



Monitor Performance

This chapter explains how to enable and view performance monitoring statistics for the Cisco ONS 15454. Performance monitoring (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 Reference Manual*.

Before You Begin

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

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

1. [NTP-A253 Change the PM Display, page 10-2](#)—Complete as needed to change the displayed PM counts.
2. [NTP-A197 Monitor Electrical Performance, page 10-9](#)—Complete as needed to monitor electrical performance.
3. [NTP-A198 Monitor Ethernet Performance, page 10-11](#)—Complete as needed to monitor Ethernet performance.
4. [NTP-A250 Monitor OC-N Performance, page 10-18](#)—Complete as needed to monitor optical (OC-N) performance.
5. [NTP-A251 Monitor Multirate Transport Performance, page 10-24](#)—Complete as needed to monitor multirate transport performance.
6. [NTP-A252 Monitor DWDM Performance, page 10-31](#)—Complete as needed to monitor DWDM performance.



Note

For additional information regarding PM parameters, refer to the Digital transmission surveillance section in Telcordia's GR-1230-CORE, GR-820-CORE, GR-499-CORE, and GR-253-CORE documents, and in the ANSI document entitled *Digital Hierarchy - Layer 1 In-Service Digital Transmission Performance Monitoring*.

NTP-A253 Change the PM Display

Purpose	This procedure enables you to change the display of PM counts by selecting drop-down menu 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 8, “Create Circuits and VT Tunnels” and Chapter 13, “Change Card Settings.”
Required/As Needed	As needed
Onsite/Remote	Onsite
Security Level	Retrieve or higher

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- Step 1** Complete the “[DLP-A60 Log into CTC](#)” task on [page 3-26](#) at the node that you want to monitor. If you are already logged in, continue with [Step 2](#)
- Step 2** In node view, double-click the electrical, Ethernet, optical (OC-N), multirate transport, or DWDM card where you want to view PM counts. The card view appears.
- Step 3** As needed, use the following tasks to change the display of PM counts:
- [DLP-A124 Refresh PM Counts at 15-Minute Intervals](#), page 10-2
 - [DLP-A125 Refresh PM Counts at One-Day Intervals](#), page 10-3
 - [DLP-A126 View Near-End PM Counts](#), page 10-4
 - [DLP-A127 View Far-End PM Counts](#), page 10-4
 - [DLP-A128 Monitor PM Counts for a Selected Signal](#), page 10-5
 - [DLP-A129 Reset Current PM Counts](#), page 10-6
 - [DLP-A130 Clear Selected PM Counts](#), page 10-7
 - [DLP-A260 Set Auto-Refresh Interval for Displayed PM Counts](#), page 10-8
 - [DLP-A261 Refresh PM Counts for a Different Port](#), page 10-8

Stop. You have completed this procedure.

DLP-A124 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-A60 Log into CTC , page 3-26
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

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- Step 1** In node view, double-click the card where you want to view PM counts. The card view appears.
- Step 2** Click the **Performance** tab.
- Step 3** Click the **15 min** radio button.
- Step 4** Click **Refresh**. Performance monitoring parameters appear in 15-minute intervals synchronized with the time of day.
- Step 5** 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 performance monitoring parameter.
- Step 6** 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 node timing settings, changing the time zone settings, replacing a card, resetting a card, or by changing port states. When the problem is corrected, the subsequent 15-minute interval appears with a white background.
- Step 7** Return to your originating procedure (NTP).
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DLP-A125 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-A60 Log into CTC, page 3-26
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

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- Step 1** In node view, double-click the card where you want to view PM counts. The card view appears.
- Step 2** Click the **Performance** tab.
- Step 3** Click the **1 day** radio button.
- Step 4** Click **Refresh**. Performance monitoring appears in 1-day intervals synchronized with the time of day.
- Step 5** 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 threshold crossing alert (TCA) is raised. The number represents the counter value for each specific performance monitoring parameter.
- Step 6** 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 by changing port states. When the problem is corrected, the subsequent 1-day interval appears with a white background.

Step 7 Return to your originating procedure (NTP).

DLP-A126 View Near-End PM Counts

Purpose	Use this task to view near-end PM counts for the selected card and port.
Tools/Equipment	None
Prerequisite Procedures	DLP-A60 Log into CTC, page 3-26
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

- Step 1** In node view, double-click the card where you want to view PM counts. The card view appears.
- Step 2** Click the **Performance** tab.
- Step 3** Click the **Near End** radio button.
- Step 4** Click **Refresh**. All PM parameters occurring for the selected card on the incoming signal appear. For PM parameter definitions refer to the *Cisco ONS 15454 Reference Manual*.
- Step 5** View the Curr column to find PM counts for the current time interval.
- Step 6** View the Prev-*n* columns to find PM counts for the previous time intervals.
- Step 7** Return to your originating procedure (NTP).

DLP-A127 View Far-End PM Counts

Purpose	Use this task to view far-end PM parameters for the selected card and port. Only cards that allow far-end monitoring have the Far End radio button as an option.
Tools/Equipment	None
Prerequisite Procedures	DLP-A60 Log into CTC, page 3-26
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

- Step 1** In node view, double-click the card where you want to view PM counts. The card view appears.

- Step 2** Click the **Performance** tab.
- Step 3** Click the **Far End** radio button.
- Step 4** 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 *Cisco ONS 15454 Reference Manual*.
- Step 5** View the Curr column to find PM counts for the current time interval.
- Step 6** View the Prev-*n* columns to find PM counts for the previous time intervals.
- Step 7** Return to your originating procedure (NTP).

DLP-A128 Monitor PM Counts for a Selected Signal

Purpose	This task enables you to view near-end or far-end PM counts for a specific signal (STS <i>n</i>), path (VT <i>n</i>) and port (DS <i>n</i>) on a selected card.
Tools/Equipment	None
Prerequisite Procedures	DLP-A60 Log into CTC, page 3-26
Required/As Needed	As needed
Onsite/Remote	Remote
Security Level	Retrieve or higher

- Step 1** In node view, double-click the card where you want to view PM counts. The card view appears.
- Step 2** Click the **Performance** tab.

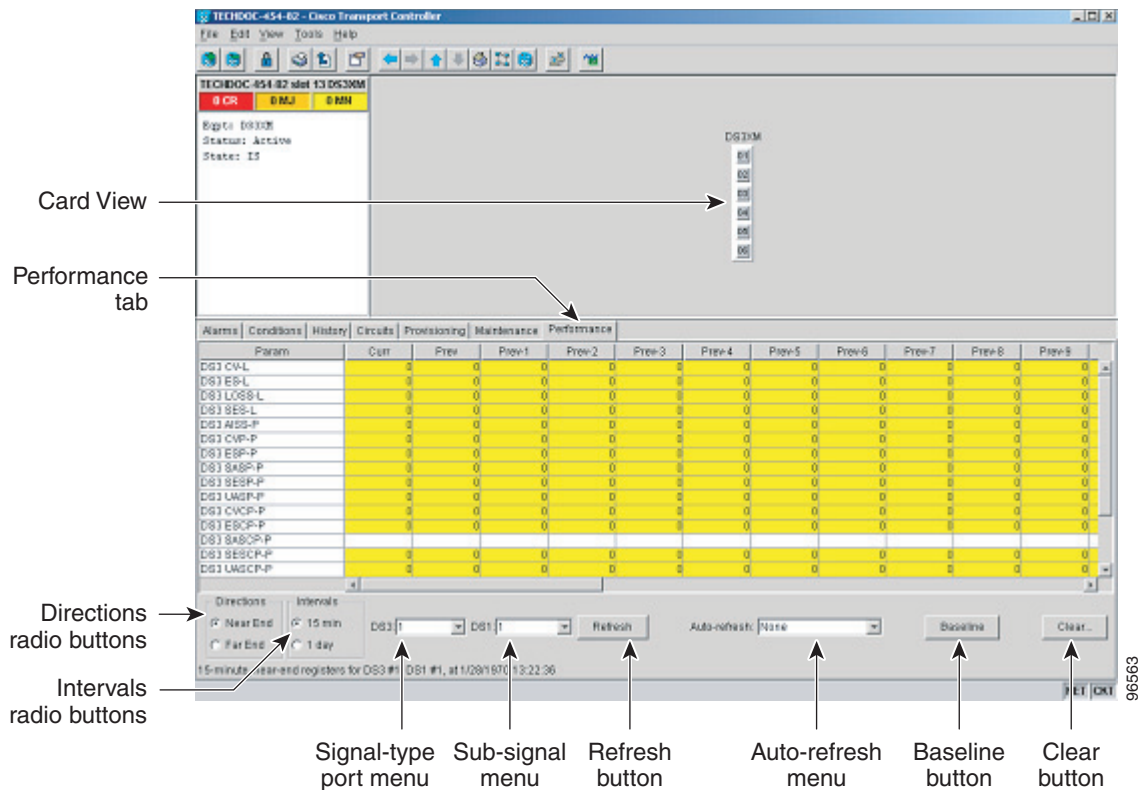


Note Different port and signal-type menus appear depending on the card type and the circuit type. The appropriate types (DS1, DS3, VT path, STS path) appear based on the card. For example, the DS3XM card lists DS3, DS1, VT path, and STS path PM parameters as signal-types. This enables you to select both the DS-3 port and the DS-1 within the specified DS-3.

- Step 3** In the signal type drop-down menus, click the desired following options:
- DS: *n* or Port:*n* (card port number)
 - VT: *n* (VT path number)
 - STS: *n* (STS number within the VT path)

[Figure 10-1](#) shows the Port and Signal-type menus on the Performance window for a DS3XM-6 card.

Figure 10-1 Signal-Type Menus for a DS3XM-6 Card



- Step 4** Click **Refresh**. All PM counts recorded by the near-end or far-end node for the specified outgoing signal type on the selected card and port appear. For PM parameter definitions, refer to the *Cisco ONS 15454 Reference Manual*.
- 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 *Cisco ONS 15454 Reference Manual*.
- Step 6** Return to your originating procedure (NTP).

DLP-A129 Reset Current PM Counts

Purpose	This task clears the 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-A60 Log into CTC, page 3-26
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

- Step 1** In node view, double-click the card where you want to view PM counts. The card view appears.

Step 2 Click the **Performance** tab.

Step 3 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 on the window appear 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 4 View the current statistics column(s) to observe changes to PM counts for the current time interval.

Step 5 Return to your originating procedure (NTP).

DLP-A130 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-A60 Log into CTC, page 3-26
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher



Caution

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

Step 1 In node view, double-click the card where you want to view PM counts. The card view appears.

Step 2 Click the **Performance** tab.

Step 3 Click **Clear**.

Step 4 From the Clear Statistics menu, choose one of three options:

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

Step 5 From the Clear Statistics menu, click **Yes** to clear the selected statistics.

Step 6 Verify that the selected PM counts have been cleared.

Step 7 Return to your originating procedure (NTP).

DLP-A260 Set Auto-Refresh Interval for Displayed PM Counts

Purpose	This task changes the window auto-refresh intervals for updating the displayed PM counts.
Tools/Equipment	None
Prerequisite Procedures	DLP-A60 Log into CTC, page 3-26
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

Step 1 In node view, double-click the card where you want to view PM counts. The card view appears.

Step 2 Click the **Performance** tab.

Step 3 From the Auto-refresh drop-down menu, choose one of six options:

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

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

DLP-A261 Refresh PM Counts for a Different Port

Purpose	This task changes the window view to display PM counts for another port on a multi-port card.
Tools/Equipment	None
Prerequisite Procedures	DLP-A60 Log into CTC, page 3-26
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

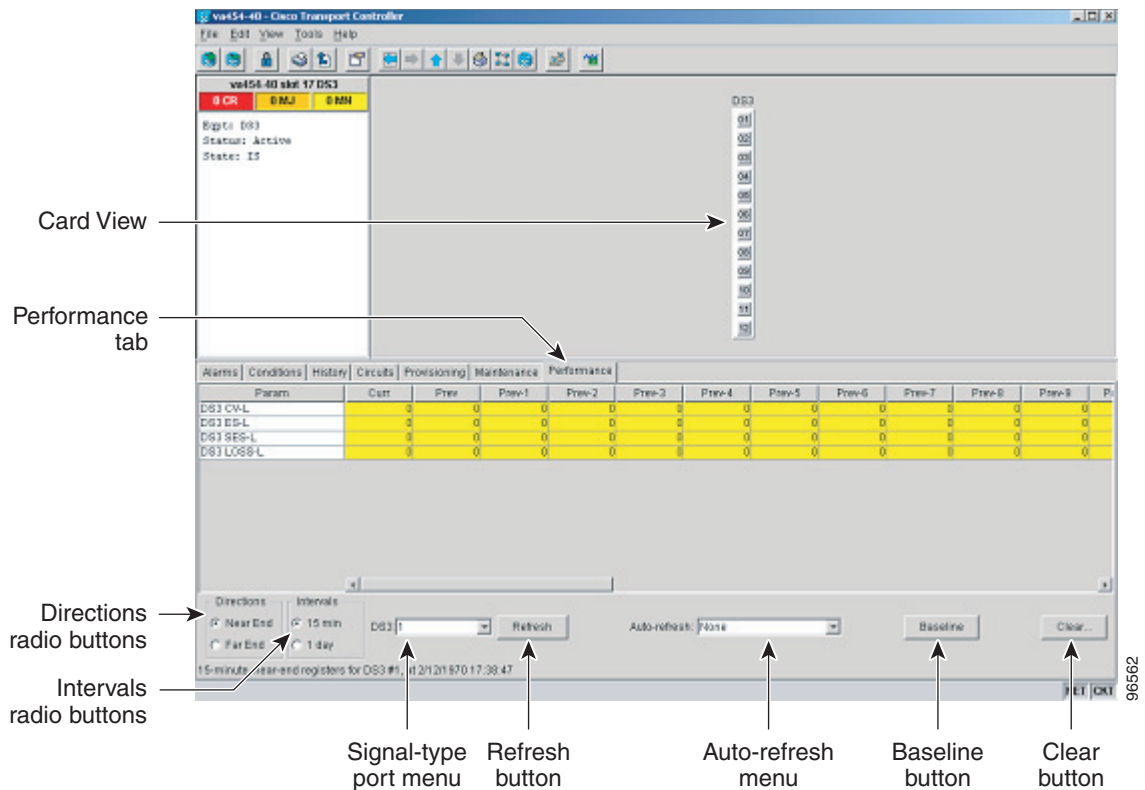
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- Step 1** In node view, double-click the card where you want to view PM counts. The card view appears.
- Step 2** Click the **Performance** tab.
- Step 3** In the Port drop-down menu, click the desired port.
- Step 4** Click the **Refresh** button. The PM counts for the newly-selected port appear.
- Step 5** Return to your originating procedure (NTP).
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NTP-A197 Monitor Electrical Performance

Purpose	This procedure enables you to view node near-end or far-end performance during selected time intervals on a selected electrical card and port to detect possible performance problems. This procedure does not apply to DWDM (Software R4.5) nodes.
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 8, “Create Circuits and VT Tunnels” and Chapter 13, “Change Card Settings.”
Required/As Needed	As needed
Onsite/Remote	Onsite
Security Level	Retrieve or higher

- Step 1** Complete the [“DLP-A60 Log into CTC” task on page 3-26](#) at the node that you want to monitor. If you are already logged in, continue with [Step 2](#).
- Step 2** In node view, double-click the electrical card where you want to view PM counts. The card view appears.
- Step 3** Click the **Performance** tab ([Figure 10-2](#)).

Figure 10-2 Viewing Electrical Card Performance Monitoring Information



Step 4 In the signal type drop-down menus, click one of the following options:

- DS_n (card port)
- VT_n (VT path)
- STS_n (STS within the VT path)

Step 5 Click **Refresh**.

Step 6 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 *Cisco ONS 15454 Reference Manual*.

To refresh, reset, or clear PM counts, see the [“NTP-A253 Change the PM Display” procedure on page 10-2](#).

Stop. You have completed this procedure.

NTP-A198 Monitor Ethernet Performance

Purpose	This procedure enables you to view node transmit and receive performance during selected time intervals on a selected Ethernet card and port to detect possible performance problems. This procedure does not apply to DWDM (Software R4.5) nodes.
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 8, “Create Circuits and VT Tunnels” and Chapter 13, “Change Card Settings.”
Required/As Needed	As needed
Onsite/Remote	Onsite
Security Level	Retrieve or higher

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- Step 1** Complete the [“DLP-A60 Log into CTC”](#) task on page 3-26 at the node that you want to monitor. If you are already logged in, continue with [Step 2](#).
- Step 2** Complete the [“DLP-A256 View Ethernet Statistics PM Parameters”](#) task on page 10-12.
To refresh, reset, or clear PM counts, see the [“NTP-A253 Change the PM Display”](#) procedure on page 10-2.
- Step 3** Complete the [“DLP-A257 View Ethernet Utilization PM Parameters”](#) task on page 10-13.
To refresh, reset, or clear PM counts, see the [“NTP-A253 Change the PM Display”](#) procedure on page 10-2.
- Step 4** Complete the [“DLP-A258 View Ethernet History PM Parameters”](#) task on page 10-14.
To refresh, reset, or clear PM counts, see the [“NTP-A253 Change the PM Display”](#) procedure on page 10-2.
- Step 5** Complete the [“DLP-A320 View ML-Series Ether Ports PM Parameters”](#) task on page 10-15.
To refresh, reset, or clear PM counts, see the [“NTP-A253 Change the PM Display”](#) procedure on page 10-2.
- Step 6** Complete the [“DLP-A321 View ML-Series POS Ports PM Parameters”](#) task on page 10-16.
To refresh, reset, or clear PM counts, see the [“NTP-A253 Change the PM Display”](#) procedure on page 10-2.

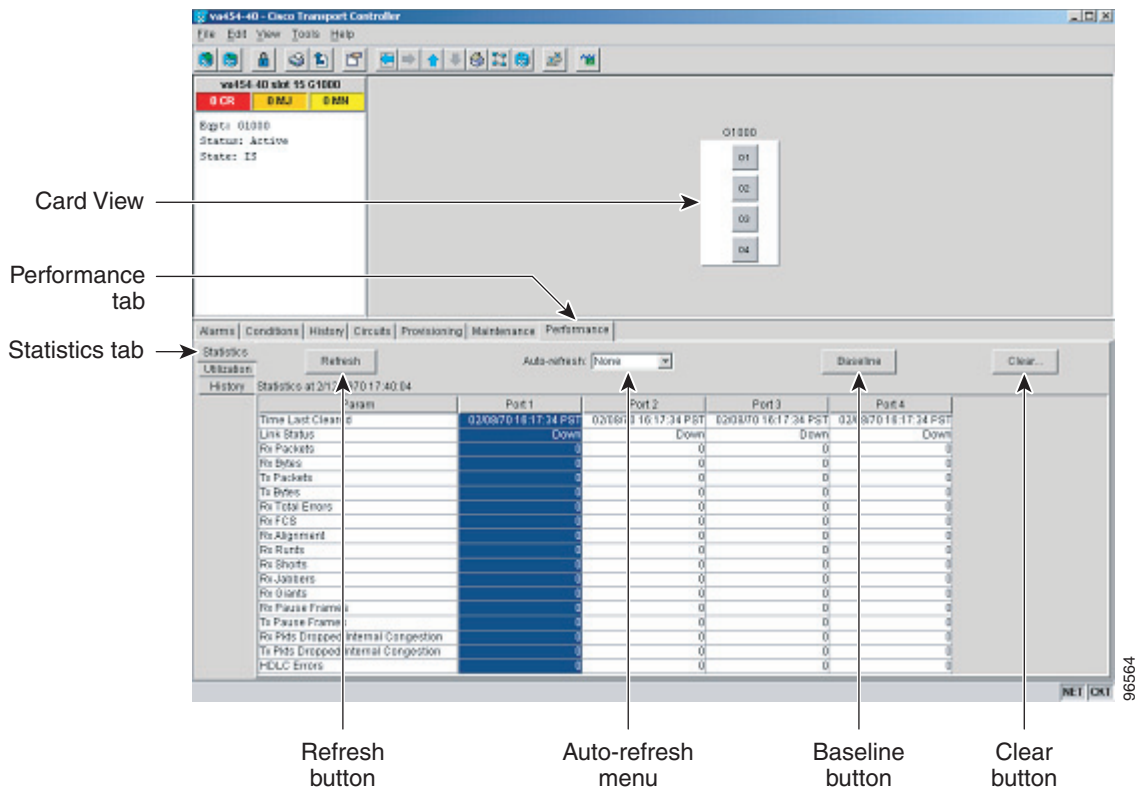
Stop. You have completed this procedure.

DLP-A256 View Ethernet Statistics PM Parameters

Purpose	This task enables you to view current statistical PM counts on an Ethernet card and port to detect possible performance problems.
Tools/Equipment	None
Prerequisite Procedures	DLP-A60 Log into CTC, page 3-26
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

- Step 1** In node view, double-click the E-Series or G-Series Ethernet card where you want to view PM counts. The card view appears.
- Step 2** Click the **Performance > Statistics** tabs (Figure 10-3).

Figure 10-3 G-Series Statistics on the Card View Performance Window



- 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 *Cisco ONS 15454 Reference Manual*.

**Note**

In R 4.1.x, G-Series Ethernet performance-monitoring statistics are added cumulatively during the test process and are not immediately adjusted to equal total received packets until testing ends. To see the final PM count totals, allow a few moments for the PM window statistics to finish testing and update fully. PM counts are also listed in the G-Series Ethernet card Performance > History window. To view counts there, complete the [“DLP-A258 View Ethernet History PM Parameters” task on page 10-14](#).

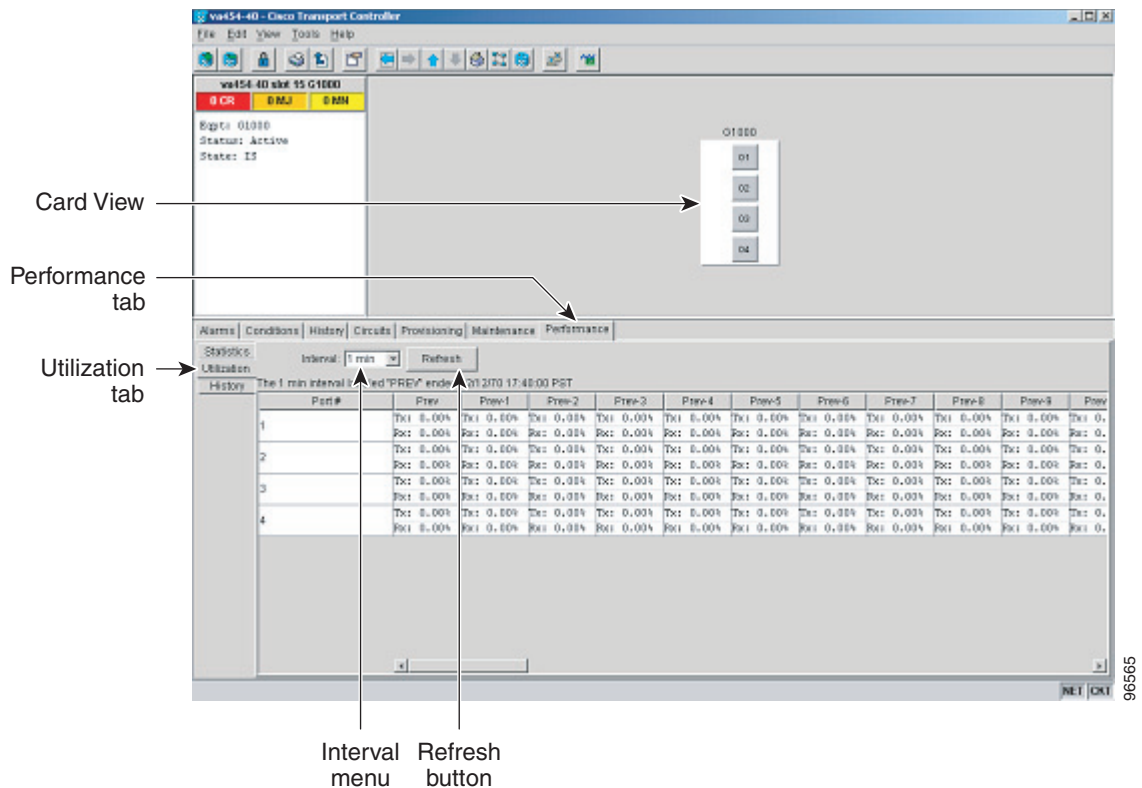
Step 5 Return to your originating procedure (NTP).

DLP-A257 View Ethernet Utilization PM Parameters

Purpose	This task enables you to view line utilization PM counts on an Ethernet card and port to detect possible performance problems.
Tools/Equipment	None
Prerequisite Procedures	DLP-A60 Log into CTC, page 3-26
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

- Step 1** In node view, double-click the E-Series or G-Series Ethernet card where you want to view PM counts. The card view appears.
- Step 2** Click the **Performance > Utilization** tabs ([Figure 10-4](#)).

Figure 10-4 G-Series Utilization on the Card View Performance Window



- Step 3** Click **Refresh**. Performance monitoring utilization values for each port on the card appear.
- Step 4** View the Port # column to find 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 *Cisco ONS 15454 Reference Manual*.
- Step 6** Return to your originating procedure (NTP).

DLP-A258 View Ethernet History PM Parameters

Purpose

This task enables you to view historical PM counts at selected time intervals on an Ethernet card and port to detect possible performance problems.

Tools/Equipment

None

Prerequisite Procedures

[DLP-A60 Log into CTC, page 3-26](#)

Required/As Needed

As needed

Onsite/Remote

Onsite or remote

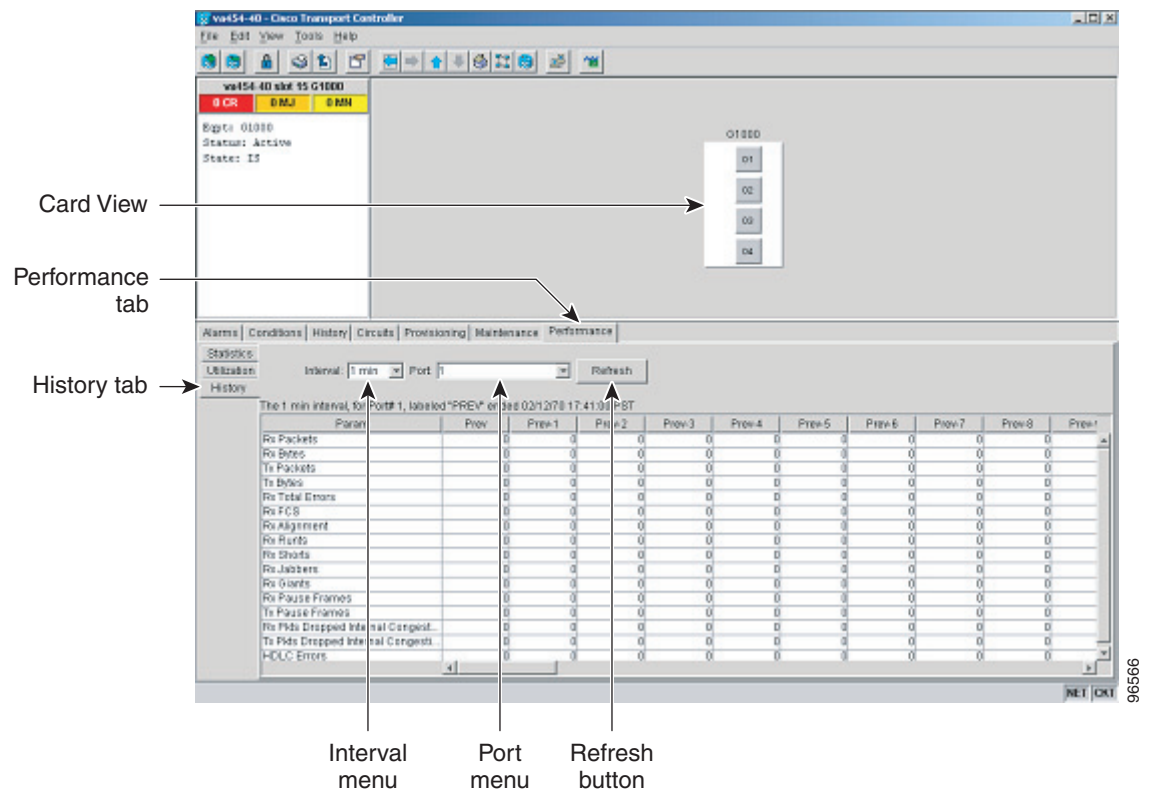
Security Level

Retrieve or higher

- Step 1** In node view, double-click the E-Series or G-Series Ethernet card where you want to view PM counts. The card view appears.

Step 2 Click the **Performance > History** tabs (Figure 10-5).

Figure 10-5 Ethernet History on the Card View Performance Window



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 *Cisco ONS 15454 Reference Manual*.

Step 5 Return to your originating procedure (NTP).

DLP-A320 View ML-Series Ether Ports PM Parameters

Purpose

This task enables you to view ML-Series Ethernet port PM counts at selected time intervals to detect possible performance problems.

Tools/Equipment

None

Prerequisite Procedures

[DLP-A60 Log into CTC, page 3-26](#)

Required/As Needed

As needed

Onsite/Remote

Onsite or remote

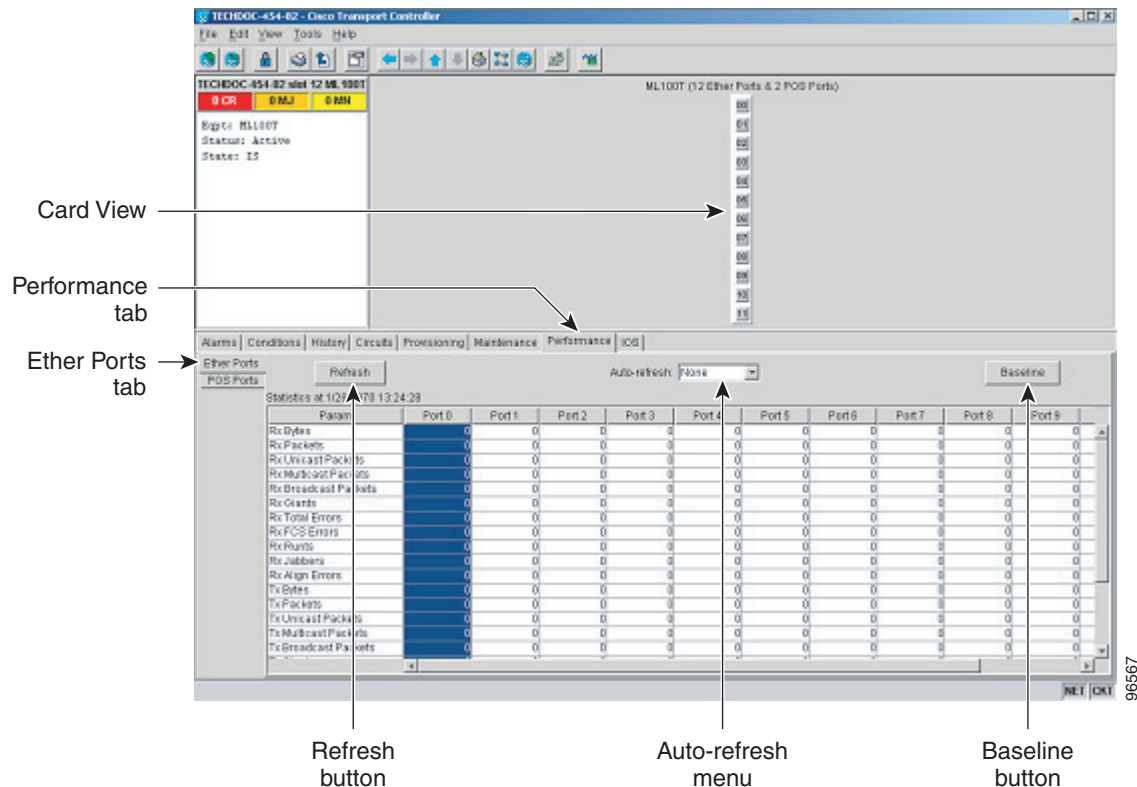
Security Level

Retrieve or higher

Step 1 In node view, double-click the ML-series Ethernet card where you want to view PM counts. The card view appears.

Step 2 Click the **Performance > Ether Ports** tabs (Figure 10-6).

Figure 10-6 Ether Ports on the Card View Performance Window



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 Port # columns. For PM parameter definitions, refer to the *Cisco ONS 15454 Reference Manual*.

Step 5 Return to your originating procedure (NTP).

DLP-A321 View ML-Series POS Ports PM Parameters

Purpose

This task enables you to view Packet Over SONET (POS) port PM counts at selected time intervals on an ML-Series Ethernet card and port to detect possible performance problems.

Tools/Equipment

None

Prerequisite Procedures

[DLP-A60 Log into CTC, page 3-26](#)

Required/As Needed

As needed

Onsite/Remote

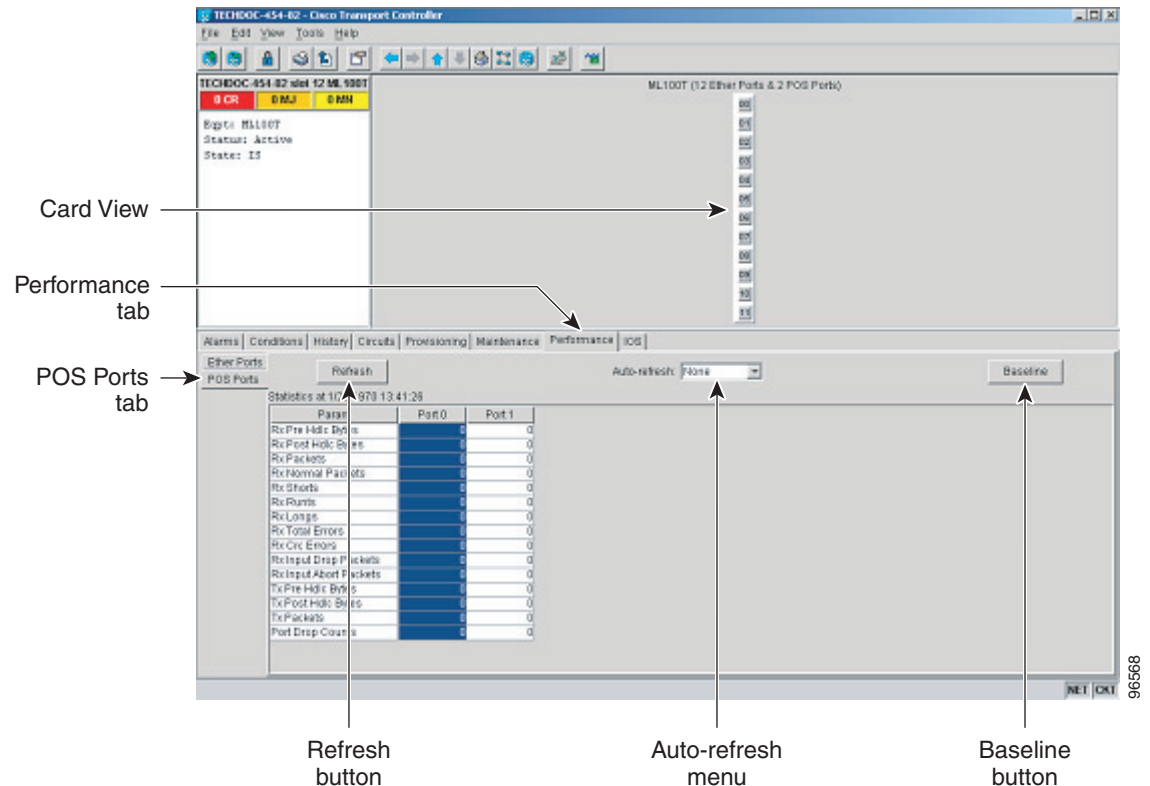
Onsite or remote

Security Level

Retrieve or higher

- Step 1** In node view, double-click the ML-series Ethernet card where you want to view PM counts. The card view appears.
- Step 2** Click the **Performance > POS Ports** tabs (Figure 10-7).

Figure 10-7 POS Ports on the Card View Performance Window



- 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 Port # columns. For PM parameter definitions refer to the *Cisco ONS 15454 Reference Manual*.
- Step 5** Return to your originating procedure (NTP).

DLP-A259 Refresh Ethernet PM Counts at a Different Time Interval

Purpose	This task changes the window view to display specified PM counts in time intervals depending on the interval option selected.
Tools/Equipment	None
Prerequisite Procedures	DLP-A60 Log into CTC, page 3-26
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

-
- Step 1** In node view, double-click the Ethernet card where you want to view PM counts. The card view appears.
- Step 2** Click the **Performance** tab.
- Step 3** Click the **Utilization** or the **History** tab.
- Step 4** From the Interval drop-down menu, choose one of four options:
- 1 min: This option appears the specified PM counts in one-minute time intervals.
 - 15 min: This option appears the specified PM counts in 15-minute time intervals.
 - 1 hour: This option appears the specified PM counts in one-hour time intervals.
 - 1 day: This option appears 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).
-

NTP-A250 Monitor OC-N Performance

Purpose	This procedure enables you to view node near-end or far-end performance during selected time intervals on a selected OC-N card and port to detect possible performance problems. This procedure does not apply to DWDM (Software R4.5) nodes.
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 8, “Create Circuits and VT Tunnels” and Chapter 13, “Change Card Settings.”
Required/As Needed	As needed
Onsite/Remote	Onsite
Security Level	Retrieve or higher

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- Step 1** Complete the “[DLP-A60 Log into CTC](#)” task on [page 3-26](#) at the node that you want to monitor. If you are already logged in, continue with [Step 2](#)
- Step 2** Complete the “[DLP-A121 Enable/Disable Pointer Justification Count Performance Monitoring](#)” task on [page 10-19](#) as needed to enable or disable clock synchronization monitoring.
- Step 3** Complete the “[DLP-A122 Enable/Disable Intermediate Path Performance Monitoring](#)” task on [page 10-21](#) as needed to enable or disable monitoring of STS traffic through intermediate nodes.
- Step 4** Complete the “[DLP-A507 View OC-N PM Parameters](#)” task on [page 10-23](#).
- To refresh, reset, or clear PM counts, see the “[NTP-A253 Change the PM Display](#)” procedure on [page 10-2](#).
- Stop. You have completed this procedure.**
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DLP-A121 Enable/Disable Pointer Justification Count Performance Monitoring

Purpose	This task enables or disables pointer justification counts, which provide a way to align the phase variations in STS and VT payloads and to monitor the clock synchronization between nodes. A consistent, large pointer justification count indicates clock synchronization problems between nodes.
Tools/Equipment	None
Prerequisite Procedures	DLP-A60 Log into CTC, page 3-26
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

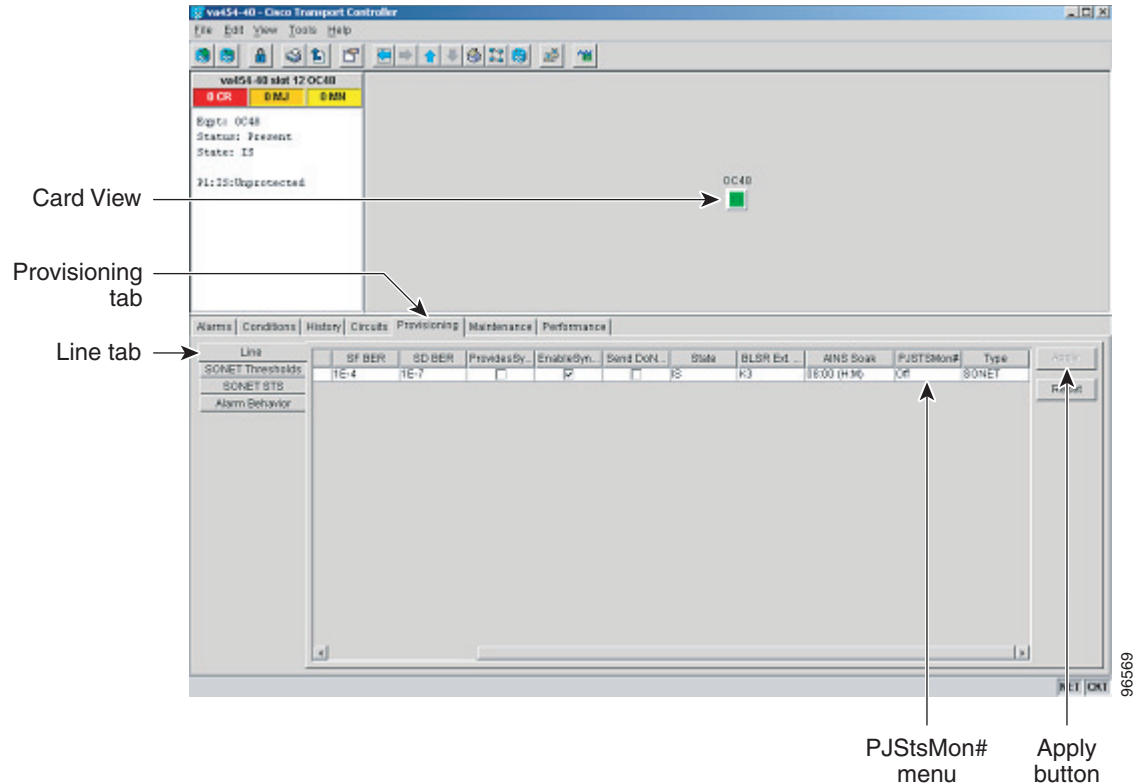
- Step 1** In node view, double-click the OC-N card you want to monitor. The card view appears.
See [Table 10-1](#) for a list of OC-N LTE cards.

Table 10-1 OC-N Cards that Terminate the Line, Called LTEs

Line Terminating Equipment
OC3 IR4 1310
OC12 LR 1310
OC12 IR 1310
OC12 IR/STM4 SH 1310-4
OC12 LR 1550
OC48 LR 1550
OC48 IR 1310
OC48 LR/STM16 LH AS 1550
OC48 IR/STM16 SH AS 1310
OC48 ELR 200 Ghz ITU
OC48 ELR 100 Ghz ITU
OC192 LR 1550

- Step 2** Click the **Provisioning > Line** tabs.
- Step 3** Click the PJStsMon# drop-down menu ([Figure 10-8](#)) and make a selection based on the following rules:
- Off means pointer justification monitoring is disabled (default).
 - 1 to *n* are the number of STSs on the port. One STS per port can be enabled from the PJStsMon# card menu.

Figure 10-8 Enabling or Disabling Pointer Justification Count Parameters

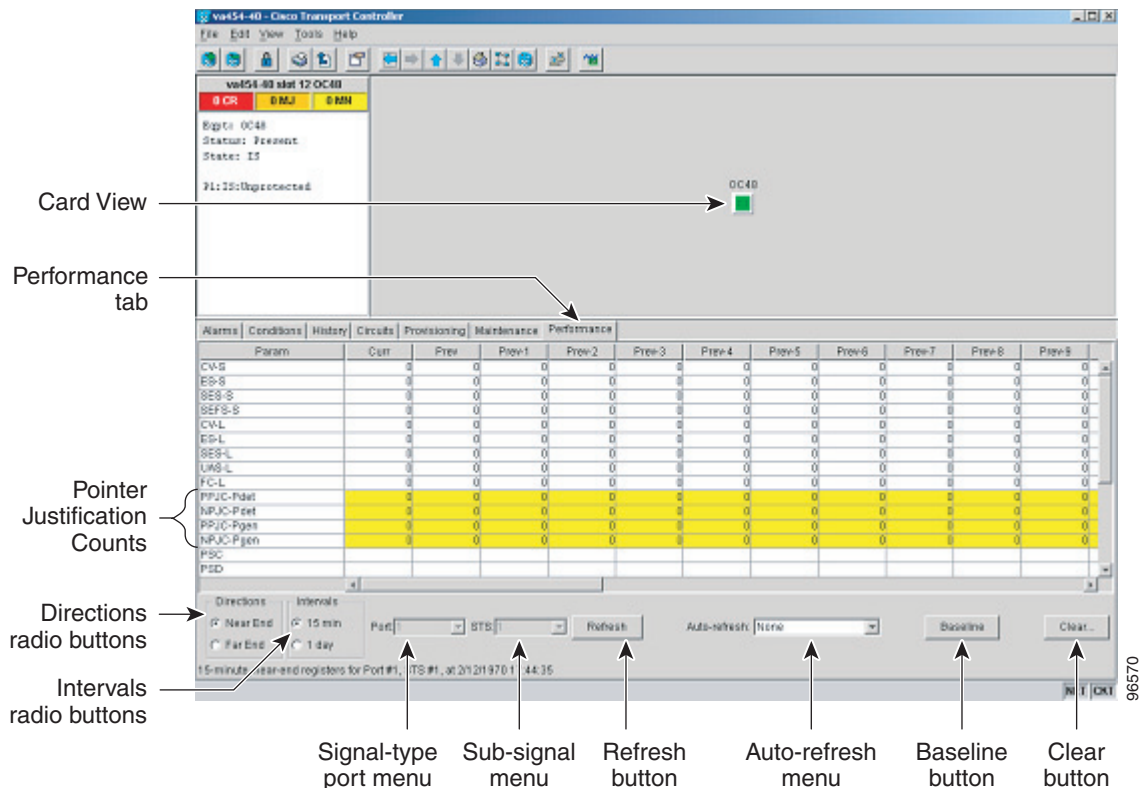


- Step 4** In the State field, confirm that the port is in service (IS).
- Step 5** If the port is IS, click **Apply**. If the port is out of service (OOS, OOS_MT, OOS_AINS), select **IS** in the State field and click **Apply**.
- Step 6** Click the **Performance** tab to view PM parameters. [Figure 10-9](#) shows pointer justification counts. For PM parameter definitions, refer to the *Cisco ONS 15454 Reference Manual*.



Note The count fields for PPJC and NPJC PM parameters appear white and blank unless pointer justification count performance monitoring is enabled.

Figure 10-9 Pointer Justification Counts in the Performance Window



Step 7 Return to your originating procedure (NTP).

DLP-A122 Enable/Disable Intermediate Path Performance Monitoring

Purpose	This task enables or disables intermediate path performance monitoring, which allows you to monitor large amounts of STS traffic through intermediate nodes.
Tools/Equipment	None
Prerequisite Procedures	DLP-A60 Log into CTC , page 3-26
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher



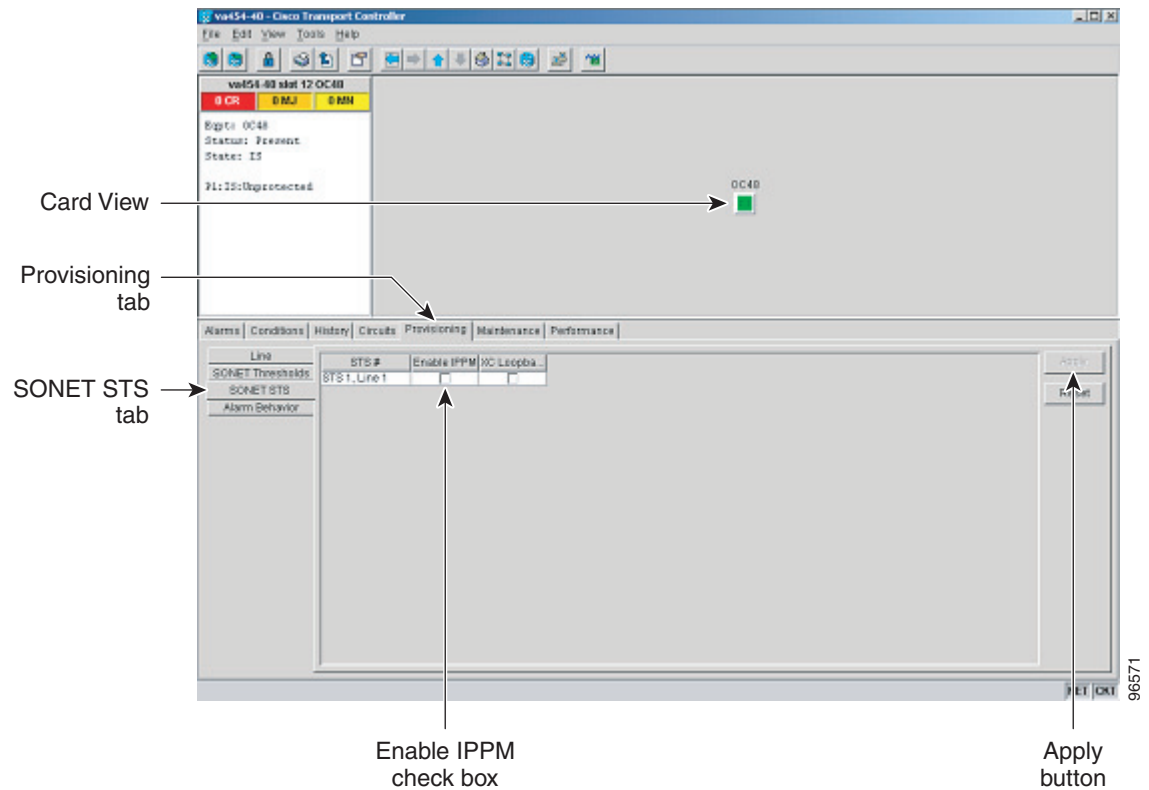
Note

The monitored IPPM parameters are STS CV-P, STS ES-P, STS SES-P, STS UAS-P, and STS FC-P. For PM parameter definitions, refer to the *Cisco ONS 15454 Reference Manual*.

Step 1 In node view, double-click the OC-N card you want to monitor. The card view appears. See [Table 10-1 on page 10-19](#) for a list of OC-N LTE cards.

Step 2 Click the **Provisioning > SONET STS** tabs (Figure 10-10).

Figure 10-10 SONET STS Tab for Enabling or Disabling IPPM



Step 3 Click the check box in the Enable IPPM column and make a selection based on the following rules:

- Unchecked means IPPM is disabled for that STS (default)
- Checked means IPPM is enabled for that STS

Step 4 Click **Apply**.

Step 5 Click the **Performance** tab to view PM parameters. For IPPM parameter definitions, refer to the *Cisco ONS 15454 Reference Manual*.

Step 6 Return to your originating procedure (NTP).

DLP-A507 View OC-N PM Parameters

Purpose	This task enables you to view PM counts on a selected OC-N card and port to detect possible performance problems.
Tools/Equipment	None
Prerequisite Procedures	DLP-A60 Log into CTC, page 3-26
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

- Step 1** In node view, double-click the OC-N card where you want to view PM counts. The card view appears.
- Step 2** Click the **Performance** tab ([Figure 10-11](#)).

Figure 10-11 Viewing OC-N Card Performance Monitoring Information

Card View

Performance tab

Directions radio buttons

Intervals radio buttons

Signal-type port menu

Sub-signal STS menu

Refresh button

Auto-refresh menu

Baseline button

Clear button

- Step 3** In the Port drop-down menu, click the port you want to monitor:
- Step 4** Click **Refresh**.
- 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 *Cisco ONS 15454 Reference Manual*.
- Step 6** To monitor another port on a multiport card, choose another port from the Port drop-down menu and click **Refresh**.

Step 7 Return to your originating procedure (NTP).

NTP-A251 Monitor Multirate Transport Performance

Purpose	This procedure enables you to view node near-end or far-end performance during selected time intervals on a selected TXP_MR_10G, TXP_MR_2.5G, TXPP_MR_2.5G, or MXP_2.5G_10G card and port to detect possible performance problems. This procedure does not apply to DWDM (Software R4.5) nodes.
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 8, “Create Circuits and VT Tunnels” and Chapter 13, “Change Card Settings.”
Required/As Needed	As needed
Onsite/Remote	Onsite
Security Level	Retrieve or higher

- Step 1** Complete the “[DLP-A60 Log into CTC](#)” task on page 3-26 at the node that you want to monitor. If you are already logged in, continue with [Step 2](#)
- Step 2** Complete the “[DLP-A500 Enable/Disable OTN G.709 Performance Monitoring](#)” task on page 10-25 as needed to enable or disable optical transport network (OTN) G.709 monitoring.
- Step 3** Complete the “[DLP-A501 Enable/Disable OTN FEC Performance Monitoring](#)” task on page 10-26 as needed to enable or disable optical transport network (OTN) forward error correction (FEC) monitoring.
- Step 4** Complete the “[DLP-A317 View Optics PM Parameters](#)” task on page 10-27 as needed.
- Step 5** Complete the “[DLP-A318 View Payload PM Parameters](#)” task on page 10-28 as needed.
- Step 6** Complete the “[DLP-A319 View Optical Transport Network PM Parameters](#)” task on page 10-30 as needed.

To refresh, reset, or clear PM counts, see the “[NTP-A253 Change the PM Display](#)” procedure on page 10-2.

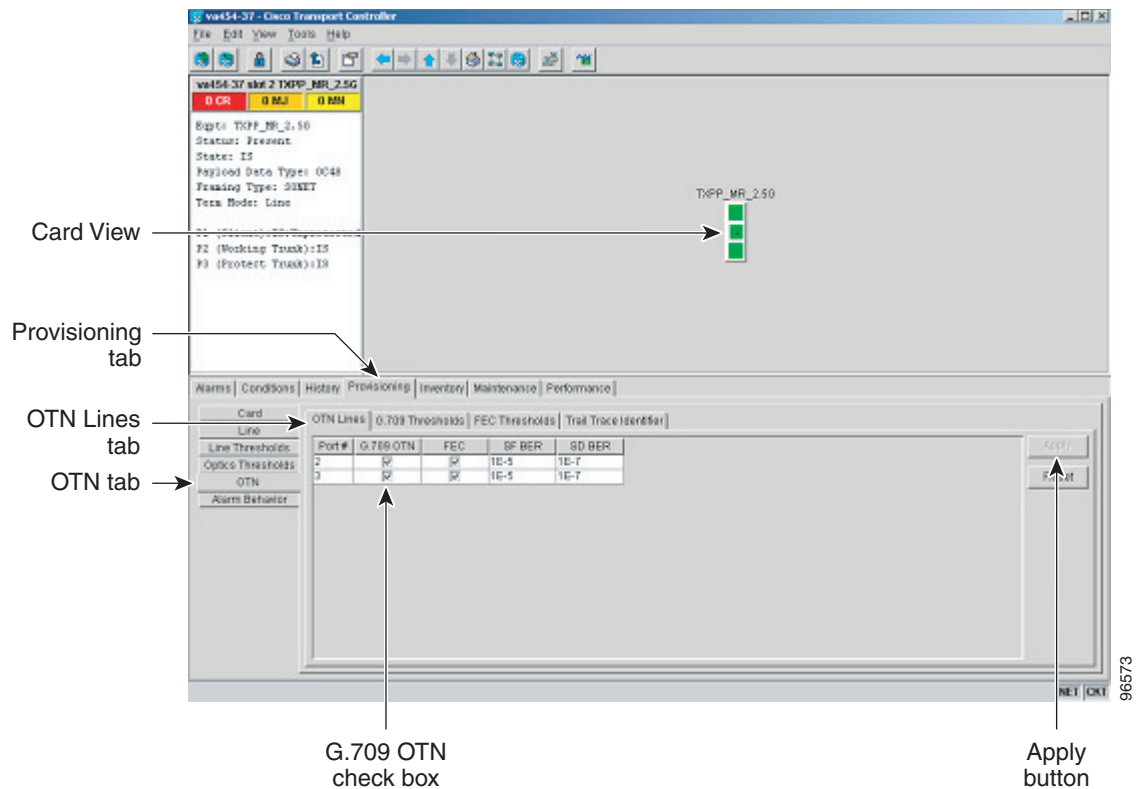
Stop. You have completed this procedure.

DLP-A500 Enable/Disable OTN G.709 Performance Monitoring

Purpose	This task enables or disables optical transport network (OTN) G.709 monitoring of near-end or far-end performance on a selected card and port during selected time intervals to detect possible problems.
Tools/Equipment	None
Prerequisite Procedures	DLP-A60 Log into CTC, page 3-26
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

- Step 1** In node view, double-click the card you want to monitor. The card view appears.
- Step 2** Click the **Provisioning** > **OTN** > **OTN Lines** tabs ([Figure 10-12](#)).

Figure 10-12 OTN Lines Tab for Enabling/Disabling OTN G.709 Performance Monitoring



- Step 3** Make a G.709 selection based on the following rules:
- Unchecked disables G.709 for that port (default)
 - Checked enables G.709 for that port
- Step 4** Click **Apply**.
- Step 5** Click the **Performance** tab to view PM parameters. For PM parameter definitions, refer to the *Cisco ONS 15454 Reference Manual*.

Step 6 Return to your originating procedure (NTP).

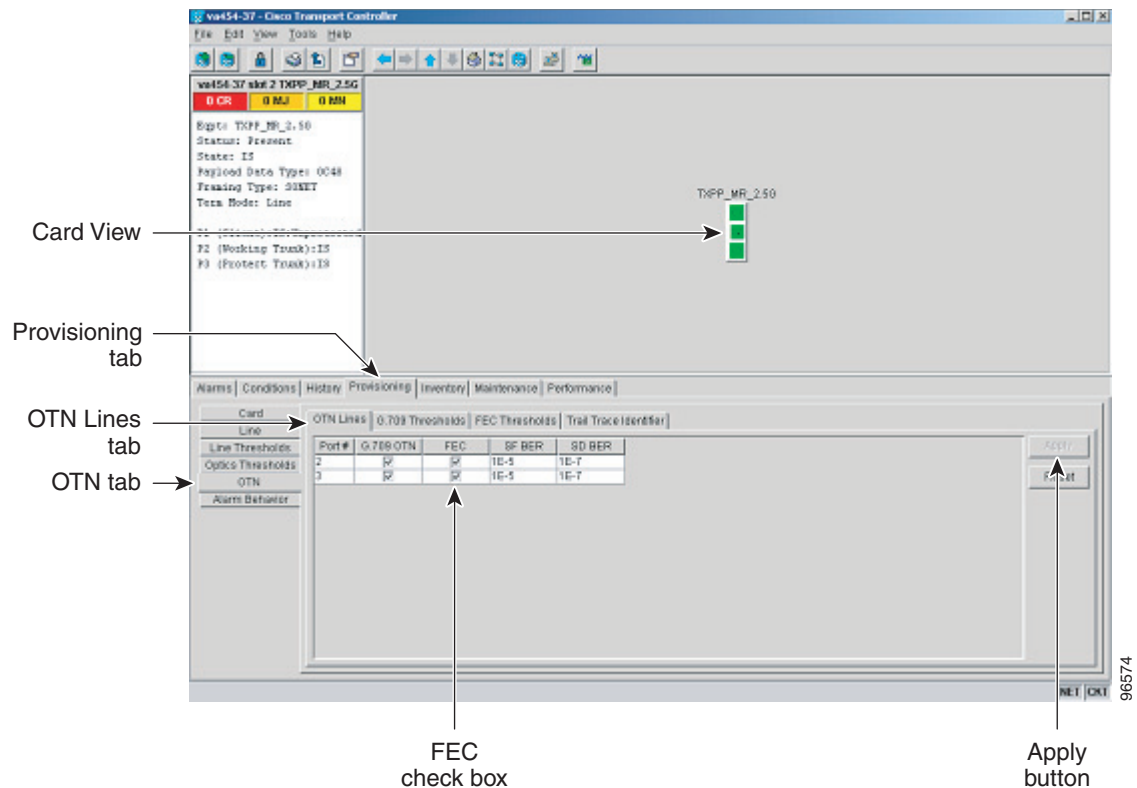
DLP-A501 Enable/Disable OTN FEC Performance Monitoring

Purpose	This task enables or disables optical transport network (OTN) FEC monitoring of node near-end or far-end performance on a selected card and port during selected time intervals to detect possible problems
Tools/Equipment	None
Prerequisite Procedures	DLP-A60 Log into CTC, page 3-26
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Step 1 In node view, double-click the card you want to monitor. The card view appears.

Step 2 Click the **Provisioning > OTN > OTN Lines** tabs ([Figure 10-13](#)).

Figure 10-13 OTN Lines Tab for Enabling/Disabling OTN FEC Performance Monitoring



Step 3 Make a FEC selection based on the following rules:

- Unchecked disables FEC for that port (default)

- Checked enables FEC for that port
- Step 4** Click **Apply**.
- Step 5** Click the **Performance** tab to view PM parameters. For PM parameter definitions, refer to the *Cisco ONS 15454 Reference Manual*.
- Step 6** Return to your originating procedure (NTP).
-

DLP-A317 View Optics PM Parameters

Purpose	This task enables you to view the optics PM counts on a selected TXP_MR_10G, TXP_MR_2.5G, TXPP_MR_2.5G (transponder), or MXP_2.5G_10G (muxponder) optical card and port to detect possible performance problems.
Tools/Equipment	None
Prerequisite Procedures	DLP-A60 Log into CTC, page 3-26
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

- Step 1** In node view, 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 10-14](#)).

Figure 10-14 Viewing Optics Performance Monitoring Information

The screenshot shows the Cisco Transport Controller (CTC) interface. The top section displays the card view for 'TXPP_MR_2.5G' with status 'Present' and 'Ready'. Below this, the 'Performance' tab is selected, showing a table of optical parameters. The table has columns for 'Curr' (Current) and 'Prev-1' through 'Prev-8' (Previous values). The parameters include Laser Bias (Avg %), Laser Bias (Max %), RX Optical Pwr (Min, dBm), RX Optical Pwr (Max, dBm), TX Optical Pwr (Min, dBm), and TX Optical Pwr (Max, dBm). The bottom section contains controls for directions (R/TX/EXT), intervals (15 min, 1 day), a signal-type port menu (Port 1), a refresh button, an auto-refresh menu (Auto-refresh: None), and a clear button.

- 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 *Cisco ONS 15454 Reference Manual*.
- Step 4** Return to your originating procedure (NTP).

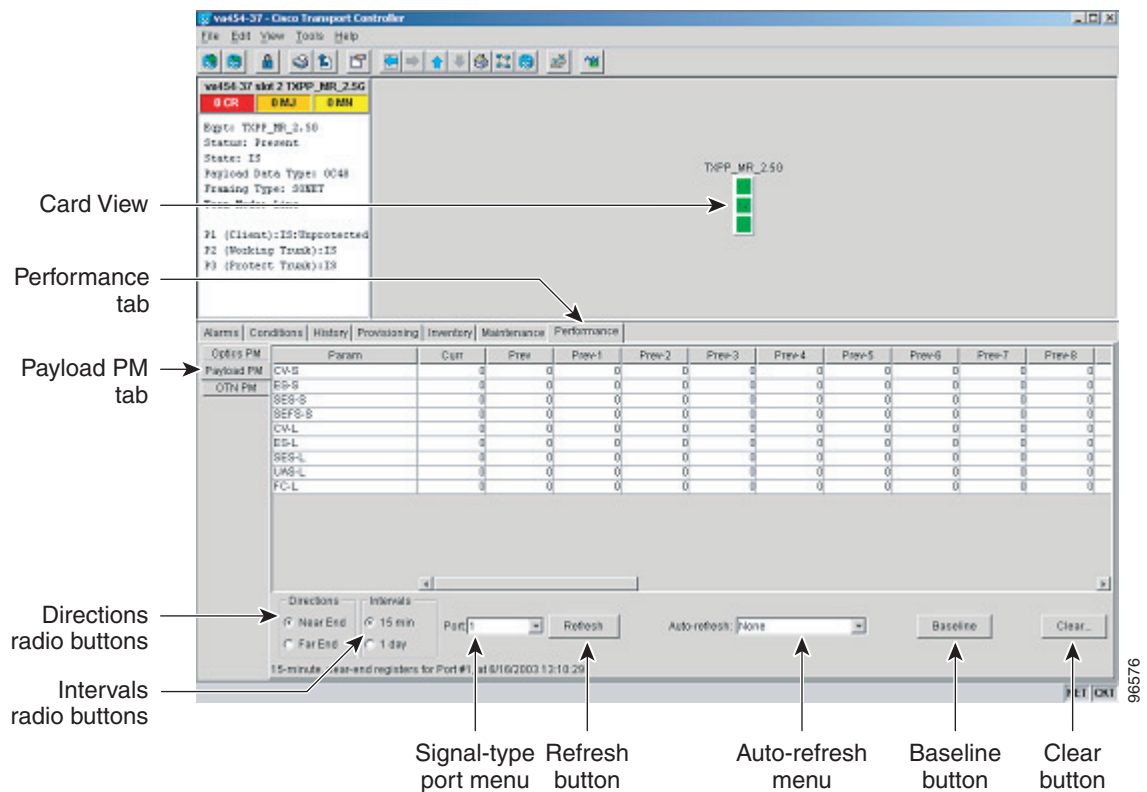
DLP-A318 View Payload PM Parameters

Purpose	This task enables you to view the payload PM counts on a selected TXP_MR_10G, TXP_MR_2.5G, TXPP_MR_2.5G (transponder), or MXP_2.5G_10G (muxponder) optical card and port to detect possible performance problems.
Tools/Equipment	None
Prerequisite Procedures	DLP-A60 Log into CTC, page 3-26
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

- Step 1** In node view, 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 10-15).

Figure 10-15 Viewing Payload 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 *Cisco ONS 15454 Reference Manual*.



Note

The PM parameters that appear depend upon the data payload and framing type provisioned on the port. Unframed data payloads such as ESCON, DV6000, DSI/D1 video, and HDTV do not provide payload performance monitoring information.

Step 4 Return to your originating procedure (NTP).

DLP-A319 View Optical Transport Network PM Parameters

Purpose	This task enables you to view the optical transport network (OTN) PM counts on a selected TXP_MR_10G, TXP_MR_2.5G, TXPP_MR_2.5G (transponder), or MXP_2.5G_10G (muxponder) optical card and port to detect possible performance problems.
Tools/Equipment	None
Prerequisite Procedures	DLP-A60 Log into CTC, page 3-26
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

- Step 1** In node view, double-click the transponder or muxponder card where you want to view PM counts. The card view appears.
- Step 2** Click the **Performance > OTN PM > G.709** tabs ([Figure 10-16](#)).

Figure 10-16 Viewing OTN G.709 Performance Monitoring Information

Card View

Performance tab

G.709 PM tab

OTN PM tab

Directions radio buttons

Intervals radio buttons

Signal-type port menu

Refresh button

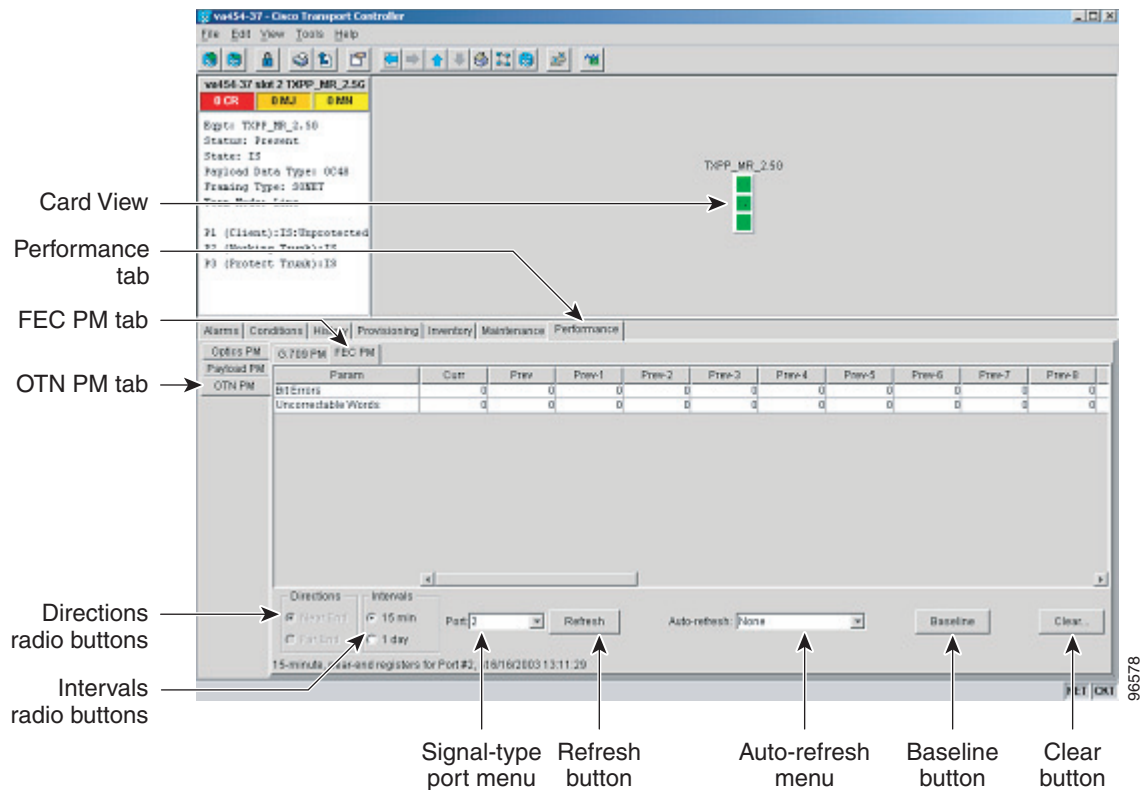
Auto-refresh menu

Baseline button

Clear button

- 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 *Cisco ONS 15454 Reference Manual*.
- Step 4** Click the **FEC PM** tab ([Figure 10-17](#)).

Figure 10-17 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 *Cisco ONS 15454 Reference Manual*.
- Step 6** Return to your originating procedure (NTP).

NTP-A252 Monitor DWDM Performance

Purpose	This procedure enables you to view transmit and receive performance during selected time intervals on a selected DWDM card and port to detect possible performance problems. This procedure applies to DWDM (Software R4.5) nodes only.
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 8, “Create Circuits and VT Tunnels” and Chapter 13, “Change Card Settings.”
Required/As Needed	As needed
Onsite/Remote	Onsite
Security Level	Retrieve or higher

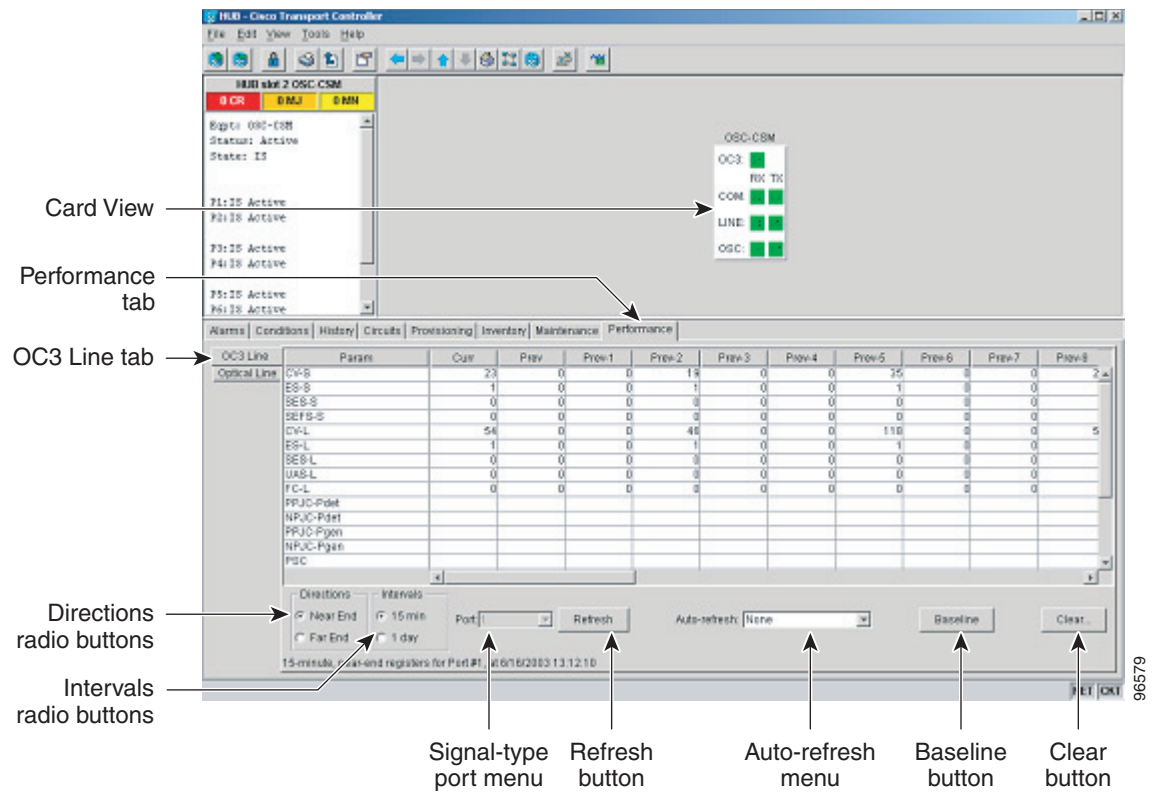
-
- Step 1** Complete the “[DLP-A60 Log into CTC](#)” task on page 3-26 at the node that you want to monitor. If you are already logged in, continue with Step 2.
- Step 2** Complete the “[DLP-A502 View Optical Service Channel PM Parameters](#)” task on page 10-32.
- Step 3** Complete the “[DLP-A503 View Optical Amplifier PM Parameters](#)” task on page 10-34.
- Step 4** Complete the “[DLP-A504 View Optical Multiplexer and Demultiplexer PM Parameters](#)” task on page 10-36.
- Step 5** Complete the “[DLP-A505 View Channel Filter Optical Add/Drop Multiplexer PM Parameters](#)” task on page 10-38.
- Step 6** Complete the “[DLP-A506 View Band Filter Optical Add/Drop Multiplexer PM Parameters](#)” task on page 10-40.
- To refresh, reset, or clear PM counts, see the “[NTP-A253 Change the PM Display](#)” procedure on page 10-2.
- Stop. You have completed this procedure.**
-

DLP-A502 View Optical Service Channel PM Parameters

Purpose	This task enables you to view optical service channel 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-A60 Log into CTC , page 3-26
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

-
- Step 1** In node view, 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 10-18](#)).

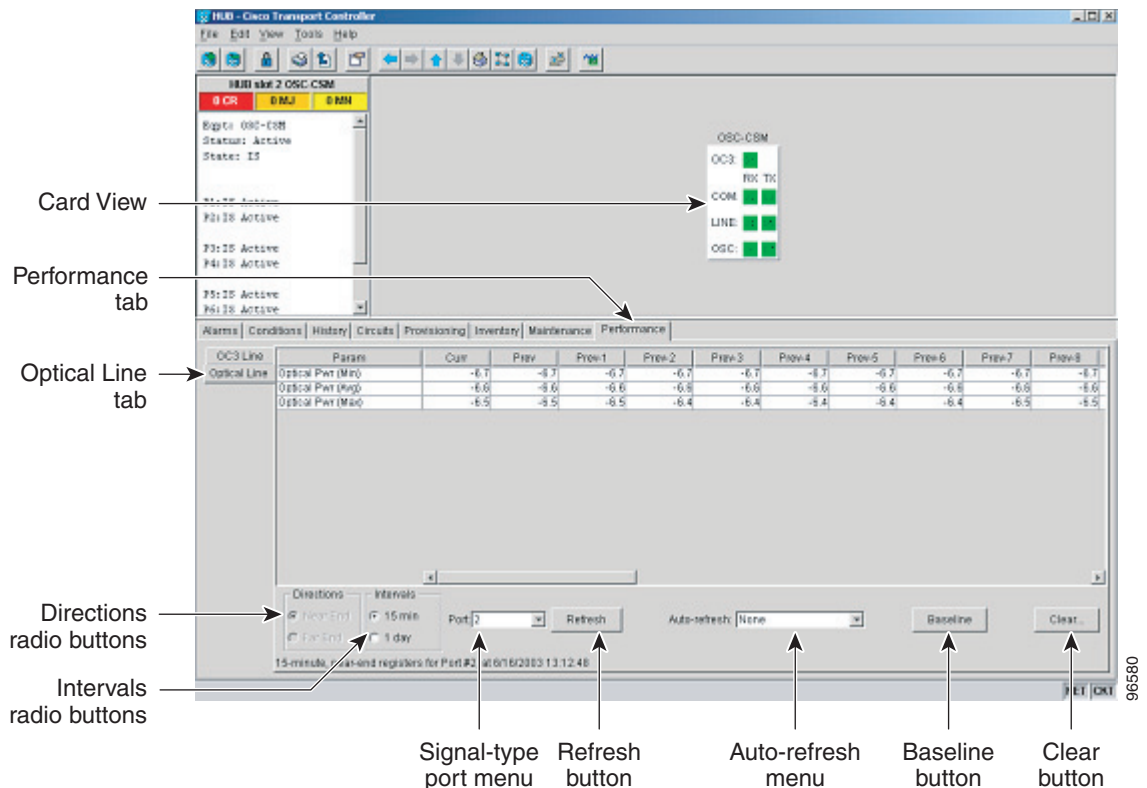
Figure 10-18 OC3 Line Tab in the Optical Service Channel Card View Performance Window



Step 3 Click **Refresh**. OC3 line performance monitoring statistics for the selected port appear.

Step 4 Click the **Optical Line** tab (Figure 10-19).

Figure 10-19 Optical Line Tab in the Optical Service Channel Card View Performance Window



Step 5 Click **Refresh**. Optical line performance monitoring statistics for the selected port appear.

Step 6 Return to your originating procedure (NTP).

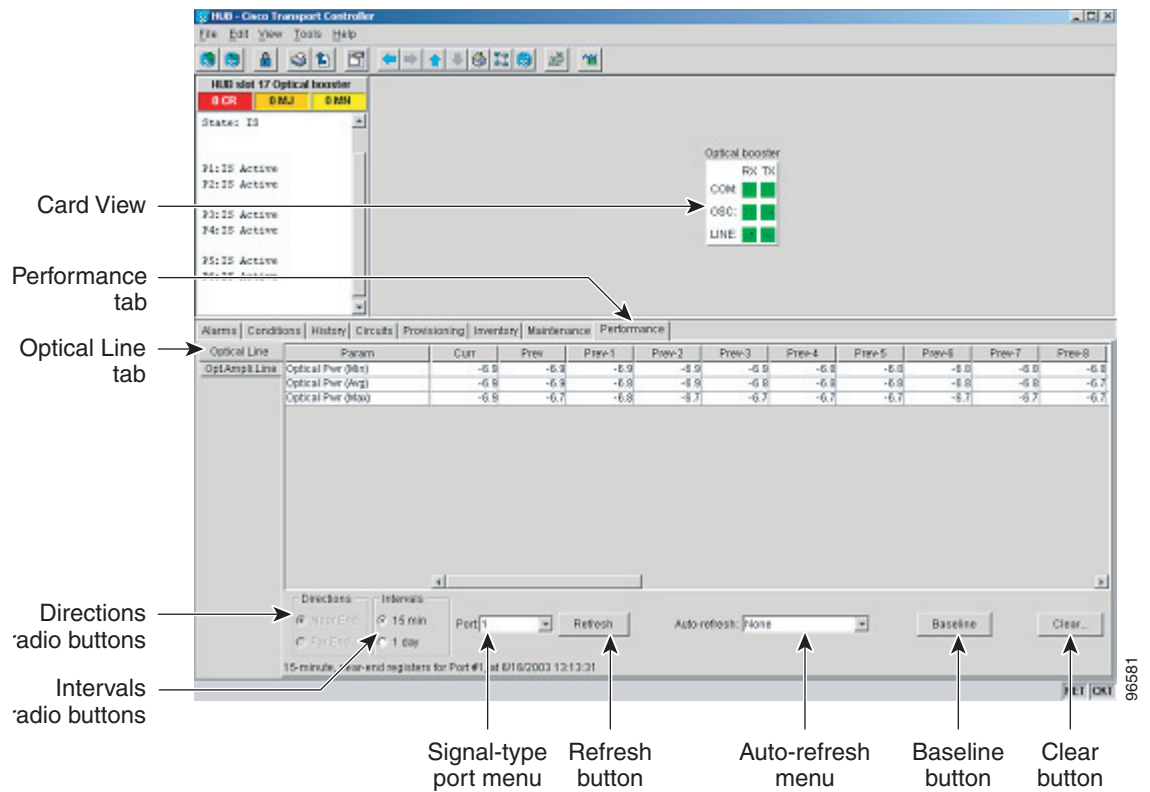
DLP-A503 View Optical Amplifier PM Parameters

Purpose	This task enables you to view optical amplifier PM counts at selected time intervals on an OPT PRE or OPT BST card and port to detect possible performance problems.
Tools/Equipment	None
Prerequisite Procedures	DLP-A60 Log into CTC, page 3-26
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

Step 1 In node view, double-click the optical amplifier card where you want to view PM counts. The card view appears.

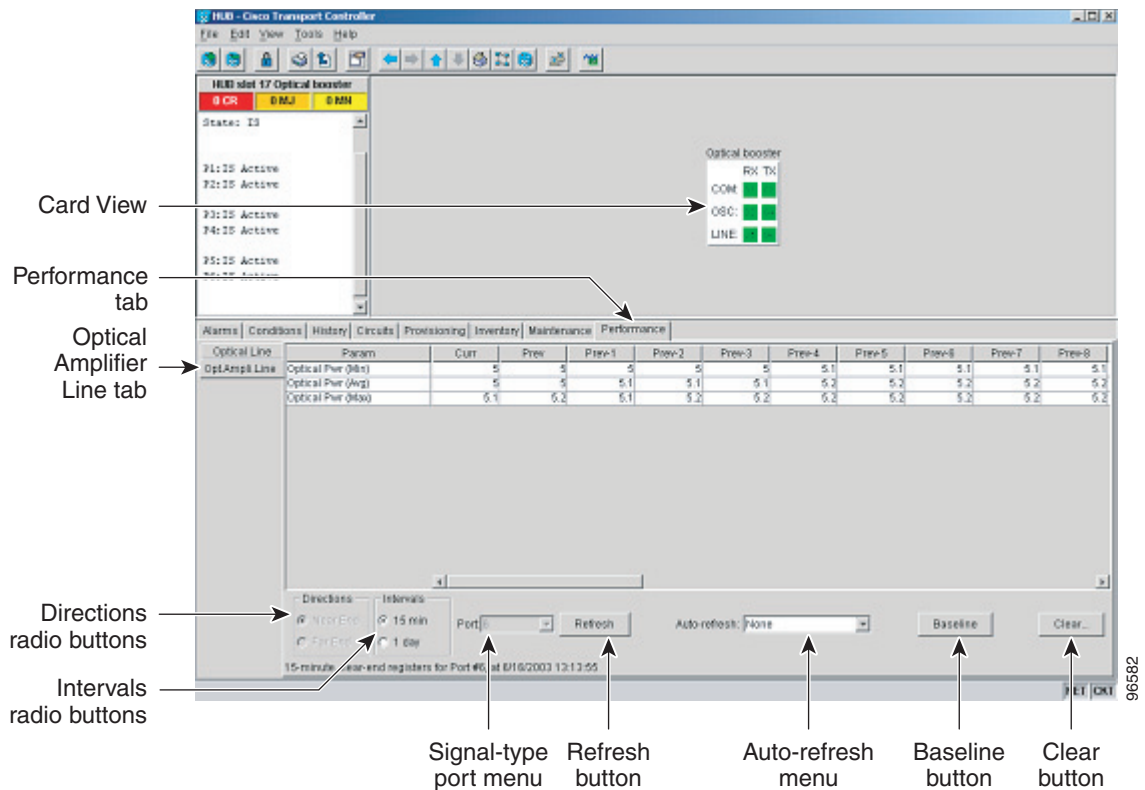
Step 2 Click the **Performance > Optical Line** tabs ([Figure 10-20](#)).

Figure 10-20 Optical Line Tab in the Optical Amplifier Card View Performance Window



- Step 3** Click **Refresh**. Optical line performance monitoring statistics for the selected port appear.
- Step 4** Click the **Opt. Ampli. Line** tab (Figure 10-21).

Figure 10-21 Optical Amplifier Line Tab in the Optical Amplifier Card View Performance Window



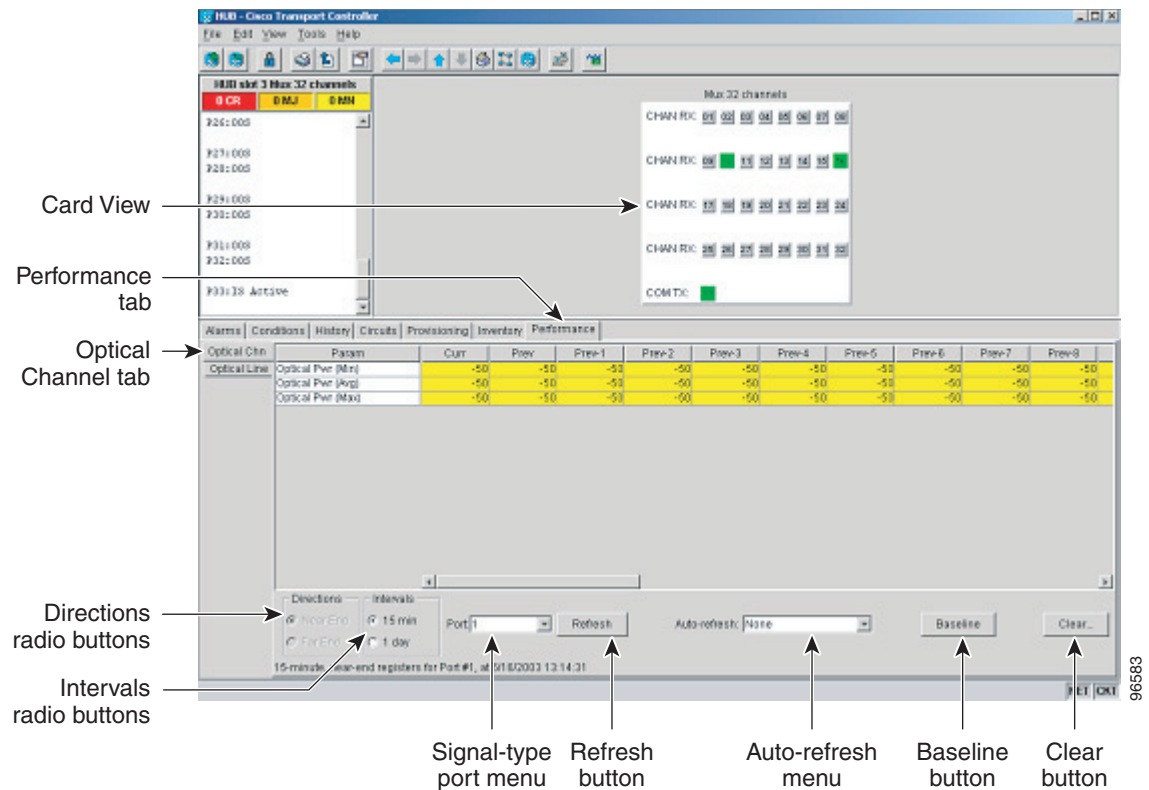
- Step 5** Click **Refresh**. Optical amplifier line performance monitoring statistics for the selected port appear.
- Step 6** Return to your originating procedure (NTP).

DLP-A504 View Optical Multiplexer and Demultiplexer PM Parameters

Purpose	This task enables you to view multiplexer or demultiplexer PM counts at selected time intervals on a 32MUX or 32DMX card and port to detect possible performance problems.
Tools/Equipment	None
Prerequisite Procedures	DLP-A60 Log into CTC, page 3-26
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

- Step 1** In node view, double-click the 32MUX or 32DMX card where you want to view PM counts. The card view appears.
- Step 2** Click the **Performance > Optical Channel** tabs ([Figure 10-22](#)).

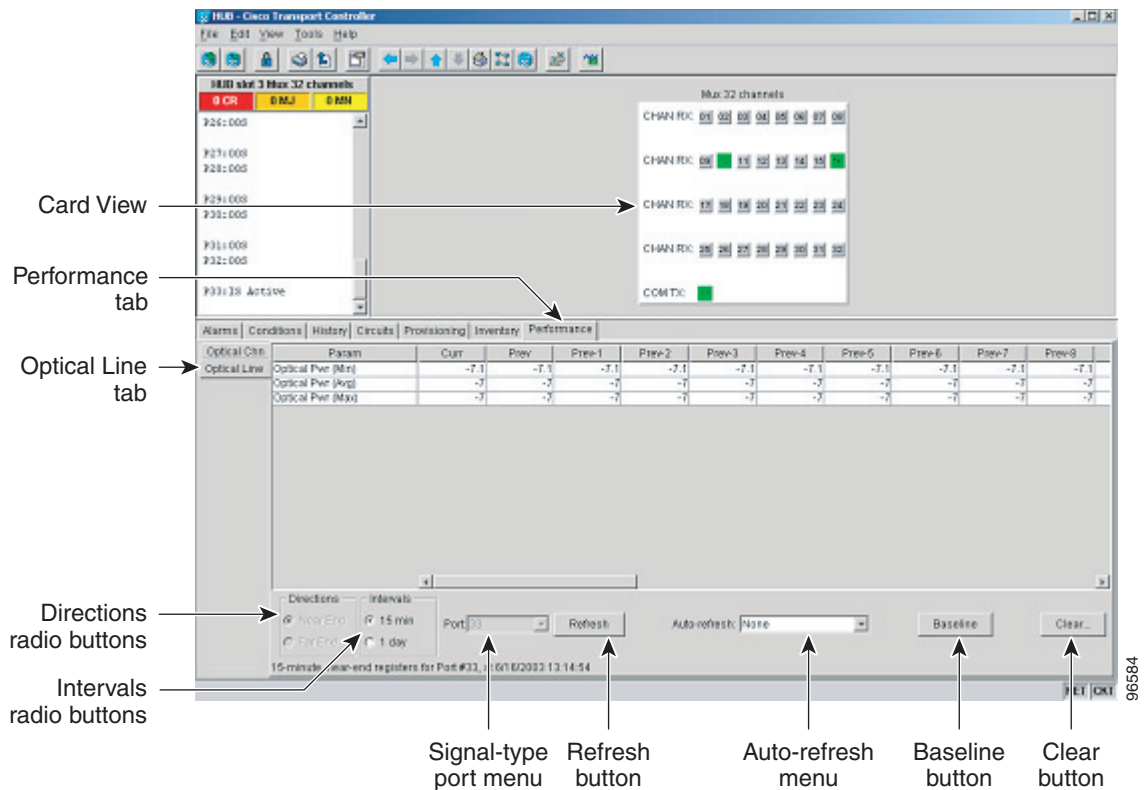
Figure 10-22 Optical Channel Tab in the Mux/Demux Card View Performance Window



- Step 3** Click **Refresh**. Optical channel line performance monitoring statistics for the selected port appear.
- Step 4** Click the **Optical Line** tab (Figure 10-23).

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Figure 10-23 Optical Line Tab in the Mux/Demux Card View Performance Window



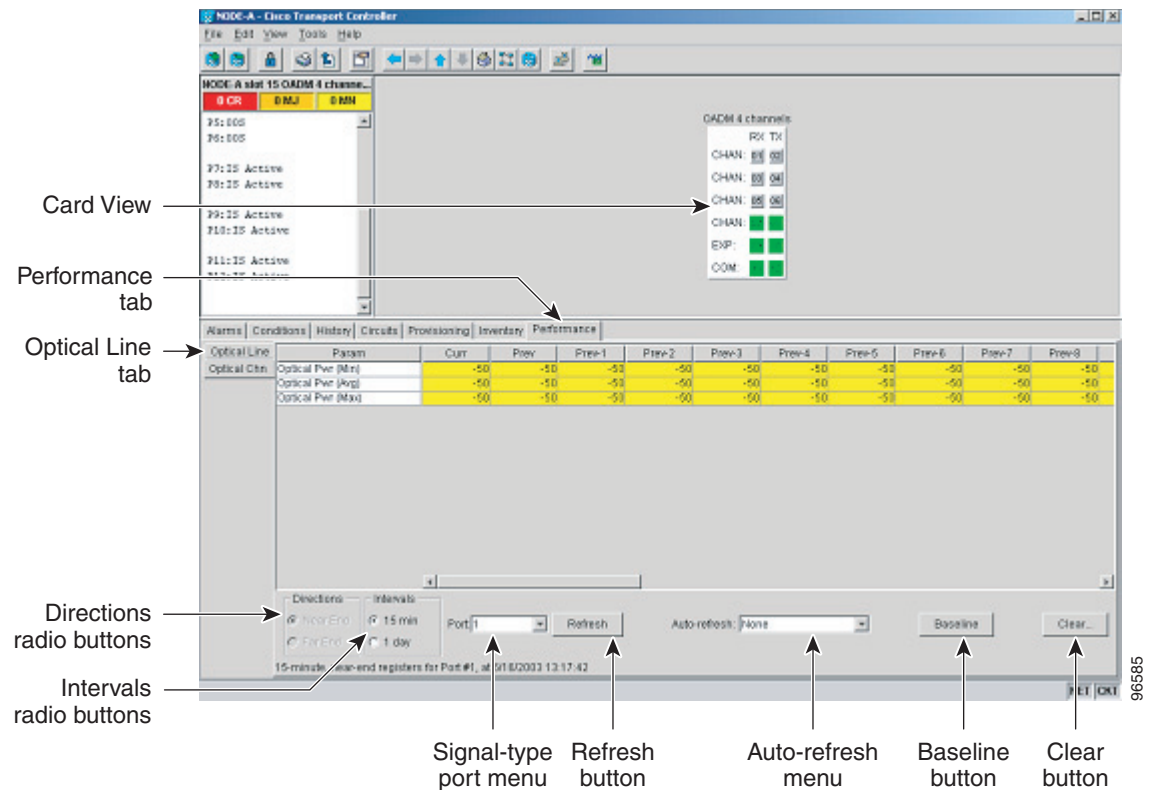
- Step 5** Click **Refresh**. Optical line performance monitoring statistics for the selected port appear.
- Step 6** Return to your originating procedure (NTP).

DLP-A505 View Channel Filter Optical Add/Drop Multiplexer PM Parameters

Purpose	This task enables you to view optical add/drop channel multiplexer PM counts at selected time intervals on an AD1C, AD2C, or AD4C card and port to detect possible performance problems.
Tools/Equipment	None
Prerequisite Procedures	DLP-A60 Log into CTC, page 3-26
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

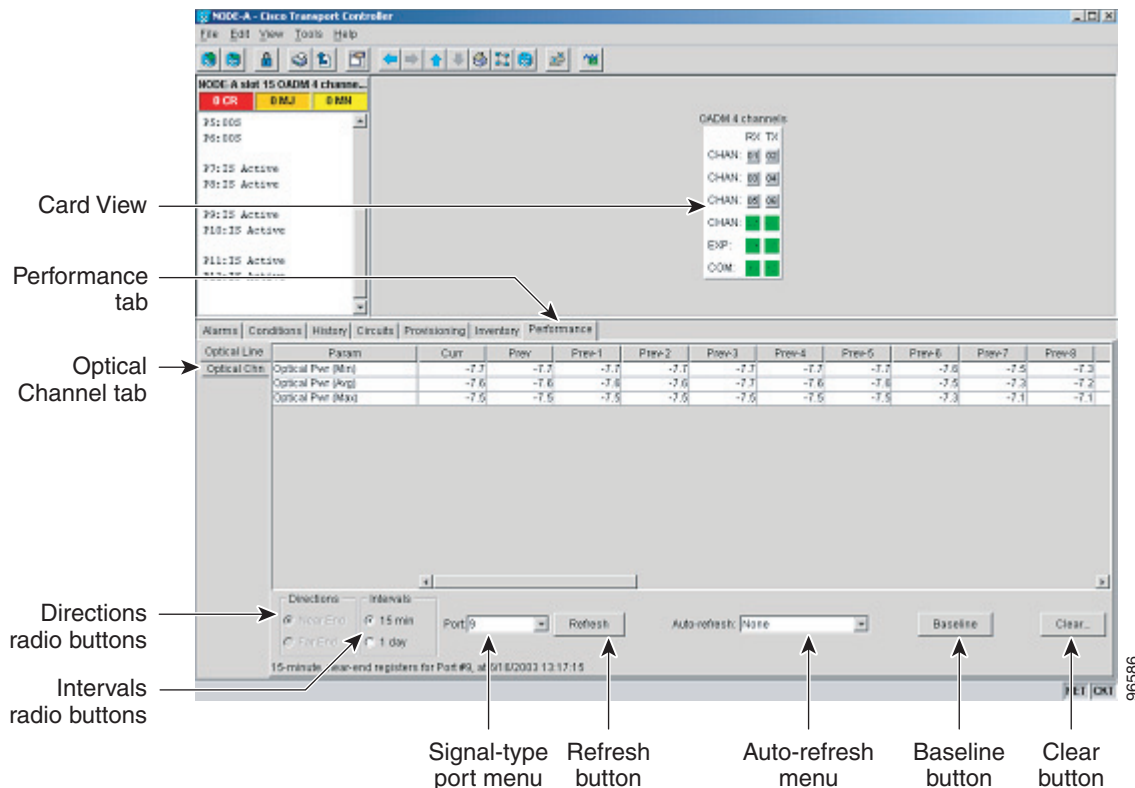
- Step 1** In node view, double-click the optical add/drop channel multiplexer card where you want to view PM counts. The card view appears.
- Step 2** Click the **Performance > Optical Line** tabs ([Figure 10-24](#)).

Figure 10-24 Optical Line Tab in the Channel Filter OADM Card View Performance Window



- Step 3** Click **Refresh**. Optical channel performance monitoring statistics for the selected port appear.
- Step 4** Click the **Optical Channel** tab (Figure 10-25).

Figure 10-25 Optical Channel Tab in the Channel Filter OADM Card View Performance Window



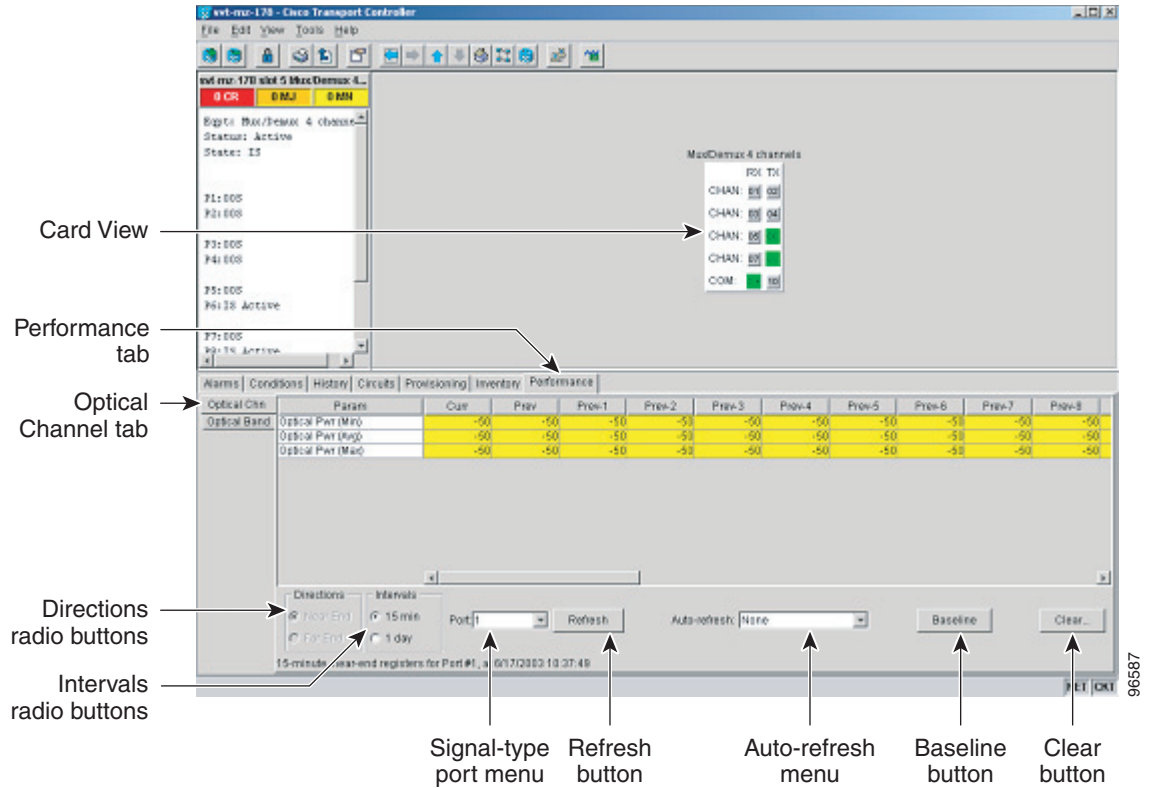
- Step 5** Click **Refresh**. Optical line performance monitoring statistics for the selected port appear.
- Step 6** Return to your originating procedure (NTP).

DLP-A506 View Band Filter Optical Add/Drop Multiplexer PM Parameters

Purpose	This task enables you to view optical add/drop band multiplexer PM counts at selected time intervals on an AD1B, AD4B, or 4MD card and port to detect possible performance problems.
Tools/Equipment	None
Prerequisite Procedures	DLP-A60 Log into CTC, page 3-26
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

- Step 1** In node view, double-click the optical add/drop band multiplexer card where you want to view PM counts. The card view appears.
- Step 2** Click the **Performance > Optical Line** tabs ([Figure 10-26](#)).

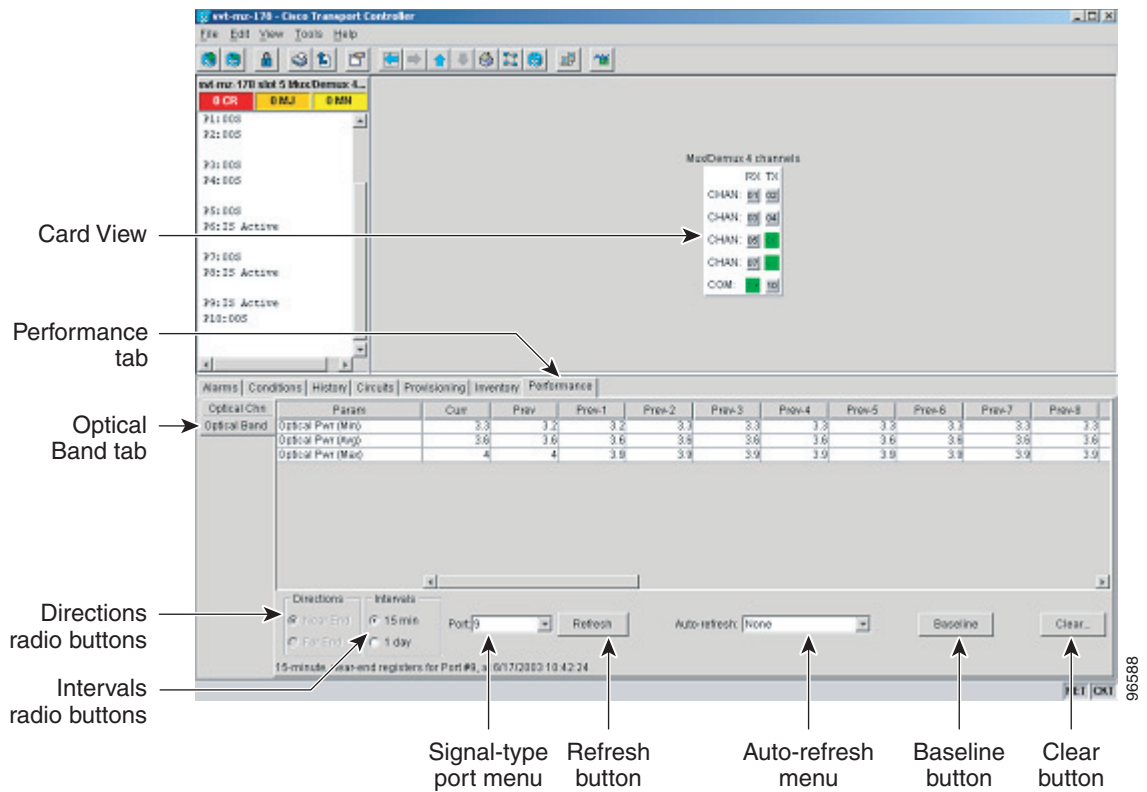
Figure 10-26 Optical Line Tab in the Band Filter OADM Card View Performance Window



- Step 3** Click **Refresh**. Optical line performance monitoring statistics for the selected port appear.
- Step 4** Click the **Optical Band** tab (Figure 10-27).

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Figure 10-27 Optical Band Tab in the Band Filter OADM Card View Performance Window



Step 5 Click **Refresh**. Optical band performance monitoring statistics for the selected port appear.

Step 6 Return to your originating procedure (NTP).