CHAPTER 9

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 Troubleshooting Guide*.

Note The procedures and tasks described in this chapter for the Cisco ONS 15454 platform is applicable to the Cisco ONS 15454 M2 and Cisco ONS 15454 M6 platforms, unless noted otherwise.

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 9-2—Complete as needed to change the displayed PM counts.
2. NTP-G279 Monitor TNC Card Performance, page 9-10—Complete as needed to monitor the performance for the TNC card.
3. NTP-G74 Monitor DWDM Card Performance, page 9-15—Complete as needed to monitor performance for dense wavelength division multiplexing (DWDM) cards, which includes the OSCM, OSC-CSM, 32MUX-O, 32DMX, 32DMX-O, 32DMX-L, 40-MUX-C, 40-DMX-C, 40-DMX-CE, 40-WSS-C, 40-WSS-CE, 40-WXC-C, 80-WXC-C, 40-SMR1-C, 40-SMR2-C, 4MD-xx.x, AD-xC-xx.x, AD-xB-xx.x, 32WSS, 32WSS-L, TDC-CC, TDC-FC. OPT-BST, OPT-PRE, OPT-BST-L, OPT-AMP-L, OPT-AMP-17-C, OPT-RAMP-C and OPT-RAMP-CE cards.
4. NTP-G75 Monitor Transponder and Muxponder Performance, page 9-26—Complete as needed to monitor performance for all transponder (TXP), muxponder (MXP), Xponder (GE_XP, 10GE_XP, GE_XPE, 10GE_XPE, and OTU2_XP), and ADM-10G cards.
5. NTP-G193 Enable or Disable AutoPM, page 9-35—Complete as needed to enable or disable automatic autonomous performance monitoring (AutoPM) reports.

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

NTP-G73 Change the PM Display

Purpose	This procedure enables you to change the appearance of PM counts by selecting drop-down list or radio button options in the Performance window.
Tools/Equipment	None
Prerequisite Procedures	Before you monitor performance, be sure you have created the appropriate circuits and provisioned the card according to your specifications. For more information, see Chapter 8, "Create Circuits and Provisionable Patchcords," Chapter 6, "Provision Transponder and Muxponder Cards," and Chapter 12, "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 3-30 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 9-3
- DLP-G132 Refresh PM Counts at One-Day Intervals, page 9-4
- DLP-G133 View Near-End PM Counts, page 9-5
- DLP-G134 View Far-End PM Counts, page 9-5
- DLP-G135 Reset Current PM Counts, page 9-6
- DLP-G136 Clear Selected PM Counts, page 9-7
- DLP-G410 Clear All PM Thresholds, page 9-8
- DLP-G137 Set the Auto-Refresh Interval for Displayed PM Counts, page 9-9
- DLP-G138 Refresh PM Counts for a Different Port, page 9-10

Stop. You have completed this procedure.

DLP-G131 Refresh PM Counts at 15-Minute Intervals

Purpose	This task changes the window view to display PM counts in 15-minute intervals.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 3-30
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

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

Step 2 Click the **Performance** tab.

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

Note Performance subtabs vary depending on the card.

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

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

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

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

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

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

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

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

Step 10 Return to your originating procedure (NTP).

DLP-G132 Refresh PM Counts at One-Day Intervals

Purpose	This task changes the window view to display PM parameters in 1-day intervals.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 3-30
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

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

Step 2 Click the **Performance** tab.

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

Note Performance subtabs vary depending on the card.

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

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

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

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

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

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

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

Step 9 Return to your originating procedure (NTP).

DLP-G133 View Near-End PM Counts

Purpose	This task enables you to view near-end PM counts for the selected card and port.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 3-30
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

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

Step 2 Click the **Performance** tab.

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

Note Performance subtabs vary depending on the card.

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

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

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

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

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

Step 9 Return to your originating procedure (NTP).

DLP-G134 View Far-End PM Counts

Purpose	This task enables you to view far-end PM parameters for the selected card and port.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 3-30
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

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

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

Step 2 Click the **Performance** tab.

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

Note Performance subtabs vary depending on the card.

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

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

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

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

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

Step 9 Return to your originating procedure (NTP).

DLP-G135 Reset Current PM Counts

Purpose	This task clears the current PM count, but it does not clear the cumulative PM count. This task allows you to see how quickly PM counts rise.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 3-30
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

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

Step 2 Click the **Performance** tab.

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

Note Performance subtabs vary depending on the card.

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

Note For all TXP and MXP cards and the GE_XP, 10GE_XP, GE_XPE, 10GE_XPE, ADM-10G, and OTU2_XP card, you cannot change the PM count interval on the Optics PM > Current Values tab.

Step 5 Click **Baseline**.

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

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

Step 7 Return to your originating procedure (NTP).

DLP-G136 Clear Selected PM Counts

Purpose	This task uses the Clear button to clear specified PM counts depending on the option selected.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 3-30
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Superuser only

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

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

Step 2 Click the **Performance** tab.

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

Note Performance subtabs vary depending on the card.

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

Note For all TXP and MXP cards and the GE_XP, 10GE_XP, GE_XPE, 10GE_XPE, ADM-10G, and OTU2_XP card, you cannot change the PM count interval on the Optics PM > Current Values tab.

Step 5 Click **Clear**.

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

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

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

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

Step 9 Return to your originating procedure (NTP).

DLP-G410 Clear All PM Thresholds

Purpose	This task clears and resets all PM thresholds to the default values.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 3-30
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Superuser only

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

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

Step 2 Click the **Provisioning** tab.

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

Step 4 Click **Reset to Default**.

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

Step 6 Verify that the PM thresholds have been reset.

Step 7 Return to your originating procedure (NTP).

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

Purpose	This task changes the window auto-refresh intervals for updating the PM counts.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 3-30
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

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

Step 2 Click the **Performance** tab.

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

Note Performance subtabs vary depending on the card.

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

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

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

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

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

Step 7 Return to your originating procedure (NTP).

DLP-G138 Refresh PM Counts for a Different Port

Purpose	This task changes the window view to display PM counts for another port on a TXP and MXP cards, GE_XP, 10GE_XP, GE_XPE, 10GE_XPE, ADM-10G, and OTU2_XP cards.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 3-30
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

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

Step 2 Click the **Performance** tab.

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

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

Step 5 Return to your originating procedure (NTP).

NTP-G279 Monitor TNC Card Performance

Purpose	This procedure enables you to view, transmit, and receive performance information for the TNC card and ports during selected time intervals to detect possible performance problems. This procedure also enables you to set the RMON thresholds. This procedure is applicable on the Cisco ONS 15454 M2 and the Cisco ONS 15454 M6 shelves.
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 Provisionable Patchcords" and Chapter 12, "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 3-30 at the node that you want to monitor performance. If you are already logged in, continue with Step 2.

Step 2 Complete the following tasks as needed:

- DLP-G607 View Optics PM Parameters for the TNC Card, page 9-11
- DLP-G608 View Payload PM Parameters for the TNC Card, page 9-11
- DLP-G686 Set the TNC Card RMON Thresholds for the FE/ONE_GE Ethernet Payloads, page 9-12

Note To refresh, reset, or clear PM counts, see the "NTP-G73 Change the PM Display" procedure on page 9-2.

Stop. You have completed this procedure.

DLP-G607 View Optics PM Parameters for the TNC Card

Purpose	This task enables you to view the optics PM counts on TNC card to detect possible performance problems. This task is applicable on the ONS 15454 M2 and the ONS 15454 M6 shelves.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 3-30
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

Note The optics 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 6-3 for more information about PPMs.

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

Step 2 Click the **Performance > Optics PM** tabs.

Step 3 View the PM parameter names that appear in the Param column of the Current Values and Historical PM tabs. In the Historical PM tab, 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-G608 View Payload PM Parameters for the TNC Card

Purpose	This task enables you to view the payload PM counts on the TNC card to detect possible performance problems. This task is applicable on the ONS 15454 M2 and the ONS 15454 M6 shelves.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 3-30
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

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 6-3 for more information about PPMs.

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

Step 2 Click the **Performance > Payload PM** tabs.

Ethernet and SONET tabs appear depending on the PPMs and ports that you provisioned through the Provisioning tab.

Step 3 View the PM parameter names that appear in the Param column of the SONET tab. The PM parameter values appear in the Curr (or current), and Prev-*n* (previous) columns.

The Ethernet tab has three subtabs: Statistics, Utilization, and History. You can view the PM parameter names and current parameter values in the Statistics subtab. You can view the percentage of utilization of Tx and Rx ports in the Utilization subtab. You can view the PM parameter names and previous parameter values in the History subtab.

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-G686 Set the TNC Card RMON Thresholds for the FE/ONE_GE Ethernet Payloads

Purpose	This task sets the RMON threshold settings for TNC card carrying the FE/ONE_GE payloads.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 3-30
	"DLP-G605 Provision PPM and Port for the TNC Card" in the *Cisco ONS 15454 Hardware Installation Guide*
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Note This task can only be performed if the TNC card has at least one PPM port provisioned for FE or ONE_GE payloads.

Step 1 In node view (single-shelf mode) or shelf view (multishelf view), display the TNC card where you want to set the RMON thresholds.

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

Step 3 Click **Create**. The Create Threshold dialog box appears.

Step 4 From the Port drop-down list, choose an individual port (FE or ONE_GE), or choose **All** to provision RMON thresholds for all ports.

Step 5 From the Variable drop-down list, choose an Ethernet variable. See Table 9-1 for a list of available Ethernet RMON variables.

Table 9-1 TNC Card FE and ONE_GE RMON Thresholds

Variable	Description
ifInOctets	Total number of octets received on the interface, including framing characters.
rxTotalPkts	Total number of receive packets.
ifInUcastPkts	The number of packets, delivered by this sub-layer to a higher (sub-) layer, which were not addressed to a multicast or broadcast address at this sub-layer.
ifInMulticastPkts	The number of packets, delivered by this sub-layer to a higher (sub-)layer, which were addressed to a multicast address at this sub-layer. For a MAC layer protocol, this includes both Group and Functional addresses.
ifInBroadcastPkts	The number of packets, delivered by this sub-layer to a higher (sub-)layer, which were addressed to a broadcast address at this sub-layer.
ifInErrors	Number of inbound packets that contained errors preventing them from being delivered to a higher-layer protocol.
ifOutOctets	Total number of octets transmitted out of the interface, including framing characters.
txTotalPkts	Total number of transmitted packets.
ifOutUcastPkts	The number of packets transmitted by a port that are addressed to a unicast address.
ifOutMulticastPkts	The total number of packets that higher-level protocols requested be transmitted, and which were addressed to a multicast address at this sub-layer, including those that were discarded or not sent. For a MAC layer protocol, this includes both group and functional addresses.
ifOutBroadcastPkts	The total number of packets that higher-level protocols requested be transmitted, and which were addressed to a broadcast address at this sub-layer, including those that were discarded or not sent.
dot3StatsAlignmentErrors	The number of packets received by a port that have a length (excluding framing bits but including FCS) between 64 and 1522 bytes, both inclusive, and have a bad FCS with a non-integral number of bytes.
dot3StatsFCSErrors	A count of frames received on a particular interface that are an integral number of octets in length but do not pass the FCS check.
dot3StatsFrameTooLong	A count of frames received on a particular interface that exceed the maximum permitted frame size.
etherStatsUndersizePkts	The total number of packets received that were less than 64 octets long (excluding framing bits, but including FCS octets) and were otherwise well formed.
etherStatsFragments	The total number of packets received that were less than 64 octets in length (excluding framing bits but including FCS octets) and had either a bad Frame Check Sequence (FCS) with an integral number of octets (FCS Error) or a bad FCS with a non-integral.
etherStatsPkts64Octets	The total number of packets (including bad packets) received that were 64 octets in length (excluding framing bits but including FCS octets).
etherStatsPkts65to127Octets	The total number of packets (including error packets) received that were between 65 and 127 octets in length inclusive (excluding framing bits but including FCS octets).

Variable	Description
etherStatsPkts128to255Octets	The total number of packets (including error packets) received that were between 128 and 255 octets in length inclusive (excluding framing bits but including FCS octets).
etherStatsPkts256to511Octets	The total number of packets (including error packets) received that were between 256 and 511 octets in length inclusive (excluding framing bits but including FCS octets).
etherStatsPkts512to1023Octets	The total number of packets (including error packets) received that were between 512 and 1023 octets in length inclusive (excluding framing bits but including FCS octets).
etherStatsPkts1024to1518Octets	The total number of packets (including error packets) received that were between 1024 and 1518 octets in length inclusive (excluding framing bits but including FCS octets).
etherStatsBroadcastPkts	The total number of good packets received that were directed to the broadcast address
etherStatsMulticastPkts	The total number of good packets received that were directed to a multicast address. Note that this number does not include packets directed to the broadcast address.
etherStatsOversizePkts	The total number of packets received that were longer than 1518 octets (excluding framing bits, but including FCS octets) and were otherwise well formed.
etherStatsJabbers	The total number of packets received that were longer than 1518 octets (excluding framing bits, but including FCS octets), and were not an integral number of octets in length or had a bad FCS.
etherStatsOctets	The total number of octets of data (including those in bad packets) received on the network (excluding framing bits but including FCS octets).

Step 6 From the Alarm Type drop-down list, indicate whether the event will be triggered by the rising threshold, the falling threshold, or both the rising and falling thresholds.

Step 7 From the Sample Type drop-down list, choose either **Relative** or **Absolute**. Relative restricts the threshold to use the number of occurrences in the user-set sample period. Absolute sets the threshold to use the total number of occurrences, regardless of time period.

Step 8 Enter the appropriate number of seconds for the Sample Period in the Sample Period field.

Step 9 Enter the appropriate number of occurrences for the Rising Threshold in the Rising Threshold field.

For a rising type of alarm, the measured value must move from below the falling threshold to above the rising threshold. For example, if a network is running below a rising threshold of 1000 collisions every 15 seconds and a problem causes 1001 collisions in 15 seconds, the excess occurrences trigger an alarm.

Step 10 Enter the appropriate number of occurrences in the Falling Threshold field. In most cases a falling threshold is set lower than the rising threshold.

A falling threshold is the counterpart to a rising threshold. When the number of occurrences is above the rising threshold and then drops below a falling threshold, it resets the rising threshold. For example, when the network problem that caused 1001 collisions in 15 seconds subsides and creates only 799 collisions in 15 seconds, occurrences fall below a falling threshold of 800 collisions. This resets the rising threshold so that if network collisions again spike over a 1000 per 15-second period, an event again triggers when the rising threshold is crossed. An event is triggered only the first time a rising threshold is exceeded (otherwise, a single network problem might cause a rising threshold to be exceeded multiple times and cause a flood of events).

Step 11 Click **OK**.

Step 12 To view all the RMON thresholds, click **Show All RMON thresholds**.

Step 13 Return to your originating procedure (NTP).

NTP-G74 Monitor DWDM Card Performance

Purpose	This procedure enables you to view, transmit, and receive performance information for OSCM, OSC-CSM, 32MUX-O, 32DMX, 32DMX-O, 32DMX-L, 40-MUX-C, 40-DMX-C, 40-DMX-CE, 40-WSS-C, 40-WSS-CE, 40-WXC-C, 80-WXC-C, 4MD-xx.x, AD-xC-xx.x, AD-xB-xx.x, 32WSS, 32WSS-L, 40-SMR1-C, 40-SMR2-C, TDC-CC, TDC-FC, OPT-BST, OPT-PRE, OPT-BST-L, OPT-AMP-C, OPT-AMP-L, OPT-AMP-17-C, OPT-RAMP-C, and OPT-RAMP-CE 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 8, "Create Circuits and Provisionable Patchcords" and Chapter 12, "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 3-30 at the node that you want to monitor. If you are already logged in, continue with Step 2.

Step 2 Complete the following tasks as needed:

- DLP-G139 View PM Parameters for OSCM and OSC-CSM cards, page 9-16.
- DLP-G140 View Power Statistics for Optical Amplifier, 40-SMR1-C, and 40-SMR2-C Cards, page 9-16.
- DLP-G141 View Optical Power Statistics for 32MUX-O, 32WSS, 32WSS-L, 32DMX-O, 32DMX, 32DMX-L, 40-WSS-C, 40-WSS-CE, 40-WXC-C, 80-WXC-C, 40-MUX-C, 40-DMX-C, and 40-DMX-CE Cards, page 9-20.
- DLP-G479 View Optical Power Statistics for the PSM Card, page 9-21
- DLP-G276 View Optical Power Statistics for 4MD-xx.x Cards, page 9-21
- DLP-G142 View Power Statistics for AD-1C-xx.x, AD-2C-xx.x, and AD-4C-xx.x Cards, page 9-22.
- DLP-G143 View Power Statistics for AD-1B-xx.x and AD-4B-xx.x Cards, page 9-23.
- "DLP-G525 View Optical Power Statistics for TDC-CC and TDC-FC cards" section on page 9-24
- DLP-G475 View the PM Parameters for All Facilities, page 9-25

Note To refresh, reset, or clear PM counts, see the "NTP-G73 Change the PM Display" procedure on page 9-2.

Stop. You have completed this procedure.

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

Purpose	This task enables you to view optical service channel (OSC) PM counts at selected time intervals on optical service channel cards and ports (OSCM or OSC-CSM) to detect possible performance problems.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 3-30
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.

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

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

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

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

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

Step 7 Return to your originating procedure (NTP).

DLP-G140 View Power Statistics for Optical Amplifier, 40-SMR1-C, and 40-SMR2-C Cards

Purpose	This task enables you to view the power statistics of optical amplifiers (OPT-PRE, OPT-BST, OPT-BST-L, OPT-AMP-L, OPT-AMP-C, OPT-AMP-17-C, OPT-RAMP-C, or OPT-RAMP-CE), 40-SMR1-C, and 40-SMR2-C cards.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 3-30
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

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

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

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

- For the OPT-PRE card, the following ports are available to view:
  - 1—COM RX
  - 3—DC RX
  - 4—DC TX
- For the OPT-BST and OPT-BST-E cards, the following ports are available to view:
  - 1—COM RX
  - 2—COM TX
  - 4—OSC TX
- For the OPT-BST-L card, the following ports are available to view:
  - 1—COM RX
  - 2—COM TX
  - 4—OSC TX
- For the OPT-AMP-L card, the following ports are available to view:
  - 1—COM RX
  - 2—COM TX
  - 4—OSC TX
  - 7—DC RX
  - 8—DC TX
- For the OPT-AMP-17-C card, the following ports are available to view:
  - 1—COM RX
  - 2—COM TX
  - 3—COM RX
  - 4—OSC TX
- For the OPT-RAMP-C card, the following ports are available to view:
  - 1—COM RX
  - 2—COM TX
  - 3—OSC RX
  - 4—OSC TX
  - 5—LINE-RX
  - 6—LINE-TX
  - 7—DC-RX
  - 9—RAMAN RX
  - 10—RAMAN TX

- For the OPT-RAMP-CE card, the following ports are available to view:
  - 1—COM RX
  - 2—COM TX
  - 3—OSC RX
  - 4—OSC TX
  - 5—LINE-RX
  - 6—LINE-TX
  - 7—DC-RX
  - 9—RAMAN RX
  - 10—RAMAN TX
- For the 40-SMR1-C card, the following ports are available to view:
  - 1—EXP-RX
  - 3—DC-RX
  - 4—DC-TX
  - 5—OSC-RX
  - 6—OSC-TX
  - 7—ADD-RX
  - 8—DROP-TX
  - 9—LINE-RX
  - 10—LINE-TX
- For the 40-SMR2-C card, the following ports are available to view:
  - 1—DC-RX
  - 2—DC-TX
  - 3—OSC-RX
  - 4—OSC-TX
  - 5—ADD-RX
  - 6—DROP-TX
  - 7—LINE-RX
  - 10—EXP-RX 1-2
  - 11—EXP-RX 1-3
  - 12—EXP-RX 1-4

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

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

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

- 2 (COM-TX), OPT-PRE card
- 6 (LINE-TX), OPT-BST card
- 6 (LINE-TX), OPT-AMP-17-C card
- 8 (DC-TX), OPT-RAMP-C card

- 8 (DC-TX), OPT-RAMP-CE card
- 2 (EXP-TX), 40-SMR1-C card
- 8 (LINE-TX), 9 (EXP-TX 1-1), 40-SMR2-C card

Step 7 Click the **OCH** tab. In the Port drop-down list, choose an OCH port where you want to view the optical power statistics:

- For the 40-SMR1-C card, the following ports are available to view:
  - 1—EXP-RX
  - 2—EXP-TX
  - 7—ADD-RX
  - 8—DROP-TX
  - 10—LINE-TX
- For the 40-SMR2-C card, the following ports are available to view:
  - 5—ADD-RX
  - 6—DROP-TX
  - 8—LINE-TX
  - 9—EXP-TX 1-1
  - 10—EXP-RX 1-2
  - 11—EXP-RX 1-3
  - 12—EXP-RX 1-4

Step 8 Click **Refresh**. The OCH power statistics (minimum, maximum, average) for the selected port appear.

Note For the 40-SMR1-C and 40-SMR1-C cards, the OCH power statistics are reported only for those ports that are part of a circuit.

Step 9 Click the **Opt. Raman. Line** tab. Optical power statistics for the optical amplifier output port appear:

- 10 (RAMAN-TX), OPT-RAMP-C card
- 10 (RAMAN-TX), OPT-RAMP-CE card

Step 10 Return to your originating procedure (NTP).

DLP-G141 View Optical Power Statistics for 32MUX-O, 32WSS, 32WSS-L, 32DMX-O, 32DMX, 32DMX-L, 40-WSS-C, 40-WSS-CE, 40-WXC-C, 80-WXC-C, 40-MUX-C, 40-DMX-C, and 40-DMX-CE Cards

Purpose	This task enables you to view optical power statistics for a 32MUX-O, 32WSS, 32WSS-L, 32DMX-O, 32DMX, 32DMX-L, 40-WSS-C, 40-WSS-CE, 40-WXC-C, 80-WXC-C, 40-MUX-C, 40-DMX-C, or 40-DMX-CE card.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 3-30
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

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

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

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

- 32MUX-O—optical channel receive port (CHAN RX), Ports 01 through 32.
- 40-MUX-C—optical channel receive port (CHAN RX), Ports 01 through 40.
- 32WSS and 32WSS-L—optical channel receive port (ADD RX) Ports 01 through 32, or a pass-through port (PT), Ports 33 through 64.
- 32DMX-O, 32DMX, and 32DMX-L—optical channel transmit port (CHAN TX), Ports 01 through 32.
- 40-DMX-C/40-DMX-CE—optical channel transmit port (CHAN TX), Ports 01 through 40.
- 40-WSS-C/40-WSS-CE—optical add receive port (ADD RX), Ports 01 through 40, or a pass-through port (PT), Ports 41 through 80.

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 Select the port where you want to view the optical power statistics, in the Port drop-down list.

- 32WSS and 32WSS-L - Port 65, 66, 67, 68 or 69.
- 32DMX-L or 32DMX-O - accept the default port (33)
- 40-WXC-C and 40-WXC-CE - Port 10, 11, 12, or 13.
- 80-WXC-C - Ports 1 through 13 (BIDIRECTIONAL mode), ports 1 through 10 (MULTIPLEXER or DEMULTIPLEXER mode).
- 40-WSS-C and 40-WSS-CE - Port 81, 82, 83, 84, or 85.
- 40-DMX-C and 40-DMX-CE - accept the default port (41).

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

Step 8 Return to your originating procedure (NTP).

Note To view the Optical Side graphs of DWDM cards, see the section "Power Side Monitoring" in the chapter, Network Reference in the *Cisco ONS 15454 DWDM Reference Manual, Release 9.2*.

DLP-G479 View Optical Power Statistics for the PSM Card

Purpose	This task enables you to view optical power statistics for a PSM card.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 3-30
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 PSM card where you want to view PM counts. The card view appears.

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

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

- 1—W RX
- 2—W TX
- 3—P RX
- 4—P TX
- 5—COM RX
- 6—COM TX

Step 4 Click **Refresh**. Optical channel power statistics (minimum, maximum, average) for the selected 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 Return to your originating procedure (NTP).

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

Purpose	This task enables you to view the minimum, maximum, and average optical power statistics for a 4MD-xx.x card channel and band ports.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 3-30
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

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

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

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

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

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

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

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

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

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

Step 10 Return to your originating procedure (NTP).

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

Purpose	This task enables you to view channel optical add/drop multiplexer (OADM) minimum, maximum, and average power statistics on an AD-1C-xx.x, AD-2C-xx.x, or AD-4C-xx.x card.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 3-30
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.

Step 3 In the Port drop-down list, choose an optical line port (Table 9-2) where you want to view the optical power statistics.

Table 9-2 Channel OADM Optical Line Ports

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

Table 9-2 Channel OADM Optical Line Ports

Port Name	AD-1C-xx.x Port Numbers	AD-2C-xx.x Port Numbers	AD-4C-xx.x Port Numbers
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 9-3) where you want to view the optical power statistics.

Table 9-3 Channel OADM Optical Channel Ports

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

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

Step 8 Return to your originating procedure (NTP).

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

Purpose	This task enables you to view band OADM minimum, maximum, and average power statistics on an AD-1B-xx.x or AD-4B-xx.x card.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 3-30
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 9-4) where you want to view the optical power statistics.

Table 9-4 OADM Optical Line Ports

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

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

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

Step 6 In the Port drop-down list, choose an optical band port (Table 9-5) where you want to view the optical power statistics.

Table 9-5 OADM Optical Band Ports

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

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

Step 8 Return to your originating procedure (NTP).

DLP-G525 View Optical Power Statistics for TDC-CC and TDC-FC cards

Purpose	This task enables you to view optical power statistics for the TDC-CC and TDC-FC cards.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 3-30
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 TDC-CC or TDC-FC card where you want to view PM counts. The card view appears.

Step 2 Click the **Optical Line** tab.

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

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

Step 5 Return to your originating procedure (NTP).

DLP-G475 View the PM Parameters for All Facilities

Purpose	This task enables you to view the admin state, service state and power level for all facilities on DWDM cards to detect possible performance problems.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 3-30
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), click **Maintenance> DWDM> All Facilities** tabs.

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

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

Step 4 Return to your originating procedure (NTP).

NTP-G75 Monitor Transponder and Muxponder Performance

Purpose	This procedure enables you to view node near-end or far-end performance during selected time intervals on a TXP, MXP, Xponder (GE_XP, 10GE_XP, GE_XPE, 10GE_XPE, and OTU2_XP) or ADM-10G card to detect possible performance problems. Transponder cards include the TXP_MR_10G, TXP_MR_10E, TXP_MR_10EX_C, TXP_MR_2.5G, TXPP_MR_2.5G, TXP_MR_10E_C, TXP_MR_10E_L. Muxponder cards include the MXP_MR_2.5G, MXPP_MR_2.5G, MXP_MR_10DMEX_C, MXP_MR_10DME_C., MXP_MR_10DME_L, MXP_2.5G_10G, MXP_2.5G_10E, MXP_2.5G_10EX_C, MXP_2.5G_10E_C, MXP_2.5G_10E_L, and 40G-MXP-C.
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 Provisionable Patchcords," Chapter 6, "Provision Transponder and Muxponder Cards,"or Chapter 12, "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 3-30 at the node that you want to monitor. If you are already logged in, continue with Step 2.

Note To view optical transport network (OTN) PMs, the OTN parameters must be enabled. For more information, see Chapter 6, "Provision Transponder and Muxponder Cards."

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

- DLP-G390 View Ethernet Statistic PM Parameters for GE_XP, 10GE_XP, GE_XPE, and 10GE_XPE Cards, page 9-27
- DLP-G391 View Ethernet Utilization PM Parameters for GE_XP, 10GE_XP, GE_XPE, and 10GE_XPE Cards, page 9-28
- DLP-G392 View Ethernet History PM Parameters for GE_XP, 10GE_XP, GE_XPE, and 10GE_XPE Cards, page 9-28
- DLP-G393 Refresh Ethernet PM Counts at a Different Time Interval for GE_XP, 10GE_XP, GE_XPE, and 10GE_XPE Cards, page 9-29
- DLP-G146 View Optics PM Parameters, page 9-30
- DLP-G147 View Payload PM Parameters, page 9-30
- DLP-G148 View OTN PM Parameters, page 9-32
- DLP-G149 View Payload Statistics PM Parameters, page 9-33
- DLP-G150 View Payload Utilization PM Parameters, page 9-33
- DLP-G151 View Payload History PM Parameters, page 9-34

- DLP-G152 View Payload SONET/SDH PM Parameters, page 9-35

Note To refresh, reset, or clear PM counts, see the "NTP-G73 Change the PM Display" procedure on page 9-2.

Stop. You have completed this procedure.

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

Purpose	This task enables you to view current statistical PM counts on GE_XP, 10GE_XP, GE_XPE, and 10GE_XPE cards and ports to detect possible performance problems.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 3-30
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

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

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

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

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

Note To refresh, reset, or clear PM counts, see the "NTP-G73 Change the PM Display" procedure on page 9-2.

Step 5 Return to your originating procedure (NTP).

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

Purpose	This task enables you to view line utilization PM counts on GE_XP, 10GE_XP, GE_XPE, and 10GE_XPE cards and ports to detect possible performance problems.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 3-30
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

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

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

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

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

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

Note To refresh, reset, or clear PM counts, see the "NTP-G73 Change the PM Display" procedure on page 9-2.

Step 5 Return to your originating procedure (NTP).

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

Purpose	This task enables you to view historical PM counts at selected time intervals on GE_XP, 10GE_XP, GE_XPE, and 10GE_XPE cards and ports to detect possible performance problems.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 3-30
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

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

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

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

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

Note To refresh, reset, or clear PM counts, see the "NTP-G73 Change the PM Display" procedure on page 9-2.

Step 5 Return to your originating procedure (NTP).

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

Purpose	This task changes the window view to display specified PM counts in time intervals depending on the interval option selected for GE_XP, 10GE_XP, GE_XPE, and 10GE_XPE cards.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 3-30
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

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

Step 2 Click the **Performance** tab.

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

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

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

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

Step 6 Return to your originating procedure (NTP).

DLP-G146 View Optics PM Parameters

Purpose	This task enables you to view the optics PM counts on transponder cards (TXP_MR_10G, TXP_MR_2.5G, TXPP_MR_2.5G, TXP_MR_10E, TXP_MR_10E_C, TXP_MR_10E_L, TXP_MR_10EX_C), muxponder cards (MXP_2.5G_10E, MXP_2.5G_10E_C, MXP_2.5G_10E_L, MXP_2.5G_10EX_C, MXP_MR_2.5G, MXPP_MR_2.5G, MXP_2.5G_10G, MXP_MR_10DME_C, MXP_MR_10DME_L, MXP_MR_10DMEX_C, 40G-MXP-C), ADM-10G, or OTU2_XP cards to detect possible performance problems.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 3-30
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 > Historical PM** tabs.

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, TXP_MR_10EX_C), muxponder cards (MXP_2.5G_10E, MXP_2.5G_10E_C, MXP_2.5G_10E_L, MXP_MR_2.5G, MXP_2.5G_10EX_C, MXPP_MR_2.5G, MXP_2.5G_10G, MXP_MR_10DME_C, MXP_MR_10DME_L, MXP_MR_10DMEX_C, 40G-MXP-C), ADM-10G, or OTU2_XP cards to detect possible performance problems.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 3-30
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.

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

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

Note The payload PMs for data parameters can be viewed only after creating a pluggable port module (PPM). See the "NTP-G128 Manage Pluggable Port Modules" procedure on page 6-3 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 OC-192/STM-64, 10GE, 10G FC payloads; the MXP_2.5G_10G and MXP_2.5G_10E cards support the OC48/STM16 payload; the MXP_MR_2.5G and MXPP_MR_2.5G cards support the 1G FC, 2G FC, 1G FICON, 2G FICON, and 1GE payloads; the ADM-10G card supports the OC-3/STM-1,OC-12/STM-4,OC-48/STM-16,1GIGE payloads on client ports and the OC-192/STM-64 payloads on trunk ports; the OTU2_XP card supports the OC-192/STM-64, 10GE, and 10G FC payloads.

Step 5 Return to your originating procedure (NTP).

DLP-G148 View OTN PM Parameters

Purpose	This task enables you to view node near-end or far-end OTN PM parameters during selected time intervals on a TXP, MXP, or Xponder card to detect possible performance problems. Cards include: TXP_MR_10G, TXP_MR_2.5G, TXPP_MR_2.5G, TXP_MR_10E, TXP_MR_10E_C, TXP_MR_10E_L, TXP_MR_10EX_CMXP_MR_10DME_C, MXP_MR_10DME_L, MXP_MR_10DMEX_C, MXP_2.5G_10E, MXP_2.5G_10EX_C, MXP_MR_2.5G, MXPP_MR_2.5G, MXP_2.5G_10G, MXP_2.5G_10E_C, MXP_2.5G_10E_L, 40G-MXP-C, GE_XP, 10GE_XP, GE_XPE, 10GE_XPE, ADM-10G, and OTU2_XP.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 3-30 ITU-T G.709 and FEC must be enabled using one of the following tasks: • DLP-G234 Change the 2.5G Multirate Transponder OTN Settings, page 6-45 • DLP-G221 Change the 10G Multirate Transponder OTN Settings, page 6-69 • DLP-G228 Change the 4x2.5G Muxponder Line OTN Settings, page 6-115 • DLP-G366 Change the 10G Data Muxponder OTN Settings, page 6-157 • DLP-G389 Change the Gigabit Ethernet Optical Transport Network Settings, page 6-258 • DLP-G389 Change the Gigabit Ethernet Optical Transport Network Settings, page 6-258 • DLP-G402 Change the ADM-10G OTN Settings, page 6-93 • DLP-G458 Change the OTU2_XP OTN Settings, page 6-278
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

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

Step 2 Click the **Performance > OTN PM > ITU-T G.709 PM** tabs.

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.

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

Step 6 Return to your originating procedure (NTP).

DLP-G149 View Payload Statistics PM Parameters

Purpose	This task enables you to view current statistical PM counts on an MXP_MR_2.5G or MXPP_MR_2.5G card and port to detect possible performance problems.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 3-30
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

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

Step 2 Click the **Performance > Payload PM > Statistics** tabs.

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 9-2.

Step 5 Return to your originating procedure (NTP).

DLP-G150 View Payload Utilization PM Parameters

Purpose	This task enables you to view line utilization PM counts on an MXP_MR_2.5G or MXPP_MR_2.5G card and port to detect possible performance problems.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 3-30
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

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

Step 2 Click the **Performance > Payload PM > Utilization** tabs.

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 9-2.

Step 6 Return to your originating procedure (NTP).

DLP-G151 View Payload History PM Parameters

Purpose	This task enables you to view historical PM counts at selected time intervals on an MXP_MR_2.5G or MXPP_MR_2.5G card and port to detect possible performance problems.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 3-30
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

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

Step 2 Click the **Performance > Payload PM > History** tabs.

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 9-2.

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 3-30
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.

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 9-2.

Step 5 Return to your originating procedure (NTP).

NTP-G193 Enable or Disable AutoPM

Purpose	This procedure allows you to enable or disable automatic autonomous performance monitoring (AutoPM) reports.
Tools/Equipment	None
Prerequisite Procedures	None
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Step 1 Complete the DLP-G46 Log into CTC, page 3-30. If you are already logged in, continue with Step 2.

Step 2 Click the **Provisioning > Defaults** tabs.

Step 3 In the Defaults Selector area, click **NODE > General** and choose **NODE.general.AutoPM**.

Step 4 In the Default Value field, select **True** to enable AutoPM.

Step 5 Click **Apply**.

Step 6 Follow Steps 1 through 5 to disable AutoPM. Select **False** in the Default Value field in Step 4 before proceeding to Step 5.

Stop. You have completed this procedure.