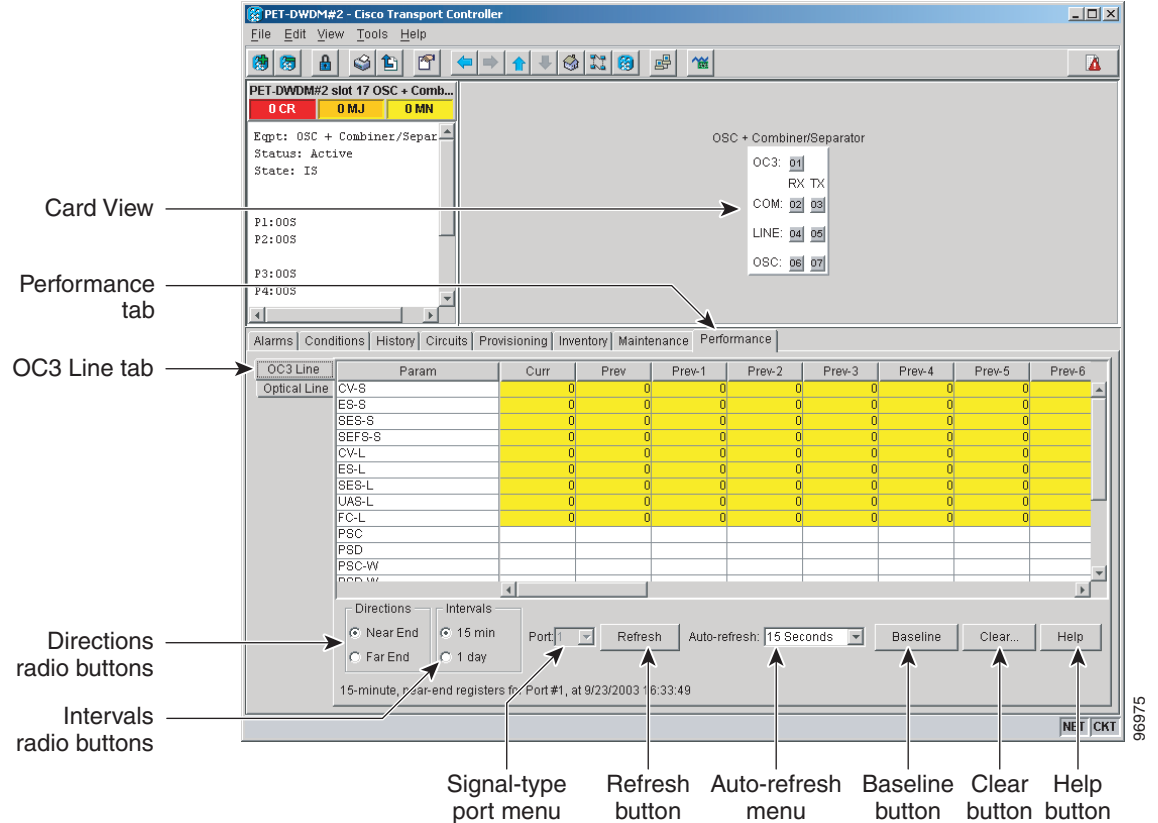
Stop. You have completed this procedure.

DLP-G139 View Optical Service Channel PM Parameters

Purpose	This task enables you to view optical service channel (OSC) PM counts at selected time intervals on an OSCM or OSC-CSM 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 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.

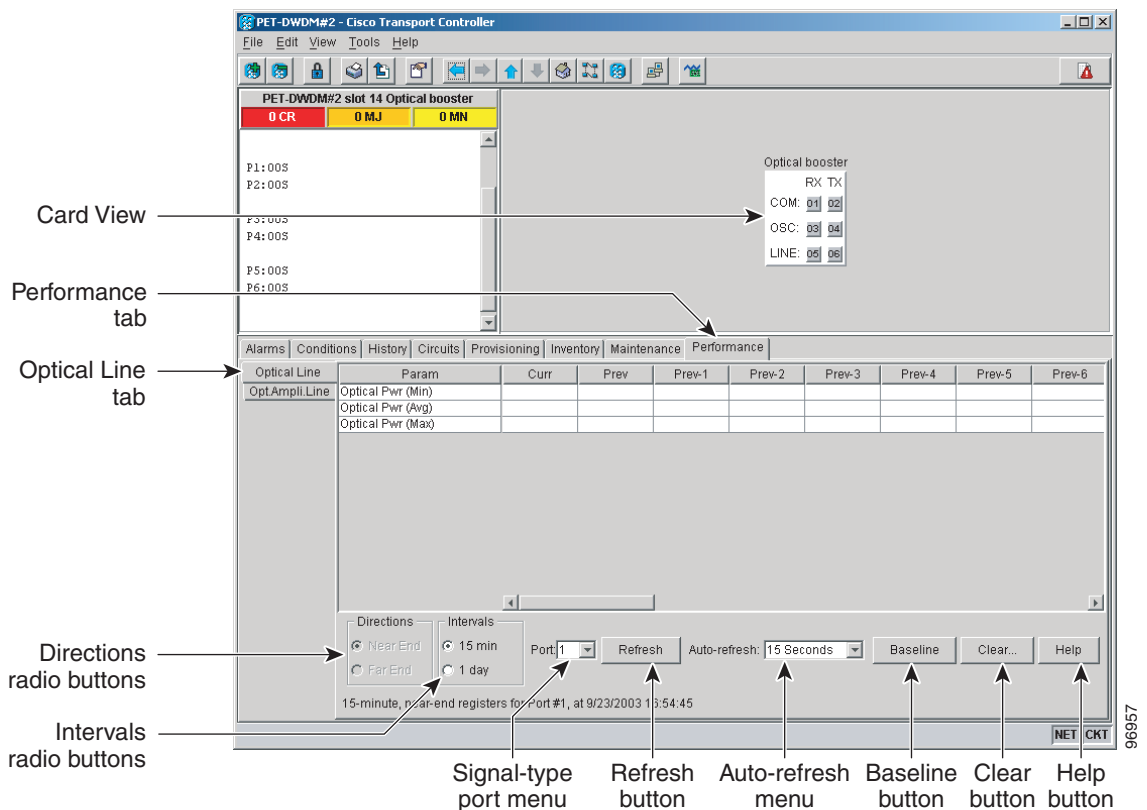
Step 7 Return to your originating procedure (NTP).

DLP-G140 View Optical Amplifier Power Statistics

Purpose	This task enables you to view the power statistics on an OPT-PRE, OPT-BST, OPT-BST-L, or OPT-AMP-L amplifier 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 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

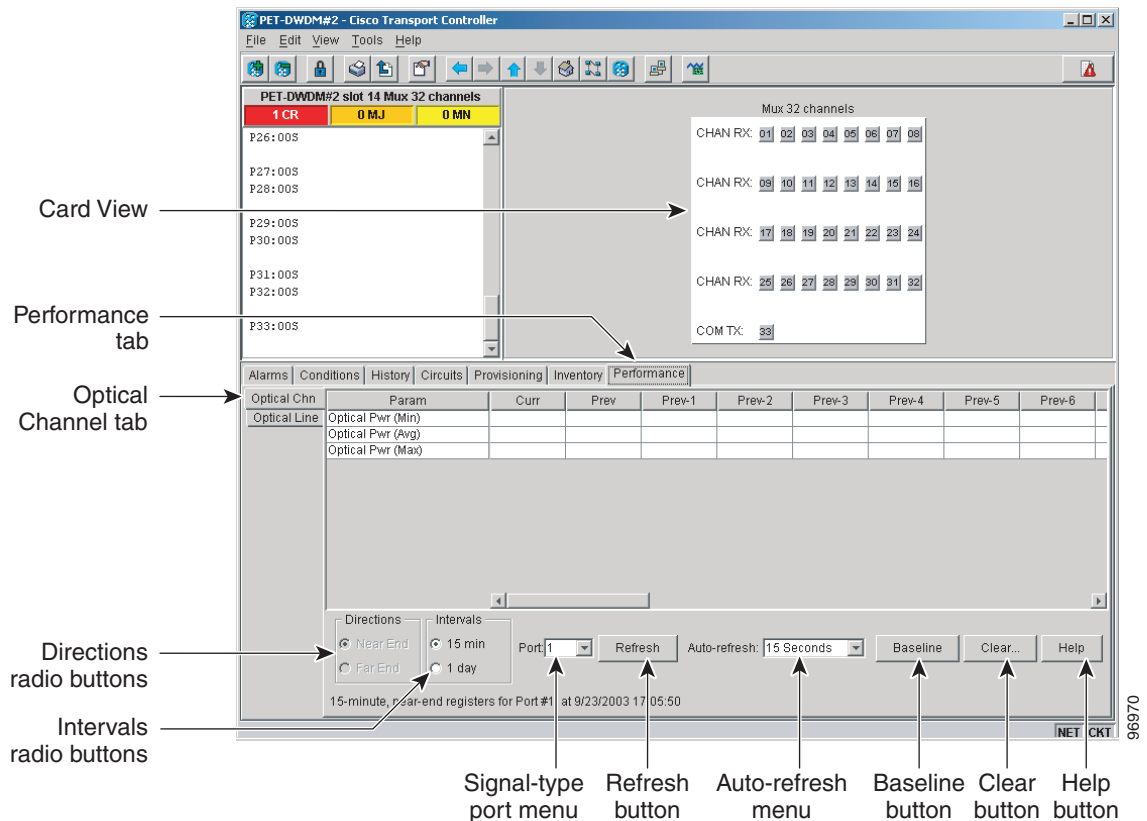
- 4—DC TX
 - For the OPT-BST and OPT-BST-E cards, the following ports are available to view:
 - 1—COM RX
 - 2—COM TX
 - 4—OSC TX
 - For the OPT-BST-L card, the following ports are available to view:
 - 1—COM RX
 - 2—COM TX
 - 4—OSC TX
 - For the OPT-AMP-L card, the following ports are available to view:
 - 1—COM RX
 - 2—COM TX
 - 4—OSC TX
 - 7—DC RX
 - 8—DC TX
- 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 (COM TX, Port 02 for the OPT-PRE card, and Line TX, Port 06 for the OPT-BST card) appear.
- Step 7** Return to your originating procedure (NTP).
-

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

Purpose	This task enables you to view optical power statistics for a 32MUX-O, 32WSS, 32WSS-L, 32DMX-O, 32DMX, or 32DMX-L 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 32MUX-O, 32WSS, 32WSS-L, 32DMX-O, 32DMX, or 32DMX-L card where you want to view PM counts. The card view appears.
- Step 2** Click the **Performance > Optical Chn** tabs ([Figure 8-3 on page 8-14](#)).

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



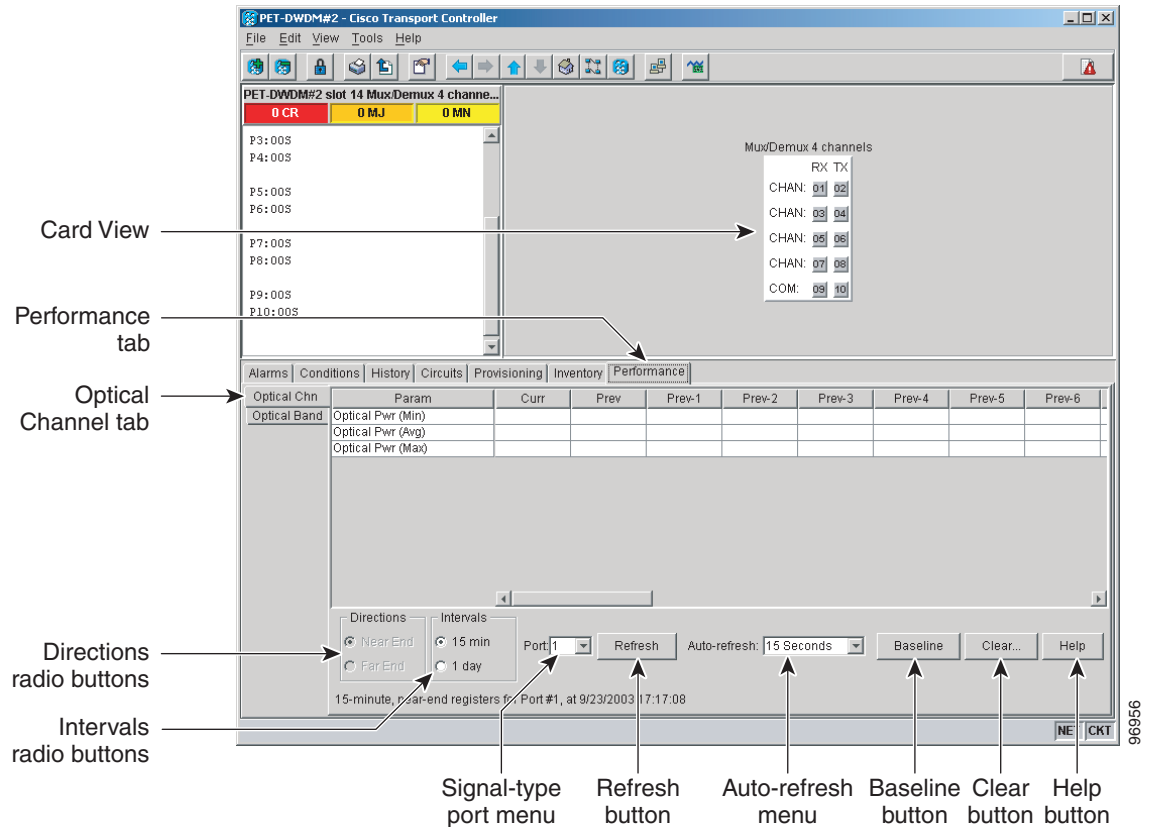
- Step 3** In the Port drop-down list, choose an optical channel to view by selecting the port where you want to view the optical power statistics.
- 32MUX-O—optical channel receive port (CHAN RX), Ports 01 through 32.
 - 32WSS and 32WSS-L—optical channel receive port (ADD RX) Ports 01 through 32, or 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.
- 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 a 32WSS and 32WSS-L card, select the port for which you wish to monitor power statistics (65, 66, 67, 68, or 69). For a 32DMX, 32DMX-L, or 32DMX-O card, accept the default port (33).
- Step 7** Click **Refresh**. Optical channel power statistics (minimum, maximum, average) for the selected port appear.
- Step 8** Return to your originating procedure (NTP).

DLP-G276 View 4-Channel Multiplexer/Demultiplexer Optical Power Statistics

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-xxx card where you want to 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 (1 through 8 for CHAN Ports 01 through 08) where you want to view the power statistics.
- 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.

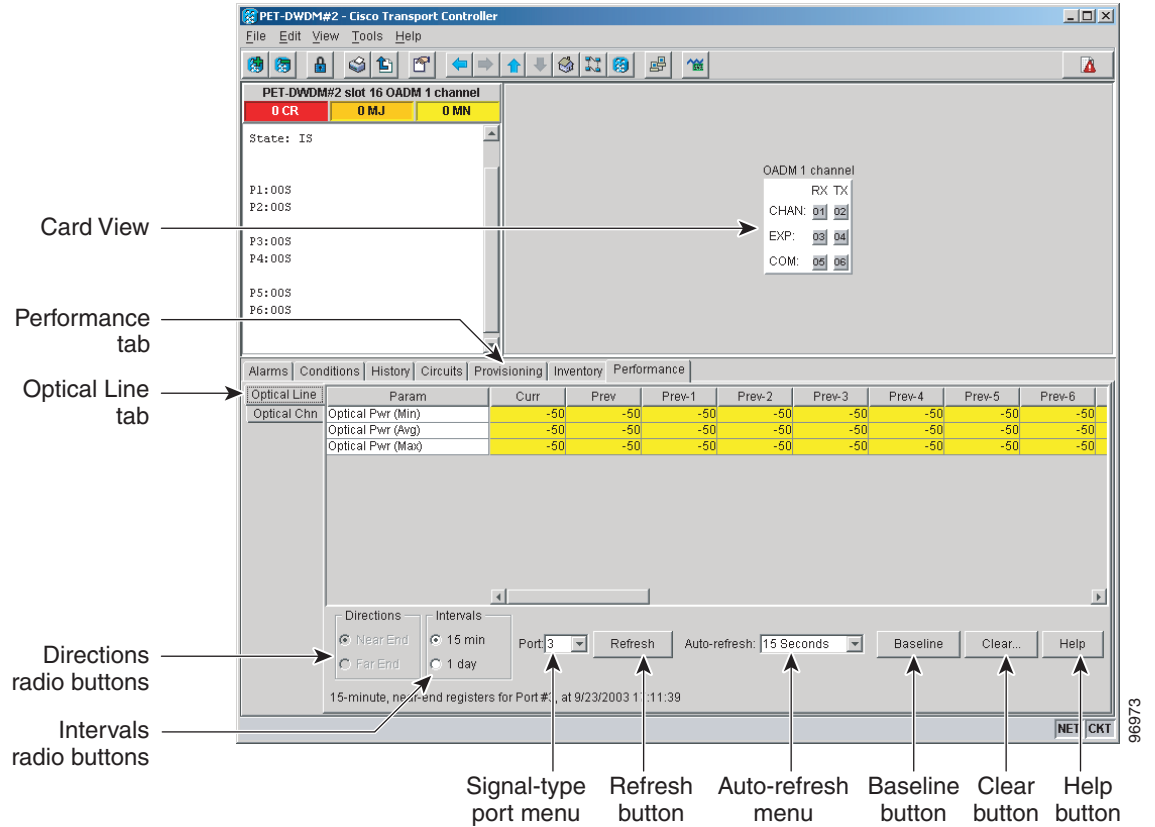
- Step 6** Click the **Optical Band** tab.
- Step 7** In the Port drop-down list, choose the band port (9 or 10 for COM Ports 09 and 10) where you want to view the power statistics.
- Step 8** Click **Refresh**. The minimum, maximum, and average optical power for the selected band port appear.
- Step 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).
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DLP-G142 View Channel Optical Add/Drop Multiplexer Power Statistics

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	Port Number		
	AD-1C-xx.x	AD-2C-xx.x	AD-4C-xx.x
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 8-1) where you want to view the optical power statistics.

Table 8-2 Channel OADM Optical Line Ports

Port Name	Port Number		
	AD-1C-xx.x	AD-2C-xx.x	AD-4C-xx.x
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 Band Optical Add/Drop Multiplexer Power Statistics

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 Band OADM Optical Line Ports

Port Name	Port Number	
	AD-1B-xx.x	AD-4B-xx.x
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 Band OADM Optical Line Ports

Port Name	Port Number	
	AD-1B-xx.x	AD-4B-xx.x
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).
-

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 transponder card (TXP_MR_10G, TXP_MR_2.5G, TXPP_MR_2.5G, TXP_MR_10E, TXP_MR_10E_C, TXP_MR_10E_L) or muxponder card (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) 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 Channels and Circuits,” 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](#).
- Step 2** Complete the “[DLP-G144 Enable or Disable OTN ITU-T G.709 Performance Monitoring](#)” task on [page 8-21](#) as needed for any TXP or MXP card (except the TXP_MR_10E and MXP_2.5G_10E cards) to enable or disable optical transport network (OTN) ITU-T G.709 monitoring.
- Step 3** Complete the “[DLP-G145 Enable or Disable OTN FEC Performance Monitoring](#)” task on [page 8-22](#) as needed for TXP_MR_10E and MXP_2.5G_10E cards to enable or disable OTN forward error correction (FEC) monitoring.
- Step 4** Complete the following tasks as needed to view PM parameters:
- [DLP-G146 View Optics PM Parameters](#), [page 8-23](#)
 - [DLP-G147 View Payload PM Parameters](#), [page 8-24](#)
 - [DLP-G148 View OTN PM Parameters](#), [page 8-26](#)
 - [DLP-G149 View Payload Statistics PM Parameters](#), [page 8-29](#)
 - [DLP-G150 View Payload Utilization PM Parameters](#), [page 8-30](#)
 - [DLP-G151 View Payload History PM Parameters](#), [page 8-32](#)
 - [DLP-G152 View Payload SONET/SDH PM Parameters](#), [page 8-33](#)




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-G144 Enable or Disable OTN ITU-T G.709 Performance Monitoring

Purpose	This task enables or disables OTN ITU-T G.709 monitoring of near-end or far-end performance on a card and port during selected time intervals to detect possible problems. This task can be performed for any TXP or MXP card except the TXP_MR_10E and MXP_2.5G_10E cards. See the “DLP-G145 Enable or Disable OTN FEC Performance Monitoring” task on page 8-22 for TXP_MR_10E and MXP_2.5G_10E card information.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 2-27
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

-
- Step 1** In node view (single-shelf mode), or shelf view (multishelf mode), double-click the card you want to monitor. The card view appears.
- Step 2** Determine if the port where you want to enable or disable OTN ITU-T G.709 is in service (IS). (Click the **Provisioning > Line** tabs, and observe the Service State column for that port.) If it is IS, perform the following tasks for that port. If not, go to [Step 3](#).
- [DLP-G108 Change the Service State for a Port, page 7-24](#) to set the port to Out of Service, Disabled (OOS,DSBLD).
 - [DLP-G185 Delete a DCC/GCC Termination, page 10-45](#), if a generic communications channel (GCC) is provisioned on that port.
- Step 3** Click the **Provisioning > OTN > OTN Lines** tabs.
- Step 4** From the G.709 OTN drop-down list, select **Enable** or **Disable** to enable or disable ITU-T G.709 for that port. (Disable is the default).
- Step 5** Click **Apply**.
- Step 6** Click the **Performance** tab to view PM parameters. For PM parameter definitions, refer to the “Performance Monitoring” chapter in the *Cisco ONS 15454 DWDM Reference Manual*.
-  **Note** If you set the port’s service state to OOS,DSBLD in [Step 2](#), set the port’s service state back to IS, and provision the GCC for that port according to the [“DLP-G76 Provision DCC/GCC Terminations” procedure on page 7-20](#).
-
- Step 7** Return to your originating procedure (NTP).
-

DLP-G145 Enable or Disable OTN FEC Performance Monitoring

Purpose	This task enables or disables OTN FEC monitoring of node near-end or far-end performance on a selected TXP_MR_10E or MXP_2.5G_10E card and port during selected time 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	Provisioning or higher

-
- Step 1** In node view (single-shelf mode), or shelf view (multishelf mode), double-click the card you want to monitor. The card view appears.
- Step 2** Determine if the port where you want to enable or disable FEC is in service (IS). (Click the **Provisioning > Line** tabs, and observe the Service State column for that port.) If it is IS, perform the following tasks for that port. If not, go to [Step 3](#).
- [DLP-G108 Change the Service State for a Port, page 7-24](#) to set the port to OOS,DSBLD.
 - [DLP-G185 Delete a DCC/GCC Termination, page 10-45](#), if GCC is provisioned on that port.
- Step 3** Click the **Provisioning > OTN > OTN Lines** tabs.
- Step 4** Make an FEC selection based on the following rules:
- Choose **Disable** to disable the OTN FEC monitoring.
 - Choose **Enable** to enable standard FEC monitoring for that port (default).
- Step 5** Click **Apply**.
- Step 6** Click the following:
- Performance > OTN PM > G.709 PM** tabs to view G.709 PM parameters.
 - Performance > OTN PM > FEC PM** to view FEC PM parameters.

For PM parameter definitions, refer to the “Performance Monitoring” chapter in the *Cisco ONS 15454 DWDM Reference Manual*.



Note If you set the port’s service state to OOS,DSBLD in [Step 2](#), set the port’s service state back to IS, and provision the GCC for that port according to the “[DLP-G76 Provision DCC/GCC Terminations](#)” procedure on page 7-20.

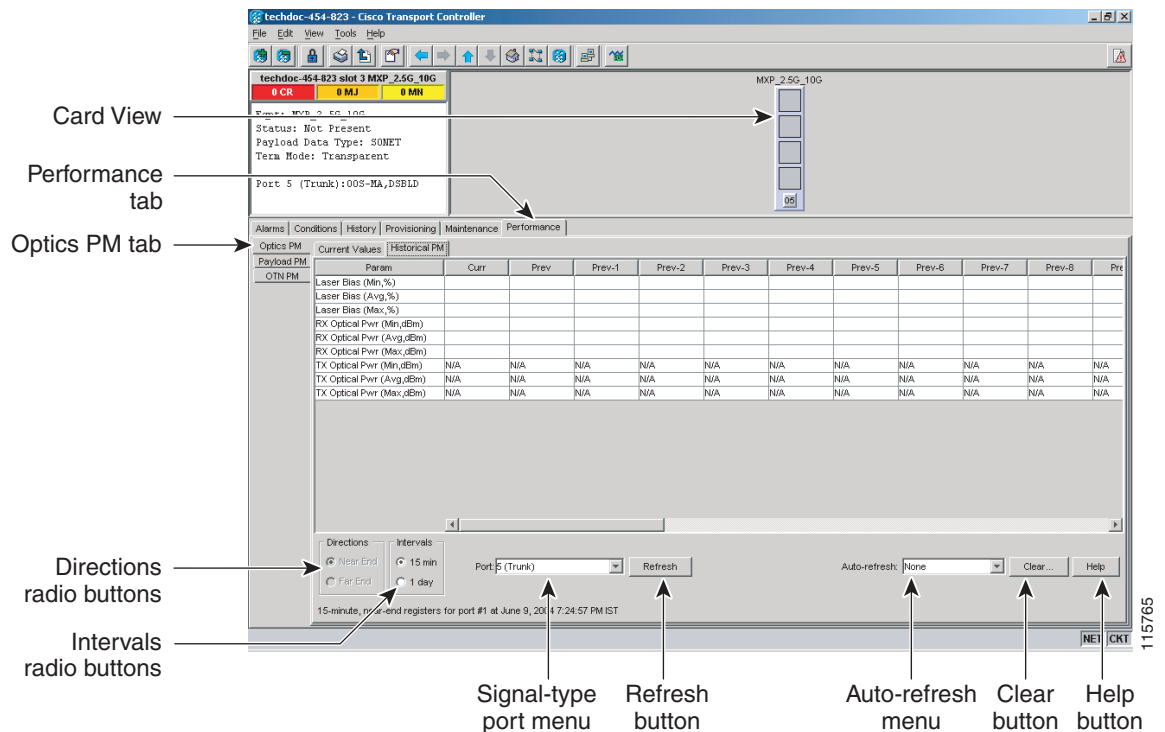
- Step 7** Return to your originating procedure (NTP).
-

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), or 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) 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 8-6).

Figure 8-6 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), or 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) 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 8-7](#)).

Figure 8-7 Viewing Payload Performance Monitoring Information

The screenshot shows the Cisco Transport Controller interface for a specific card (TXPP_MR_2.5G). The interface is divided into several sections:

- Card View:** Displays card details such as Eqt: TXPP_MR_2.5G, Status: Not Present, State: 005_AINS, Payload Data Type: 0C48, Term Mode: Transparent, and P1 (Client):005, P2 (Working Trunk):005, P3 (Protect Trunk):005.
- Performance tab:** Contains a table for monitoring parameters. The table has columns for Param, Curr, Prev, Prev-1, Prev-2, Prev-3, Prev-4, Prev-5, and Prev-6. The rows include CV-S, ES-S, SES-S, SEFS-S, CV-L, ES-L, SES-L, UAS-L, and FC-L.
- Directions radio buttons:** Includes 'Near End' (selected) and 'Far End'.
- Intervals radio buttons:** Includes '15 min' (selected) and '1 day'.
- Control buttons:** Includes 'Refresh', 'Auto-refresh: 15 Seconds', 'Baseline', 'Clear...', and 'Help'.

Annotations in the image point to these various elements with labels: Card View, Performance tab, Payload PM tab, Directions radio buttons, Intervals radio buttons, Signal-type port menu, Refresh button, Auto-refresh menu, Baseline button, Clear button, and Help button.

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 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*.



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, and the MXP_MR_2.5G and MXPP_MR_2.5G cards support the 1G FC, 2G FC, 1G FICON, 2G FICON, and 1GE payloads.

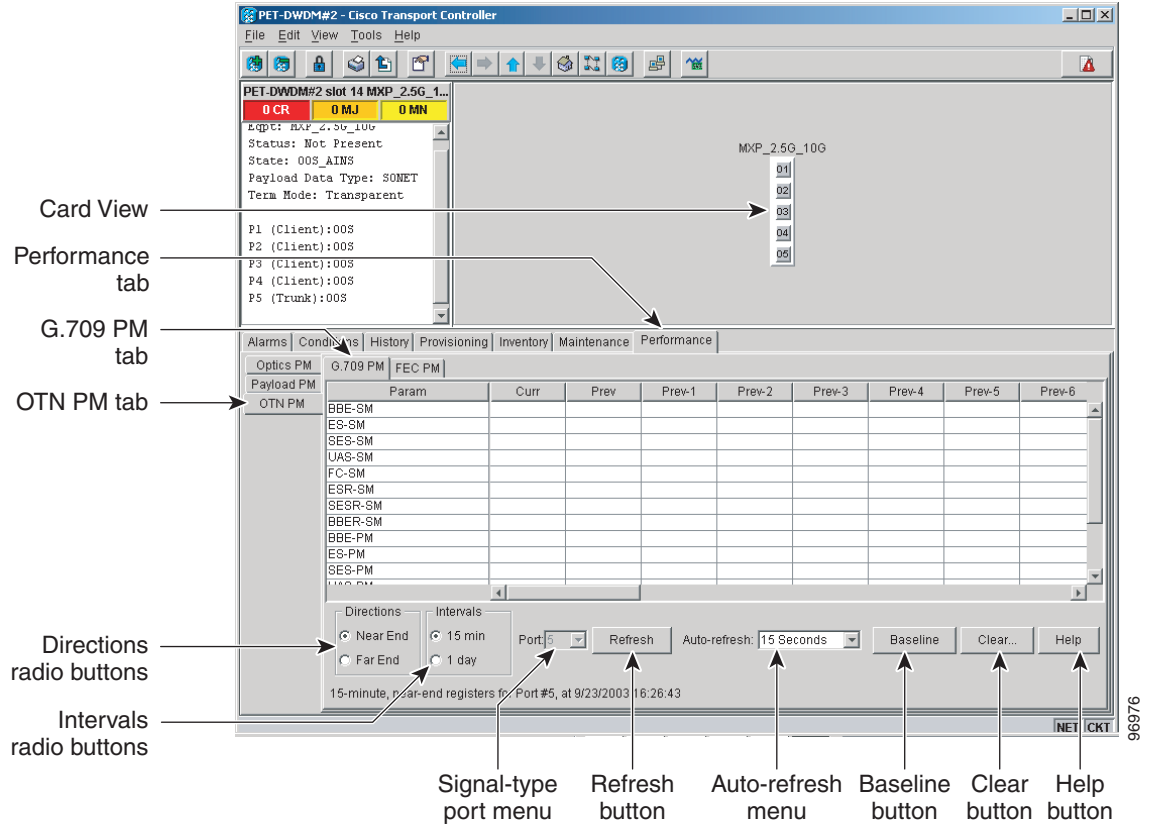
Step 5 Return to your originating procedure (NTP).

DLP-G148 View OTN PM Parameters

Purpose	This task enables you to view the OTN 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, 10DME_C, 10DME_L), or muxponder cards (MXP_2.5G_10E, MXP_2.5G_10E_C, MXP_2.5G_10E_L, MXP_2.5G_10G, MXP_MR_10DME_C, MXP_MR_10DME_L) 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 TXP or MXP card where you want to view PM counts. The card view appears.
- Step 2** Click the **Performance > OTN PM > G.709 PM** tabs ([Figure 8-8](#)).

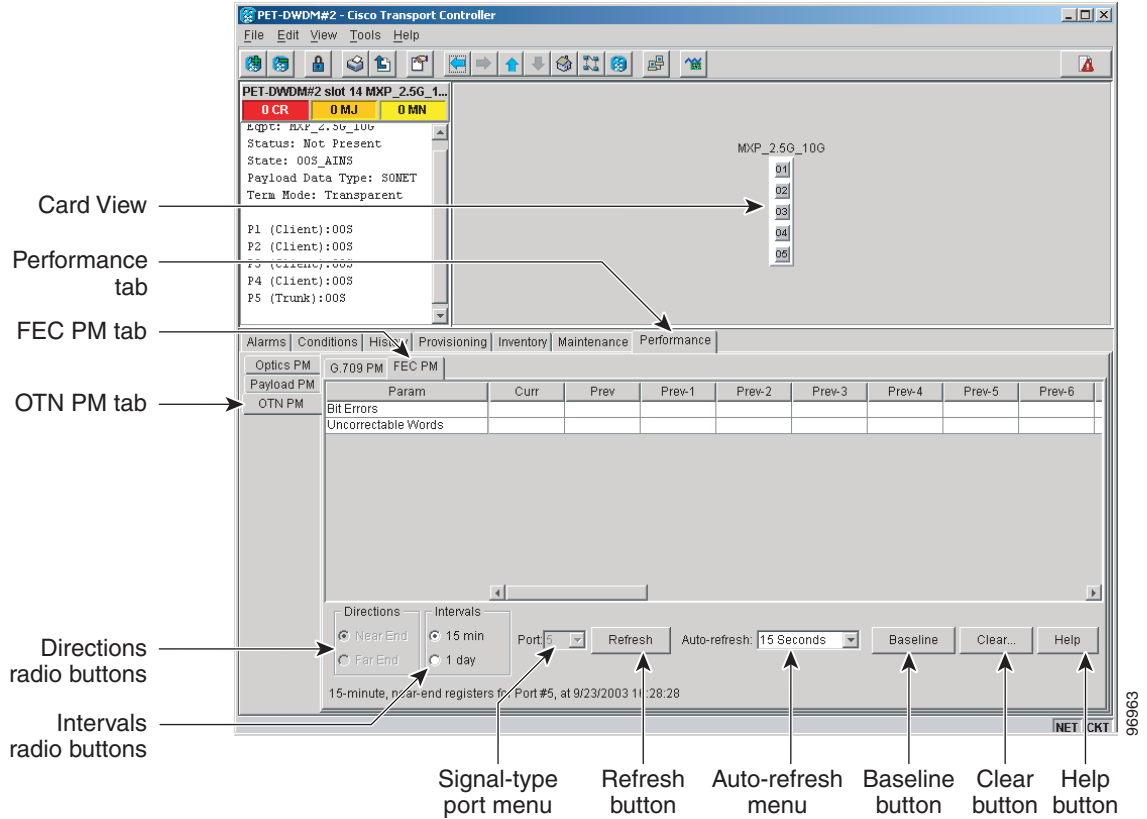
Figure 8-8 Viewing OTN ITU-T G.709 Performance Monitoring Information



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 8-9).

Figure 8-9 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, MXPP_MR_2.5G, TXP_MR_2.5G (with 1GE traffic), TXP_MR_10E (with 10GE traffic) and TXP_MR_10G (with 10GE traffic) 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, MXPP_MR_2.5G, TXP_MR_2.5G, TXP_MR_10E, or TXP_MR_10G card where you want to view PM counts. The card view appears.
- Step 2** Click the **Performance > Payload PM > Statistics** tabs ([Figure 8-10](#)).

Figure 8-10 Statistics Tab on the Card View Performance Window

The screenshot shows the CTC interface for a card labeled 'techdoc-454-822 slot 4 MXP_MR_2.5G'. The 'Performance' tab is selected, and the 'Payload PM' sub-tab is active. A table displays statistics for two ports: 'Port 1-1 (FC2G)' and 'Port 1 (GFP)'. The table columns are 'Param', 'Port 1-1 (FC2G)', 'Port 1 (GFP)', and a final column for values. The values are mostly 'N/A'. The interface includes a 'Refresh' button, an 'Auto-refresh' menu set to 'None', and 'Baseline...', 'Clear...', and 'Help' buttons. Labels with arrows point to the Card View, Performance tab, Statistics tab, Payload PM tab, Refresh button, Auto-refresh menu, Baseline button, Clear button, and Help button.

Param	Port 1-1 (FC2G)	Port 1 (GFP)	
Time Last Cleared			N/A
rxInOctets			N/A
rxInDiscards			N/A
rxInErrors			N/A
rxOutOctets			N/A
rxOutDiscards			N/A
rxTotalPkts			N/A
rxTotalPkts			N/A
gfpStatsRxSEErrors	N/A		
gfpStatsRxMDEErrors	N/A		
gfpStatsRxTypeErrors	N/A		
gfpStatsRxCRCEErrors	N/A		
gfpStatsLDFRaisedExceptions	N/A		
gfpStatsCSFRaisedExceptions	N/A		
mediaInStatsRxFramesTruncated			N/A
mediaInStatsRxFramesTooLong			N/A
mediaInStatsRxFramesBadCRC			N/A
mediaInStatsRxFramesBadCRC			N/A
fcIngressRxDistalTxExtBuffers			N/A
fcEgressTxDistalTxExtBuffers			N/A
fcStatsLinkRecoveryAttempts			N/A

- 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).

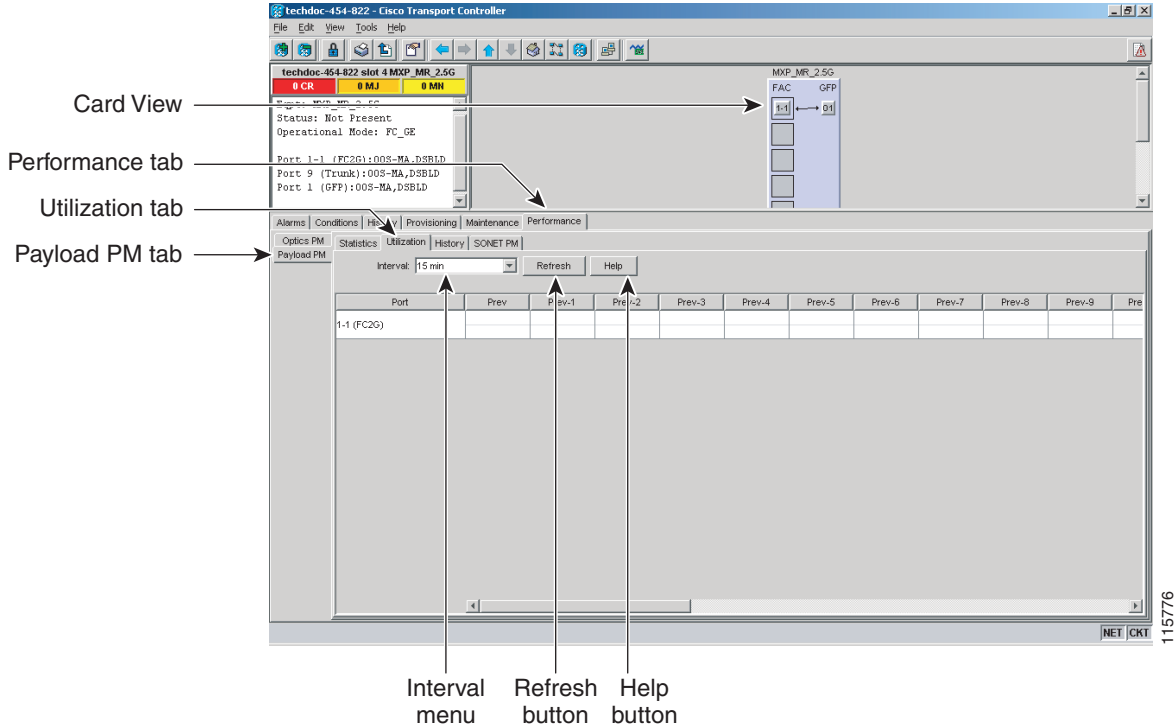
DLP-G150 View Payload Utilization PM Parameters

Purpose	This task enables you to view line utilization PM counts on an MXP_MR_2.5G, MXPP_MR_2.5G, TXP_MR_10E (with 10 GE traffic) and TXP_MR_10G (with 10 GE traffic) 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, MXPP_MR_2.5G, TXP_MR_10E, or TXP_MR_10G card where you want to view PM counts. The card view appears.

Step 2 Click the **Performance > Payload PM > Utilization** tabs ([Figure 8-11](#)).

Figure 8-11 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](#).

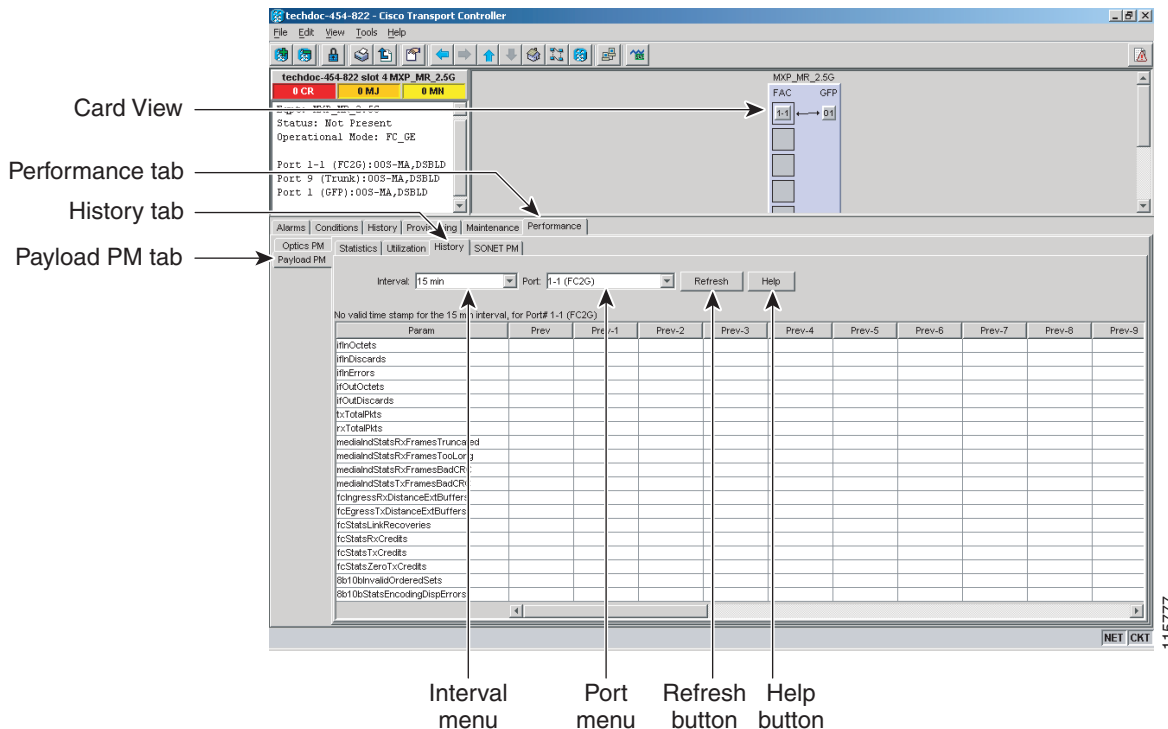
- Step 6** Return to your originating procedure (NTP).

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, MXPP_MR_2.5G, TXP_MR_2.5G (with 1GE traffic), TXP_MR_10E (with 10GE traffic), and TXP_MR_10G (with 10GE traffic) 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, MXPP_MR_2.5G, TXP_MR_2.5G, TXP_MR_10E, or TXP_MR_10G card where you want to view PM counts. The card view appears.
- Step 2** Click the **Performance > Payload PM > History** tabs ([Figure 8-12](#)).

Figure 8-12 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 8-13](#)).

Figure 8-13 SONE PM Tab on the Card View Performance Window

The screenshot shows the Cisco Transport Controller interface. The top navigation bar includes 'Card View', 'Performance tab', 'SONET tab', and 'Payload PM tab'. The main area displays a table of PM parameters for a selected port. Below the table are controls for 'Directions' (Near End, Far End), 'Intervals' (15 min, 1 day), and buttons for 'Refresh', 'Auto-refresh', 'Baseline', 'Clear...', and 'Help'. A 'Port' menu is also visible.

Param	Curr	Prev	Prev-1	Prev-2	Prev-3	Prev-4	Prev-5	Prev-6	Prev-7	Prev-8	Pre
CV-S											
ES-S											
SES-S											
SEFS-S											
CV-L											
ES-L											
SES-L											
UAS-L											
FC-L											

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).