

Configure Performance Monitoring

This chapter describes the CTC procedures to configure the performance monitoring for various controllers. Performance Monitoring provides a generic mechanism to collect historical and current values .

- Understand Performance Monitoring, on page 1
- Understand Threshold Crossing Alerts (TCA), on page 1
- Configure Performance Monitoring Using CTC, on page 2

Understand Performance Monitoring

- Performance Monitoring (PM) helps service providers to gather performance counter for the system maintenance and troubleshooting. User can retrieve both the current and the historical PM counters.
- User can collect current 15 minutes and 1 day interval PM counter values for the various controllers. In 15 minutes interval, user can collect 33 buckets (one current bucket and 32 historical buckets) for PM counter values.
- Each bucket maintains 15 minutes interval PM accumulative counter values. However, for 1 day interval, user can collect two buckets for PM counter values. First bucket shows the latest 24 hour PM counter values and second bucket shows the previous day PM counter values. These PM counter values can be retrieved for the far end and the near end nodes

Procedure to displays the PM parameters of a controller can be performed using following Cisco IOS XR commands:

Understand Threshold Crossing Alerts (TCA)

Thresholds set the acceptable error levels for each PM attribute, when this level is violated TCA shall be reported for respective PM bins.

Every Threshold Crossing Alarms (TCA) that gets generated by the network element must be sent to corresponding the Network Management system (NMS).

Configure Performance Monitoring Using CTC

Purpose	This chapter describes the procedures to configures the performance monitoring.
Tools/Equipment	None
Prerequisite Procedures	None
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Procedure

Step 1 Perform any of the following procedures as needed to view the PM parameters of a controller.

Note
To enable or disable a particular TCA on a controller, you need to select each and every controller specifically. To enable or disable TCA on all the controllers, use command line interface.

- Edit Performance Monitoring Parameters Using CTC, on page 3
- View Optics PM Parameters Using CTC, on page 5
- View Optical Carrier (OC) PM Parameters Using CTC, on page 5
- View Synchronous Transport Signal (STS) PM Parameters Using CTC, on page 6
- View Synchronous Transport Module (STM) PM Parameters Using CTC, on page 7
- View Virtual Concatenation (VC) PM Parameters Using CTC, on page 8
- View Ethernet PM Parameters Using CTC, on page 9
- View OTU PM Parameters Using CTC, on page 11
- View FEC PM Parameters Using CTC, on page 12
- View ODU PM Parameters Using CTC, on page 13
- View TCM PM Parameters Using CTC, on page 14

Step 2 Perform any of the following procedures as needed to change the PM display:

- View PM Counts at 15-Minute/1Day Intervals Using CTC, on page 15
- View Near-End/Far-End PM Counts Using CTC, on page 16
- Reset Current PM Counts Using CTC, on page 17
- Clear Selected PM Counts Using CTC, on page 18
- Set the Auto-Refresh Interval for Displayed PM Counts Using CTC, on page 19

Step 3 Perform any of the following procedures as needed to change the PM threshold:

- Set the PM Threshold Values Using CTC, on page 20
- Reset PM Thresholds Using CTC, on page 21
- Refresh PM Threshold at 15-Minute/ 1Day Intervals Using CTC, on page 22

Stop. You have completed this procedure.

Edit Performance Monitoring Parameters Using CTC

Purpose	This procedure provides instructions to edit performance monitoring parameters of an OTN circuit using CTC.
Tools/Equipment	None
Prerequisite Procedures	"Login to CTC" in *System Setup and Software Installation Guide for Cisco NCS 4000 Series.* #unique_92
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Procedure

Step 1 In the **Node View**, double-click a **line card**. The **Card View** appears.

Step 2 Click the **Circuits** > **OTN Circuits** tab. A list of OTN circuits appear.

Step 3 Select a circuit from the table.

Step 4 Click **Edit**.

Step 5 Click the **Performance Monitoring** > **ODU Controller** tab.

a) Click the **Current Values/Historical** tab. PM values from the legacy node appear on the table for the default controller. To update this populated table, perform the following steps on the Current Values tab that appears:

- From the **Controller Name** drop-down list, choose a **controller**. The PM values in the table gets updated accordingly.
- From the **Layer Name** drop-down list, choose an option **Path** or **GFP**.

  Note
  The PM values in the table gets updated accordingly.

- Click either **Near End** or **Far End** direction to get the PM direction.
- Click either **15 Min** or **1 Day** interval to get the PM interval.

  Note
  The PM values in the table gets updated accordingly.

- Click **Refresh** to get the current ODU Controller PM values.

- From the **Auto-Refresh** drop-down list, choose an **option** to refresh the current PM values at the selected interval automatically.

Step 6 From the left pane, click the **TCM**.

a) Click the **Current Values** tab. PM values from the legacy node appear on the table for the default controller. To update this populated table, perform the following steps on the current values tab that appears:

Note
Click **Clear** to clear the value

Note
The difference between **Threshold** and **Current counters** will appear by selecting Baseline.

- From the **Controller Name** drop-down list, choose a controller. The PM values in the table gets updated accordingly.
- Click either **Near End** or **Far End** direction to get the PM direction.

  Note
  The PM values in the table gets updated accordingly.

- Click **Refresh** to get the current TCM PM values from the legacy node.
- From the **Auto-Refresh** drop-down list, choose an option to refresh the current PM values at the selected interval automatically.

b) Click the **Historical** tab. PM values from the legacy node appear on the table for the default controller. To update this populated table, perform the following steps on the historical values tab that appears:

- From the **Controller Name** drop-down list, choose a **controller**. The PM values in the table gets updated accordingly.
- From the **TCM** drop-down list, choose a TCM. The PM values in the table gets updated accordingly.
- Click either **Near End** or **Far End** direction to get the PM direction.

  Note
  The PM values in the table gets updated accordingly.

- Click either **15 Min** or **1 Day** interval to get the PM interval.

  Note
  The PM values in the table gets updated accordingly.

- Click **Refresh** to get the historical TCM PM values from the legacy node.
- From the **Auto-Refresh** drop-down list, choose an **option** to refresh the historical PM values at the selected interval automatically.

Step 7 Return to your originating procedure.

View Optics PM Parameters Using CTC

Purpose	This procedure displays the optics PM parameters using CTC.
Tools/Equipment	None
Prerequisite Procedures	"Login to CTC" in *System Setup and Software Installation Guide for Cisco NCS 4000 Series*.
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Procedure

Step 1 In the **Node View**, double-click the line card.

Step 2 Click the **Performance** > **Optics** > **Current Values** tab.

Step 3 Click the **Historical** tab to view the PM parameter names that appear in the Parameter column.

Note
The PM parameter values appear in the Curr (current) and Prev-n (previous) columns.

Table 1: Optics PM parameters

Optics PM Parameters	Definition
Laser Bias %	Displays the laser bias percentage.
Tx Optical Power (dBm)	Displays the transmit power level.
Rx Optical Power (dBm)	Displays the receive power level.

Step 4 Return to your originating procedure.

View Optical Carrier (OC) PM Parameters Using CTC

Purpose	This procedure displays the Optical Carrier (OC) PM parameters using CTC.
Tools/Equipment	None
Prerequisite Procedures	"Login to CTC" in *System Setup and Software Installation Guide for Cisco NCS 4000 Series.*
Required/As Needed	As Needed
Onsite/Remote	Onsite or Remote

Security Level	Provisioning or higher

Procedure

Step 1 In the **Node view**, double-click the line card.

Step 2 Click the **Performance** > **SONET** > **OC Current Values**tab to view the current PM parameter names and values.

Step 3 Click the **OC Historical** tab to view the PM parameter names and values that appear in the **Parameter** column.
.

Note
The PM parameter values appear in the Curr (current) and Prev-n (previous) columns.

Table 2: OC PM Parameters

OC PM Parameters	Definition
CV-S	Displays the number of section coding violations on the node.
ES-S	Displays the number of section error seconds on the node.
SEFS-S	Displays the number of section severely error framing seconds on the node.
SES-S	Displays the number of section severely error seconds on the node.
CV-L	Displays the number of line coding violations on the node.
ES-L	Displays the number of line error seconds on the node.
FC-L	Displays the number of line failure counts on the node.
SES-L	Displays the number of line severely error seconds on the node.
UAS-L	Displays the number of line unavailable seconds on the node.

Step 4 Return to your originating procedure.

View Synchronous Transport Signal (STS) PM Parameters Using CTC

Purpose	This procedure displays the Synchronous Transport Signal (STS) PM parameters using CTC.
Tools/Equipment	None
Prerequisite Procedures	"Login to CTC" in *System Setup and Software Installation Guide for Cisco NCS 4000 Series.*
Required/As Needed	As Needed
Onsite/Remote	Onsite or Remote

Security Level	Provisioning or higher

Procedure

Step 1 In the **Node View**, double-click the line card.

Step 2 Click the **Performance** > **SONET** > **STS Current Values** tab to view the current PM parameter names.

Step 3 Click the **STS Historical** tab to view the PM parameter names that appear in the **Parameter** column.

Note
The PM parameter values appear in the Curr (current) and Prev-n (previous) columns.

Table 3: STS PM Parameters

STS PM Parameters	Definition
CV-P	Displays the number of path monitor coding violations on the node.
ES-P	Displays the number of path monitor errored seconds on the node.
SES-P	Displays the number of path monitor severely errored seconds on the node.
UAS-P	Displays the number of path monitor unavailable seconds on the node.

Step 4 Return to your originating procedure.

View Synchronous Transport Module (STM) PM Parameters Using CTC

Purpose	This procedure displays the Synchronous Transport Module (TM) PM parameters using CTC.
Tools/Equipment	None
Prerequisite Procedures	"Login to CTC" in *System Setup and Software Installation Guide for Cisco NCS 4000 Series.*
Required/As Needed	As Needed
Onsite/Remote	Onsite or Remote
Security Level	Provisioning or higher

Procedure

Step 1 In the **Node View**, double-click the line card.

Step 2 Click the **Performance** > **SDH** > **STM Current Values** tab to view the current PM parameter names.

Step 3 Click the **STM Historical** tab to view the PM parameter names that appear in the Parameter column.

Note
The PM parameter values appear in the Curr (current) and Prev-n (previous) columns.

Table 4: STM PM Parameters

STM PM Parameters	Definition
RS-ES	Displays the number of error seconds in the regenerator section.
RS-ESR	Displays the number of error seconds ratio in the regenerator section.
RS-SES	Displays the number of severely error seconds in the regenerator section.
RS-SESR	Displays the number of severely error seconds ratio in the regenerator section.
RS-BBE	Displays the number of background block errors in the regenerator section.
RS-BBER	Displays the number of background block errors ratio in the regenerator section.
RS-UAS	Displays the number of unavailable seconds in the regenerator section.
RS-EB	Displays the number of error block in the regenerator section.
MS-ES-L	Displays the number of line error seconds on the node.
MS-ESR-L	Displays the number of line error seconds ratio on the node.
MS-SES-L	Displays the number of line severely error seconds on the node.
MS-SESR-L	Displays the number of line severely error seconds ratio on the node.
MS-BBE-L	Displays the number of line background block errors on the node.
MS-BBER-L	Displays the number of line background block errors ratio on the node.
MS-UAS-L	Displays the number of line unavailable seconds on the node.
MS-EB-L	Displays the number of line error block on the node.

Step 4 Return to your originating procedure.

View Virtual Concatenation (VC) PM Parameters Using CTC

Purpose	This procedure displays the Virtual Concatenation (VC) PM parameters using CTC.
Tools/Equipment	None
Prerequisite Procedures	"Login to CTC" in *System Setup and Software Installation Guide for Cisco NCS 4000 Series.*
Required/As Needed	As Needed
Onsite/Remote	Onsite or Remote
Security Level	Provisioning or higher

Procedure

Step 1 In the **Node View**, double-click the line card.

Step 2 Click the **Performance** > **SDH** > **VC Current Values** tab to view the current PM parameter names.

Step 3 Click the **VC Historical** tab to view the PM parameter names that appear in the Parameter column.

Note
The PM parameter values appear in the Curr (current) and Prev-n (previous) columns.

Table 5: VC PM Parameters

VC PM Parameters	Definition
MS-ES	Displays the number of error seconds on the node.
MS-ESR	Displays the number of error seconds ratio on the node.
MS-SES	Displays the number of severely error seconds on the node.
MS-SESR	Displays the number of severely error seconds ratio on the node.
MS-BBE	Displays the number of background block errors on the node.
MS-BBER	Displays the number of background block errors ratio on the node.
MS-UAS	Displays the number of unavailable seconds on the node.
MS-EB	Displays the number of error block on the node.

Step 4 Return to your originating procedure.

View Ethernet PM Parameters Using CTC

Purpose	This procedure displays the Ethernet PM parameters using CTC.
Tools/Equipment	None
Prerequisite Procedures	"Login to CTC" in *System Setup and Software Installation Guide for Cisco NCS 4000 Series.*
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Procedure

Step 1 In the **Node View**, double-click the line card.

Step 2 Click the **Performance** > **Ethernet** > **Current Value** tab to view the current PM parameter names.

Step 3 Click the **Historical** tab to view the PM parameter names that appear in the Parameter column.

Note
The PM parameter values appear in the Curr (current) and Prev-n (previous) columns.

Ethernet PM Parameters	Definition
rxTotalPkts	Display the total number of packets received.
etherStatsOctets	Displays the total number of octets of data received in the network.
etherStatsOversizePkts	Displays the total number of packets received that were longer than 9618 octets and were otherwise well formed.
dot3StatsFcsErrors	Displays the number of frames with frame check errors.
dot3StatsFrameTooLong	Displays the number of packets that are at least 64 octets long, without a bad FCS, where the 802.3 length/type field did not match the computed DATA field length.
etherStatsJabbers	Displays the total number of packets received that were longer than 9618 octets (excluding framing bits, but including FCS octets), and had either a bad FCS with an integral number of octets (FCS Error) or a bad FCS with a non-integral number of octets (Alignment Error).
etherStatsPkts 64 Octets	Displays the total number of packets received that were 64 octets in length.
etherStatsPkts65to127 Octets	Displays the total number of packets received that were between 65 and 127 octets in length.
etherStatsPkts128to255 Octets	Displays the total number of packets received that were between 128 and 255 octets in length.
etherStatsPkts256to511 Octets	Displays the total number of packets received that were between 256 and 511 octets in length.
etherStatsPkts512to1023 Octets	Displays the total number of packets received that were between 512 and 1023 octets in length.
etherStatsPkts1024to1518 Octets	Displays the total number of packets received that were between 1024 and 1518 octets in length.
ifInUcastPkts	Displays 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.
ifInMcastPkts	Displays the total number of multicast frames received error-free.

Ethernet PM Parameters	Definition
ifInBcastPkts	Displays the number of packets delivered to a higher sub-layer and addressed to a broadcast address at this sub-layer.
ifOutUcastPkts	Displays the total number of packets that higher-level protocols requested be transmitted, and which were not addressed to a multicast or broadcast address at this sub-layer, including those that were discarded or not sent.
ifOutMcastPkts	Displays the number of multicast frames transmitted error-free.
ifOutBcastPkts	Displays the number of packets requested by higher-level protocols and addressed to a broadcast address at this sub-layer, including that are not transmitted.
TxTotalPkts	Displays the number of transmitted packets.
IfOutOctets	Displays the total number of octets transmitted out of the interface, including framing characters.
etherStatsPkts	Displays the total number of ethernet packets received.
ifInOctets	Displays the total number of octets of received data.
ifInErrors	Displays the total number of packet errors.
etherStatsMulticastPkts	Displays the total number of ethernet multicast packets.
etherStatsBroadcastPkts	Displays the total number of ethernet broadcast packets.
etherStatsUndersizePkts	Dispalys the total number of undersize ethernet packets.

Step 4 Return to your originating procedure .

View OTU PM Parameters Using CTC

Purpose	This procedure displays the OTU PM parameters using CTC.
Tools/Equipment	None
Prerequisite Procedures	"Login to CTC" in *System Setup and Software Installation Guide for Cisco NCS 4000 Series.*
Required/As Needed	As needed

Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Procedure

Step 1 In the **Node View** , double-click the line card.

Step 2 Click the **Performance** > **OTU** > **OTU Current Values** tab to view the current PM parameter names.

Step 3 Click the **OTU Historical** tab to view the PM parameter names that appear in the Parameter column.

Note
The PM parameter values appear in the Curr (current) and Prev-n (previous) columns.

Table 6: OTU PM Parameters

OTU PM Parameters	Definition
BBE-S	Displays the number of section monitor background block errors on the node.
BBER-S	Displays the number of section monitor background block error ratio on the node.
ES-S	Displays the number of section monitor error seconds on the node.
ESR-S	Displays the number of section monitor error seconds ratio on the node.
FC-S	Displays the number of section monitor failure count on the node.
SES-S	Displays the number of section monitor severely error seconds on the node.
SESR-S	Displays the number of section monitor severely error seconds ratio on the far end node.
UAS-S	Displays the number of section monitor unavailable seconds on the far end node.

Step 4 Return to your originating procedure.

View FEC PM Parameters Using CTC

Purpose	This procedure displays the FEC PM parameters using CTC.
Tools/Equipment	None
Prerequisite Procedures	"Login to CTC" in *System Setup and Software Installation Guide for Cisco NCS 4000 Series.*
Required/As Needed	As needed
Onsite/Remote	Onsite or remote

Security Level	Provisioning or higher

Procedure

Step 1 In the **Node View**, double-click the line card.

Step 2 Click the **Performance** > **OTU** > **FEC Current Values** tab to view the current PM parameter names.

Step 3 Click the **FEC Historical** tab to view the PM parameter names that appear in the Parameter column.

Note
The PM parameter values appear in the Curr (current) and Prev-n (previous) columns.

Table 7: FEC PM Parameters

FEC PM Parameters	Definition
EC-BITS	Displays the number of bit errors that are corrected by the system.
UC-WORDS	Displays the number of words that are not corrected by the system.

Step 4 Return to your originating procedure.

View ODU PM Parameters Using CTC

Purpose	This procedure displays the ODU PM parameters using CTC.
Tools/Equipment	None
Prerequisite Procedures	"Login to CTC" in *System Setup and Software Installation Guide for Cisco NCS 4000 Series.*
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Procedure

Step 1 In the **Node View**, double-click the line card.

Step 2 Click the **Performance** > **ODU** > **Current Values** tab to view the current PM parameter names.

Step 3 Select the **Layer Name** from the drop down menu. The available options are path and gfp. The displayed ODU PM parameters differ based on the option selected here.

The gfp option is currently not supported.

Step 4 Click the **Historical** tab to view the PM parameter names that appear in the Parameter column.

Note
The PM parameter values appear in the Curr (current) and Prev-n (previous) columns.

Table 8: ODU PM Parameters when the Layer Name option is path

ODU PM Parameters	Definition
BBE-P	Displays the number of path monitor background block errors on the node.
BBER-P	Displays the number of path monitor background block errors ratio on the node.
ES-P	Displays the number of path monitor error seconds on the node.
ESR-P	Displays the number of path monitor error seconds ratio on the node.
FC-P	Displays the number of path monitor failure count on the node.
SES-P	Displays the number of path monitor severely error seconds on the node.
SESR-P	Displays the number of path monitor severely error seconds ratio on the node.
UAS-P	Displays the number of path monitor unavailable seconds on the node.

Table 9: ODU PM Parameters when the Layer Name option is gfp

ODU PM Parameters	Definition
gfpStatsRxSBitErrors	Displays the number of received GFP frames with single bit errors in the core header.
gfpStatsRxTypeInvalid	Displays the number of received GFP frames with invalid type in the core header.
gfpStatsRxCRCErrors	Displays the number of superblock CRC errors with the receive transparent GFP frame.
gfpStatsRxLFDRaised	Displays the number of LFD (Loss of Frame Delineation) raised.
gfpStatsRxCSFRaised	Displays the number of receive client management frames with client signal fail indication.

Step 5 Return to your originating procedure.

View TCM PM Parameters Using CTC

Purpose	This procedure displays the TCM PM parameters using CTC.
Tools/Equipment	None
Prerequisite Procedures	"Login to CTC" in *System Setup and Software Installation Guide for Cisco NCS 4000 Series.*
Required/As Needed	As needed
Onsite/Remote	Onsite or remote

Security Level	Provisioning or higher

Procedure

Step 1 In the **Node View**, double-click the line card.

Step 2 Click the **Performance** > **TCM** > **Current Values** tab to view the current PM parameter names.

Step 3 Select the **Controller Name** from the drop down menu. The TCM parameters for the selected controller are displayed.

Step 4 Click the **Historical** tab to view the PM parameter names that appear in the Parameter column.

Note
The PM parameter values appear in the Curr (current) and Prev-n (previous) columns.

Table 10: TCM PM Parameters

TCM PM Parameters	Definition
BBE-P	Displays the number of path monitor background block errors on the node.
BBER-P	Displays the number of path monitor background block errors ratio on the node.
ES-P	Displays the number of path monitor error seconds on the node.
ESR-P	Displays the number of path monitor error seconds ratio on the node.
FC-P	Displays the number of path monitor failure count on the node.
SES-P	Displays the number of path monitor severely error seconds on the node.
SESR-P	Displays the number of path monitor severely error seconds ratio on the node.
UAS-P	Displays the number of path monitor unavailable seconds on the node.

Step 5 Return to your originating procedure.

View PM Counts at 15-Minute/1Day Intervals Using CTC

Purpose	This procedure provides instructions to change the PM counts for 15-minute/1day intervals using CTC.
Tools/Equipment	None
Prerequisite Procedures	"Login to CTC" in *System Setup and Software Installation Guide for Cisco NCS 4000 Series.*
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Procedure

Step 1 In the **Node View**, double-click the line card.

Step 2 Click the **Performance** tab.

Step 3 Click the relevant sub-tabs to change the PM interval to 15-minute/1day for a controller,

Step 4 (For the NCS4K-2H-OK card) From the **Lane No**. drop-down list, choose an option. The PM value in the table gets updated accordingly.

Step 5 (For the ODU controller) From the **Layer Name** drop-down list, choose an option.

Note
Permon (Performance Monitoring) should be enabled for ODU controllers.

Step 6 From the **Controller Name** drop-down list, choose a **controller**.

Step 7 From the **TCM** drop-down list, choose an option. This drop-down list is applicable only for TCM pane.

Note
Permon (Performance Monitoring) should be enabled for TCM controllers.

Step 8 Click the **15 min/1Day** radio button.

Step 9 Click **Refresh**.

Step 10 View the **Current** column to find PM counts for the current 15-minute/1day interval.

Note
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/1day interval, a threshold-crossing alerts (TCA) is raised. The number represents the counter value for each specific PM parameter.

Step 11 View the **Prev-n** columns to find PM counts for the previous 15-minute/1day intervals.

Step 12 Return to your originating procedure.

View Near-End/Far-End PM Counts Using CTC

Purpose	This procedure provide instructions to display the near-end/far-end PM counts for the selected card and port using CTC.
Tools/Equipment	None
Prerequisite Procedures	"Login to CTC" in *System Setup and Software Installation Guide for Cisco NCS 4000 Series.*
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Procedure

Step 1 In the **Node View**, double-click the line card.

Step 2 Click the **Performance** tab.

Step 3 Click the relevant sub-tabs to view the near-end/far-end PM counts for a controller.

Step 4 (For the NCS4K-2H-OK card) From the **Channel No**. drop-down list, choose an option. The PM value in the table gets updated accordingly.

Step 5 (For the ODU controller) From the **Layer Name** drop-down list, choose an option.

Note
Permon (Performance Monitoring) should be enabled for ODU controllers.

Step 6 From the **Controller Name** drop-down list, choose a **controller**.

Step 7 From the **TCM** drop-down list, choose an option. This drop-down list is applicable only for TCM pane.

Note
Permon (Performance Monitoring) should be enabled for TCM controllers.

Step 8 Click the **Near End/ Far End** radio button (when available).

Note
Viewing near-end/far-end PM counts is not available on some tabs.

Step 9 Click **Refresh**.

Note
View the Curr (Current) column to find PM counts for the current time interval and Prev-n columns to find PM counts for the previous time intervals respectively

Step 10 Return to your originating procedure.

Reset Current PM Counts Using CTC

Purpose	This procedure provide instructions to reset the current PM counts using CTC.
Tools/Equipment	None
Prerequisite Procedures	"Login to CTC" in *System Setup and Software Installation Guide for Cisco NCS 4000 Series.*
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Procedure

Step 1 In the **Node View**, double-click the line card.

Step 2 Click the **Performance** tab.

Step 3 Click the relevant subtabs to reset the PM counts for a controller.

Step 4 (For the NCS4K-2H-OK card) From the Channel No. drop-down list, choose an option. The PM value in the table gets updated accordingly.

Step 5 (For the ODU controller) From the Layer Name drop-down list, choose an option.

Note
Permon (Performance Monitoring) should be enabled for ODU controllers.

Step 6 From the Controller Name drop-down list, choose a controller.

Step 7 Select a PM count column from the table.

Step 8 Click **Baseline**.

Note
The Baseline button clears the PM counts that appear in the current time interval at the node level but does not clear the PM counts at the controller level. To check the rate at which PM values are changing, click Refresh after setting the baseline. The baseline values are discarded if you switch to a different tab and then return to the current tab.

Step 9 In the Baseline Statistics dialog box, click one of the following radio buttons:

- **All statistics for port or controller x** - Clears the selected PM counts for the selected port or controller. This means that all time intervals, directions, and signal type counts are reset from the card and the window. View the Curr (Current) column to find PM counts for the current time interval and Prev-n columns to find PM counts for the previous time intervals.
- **All statistics for card** - Clears all the PM counts for all the controllers on the given card.

Step 10 Return to your originating procedure.

Clear Selected PM Counts Using CTC

Purpose	Clear selected PM counts allow to clear the specific PM counts for a specific port at node level. This procedure provide instructions to clear the selected PM counts using CTC.
Tools/Equipment	None
Prerequisite Procedures	"Login to CTC" in *System Setup and Software Installation Guide for Cisco NCS 4000 Series.*
Required/As Needed	As needed
Onsite/Remote	Onsite or remote

Security Level	Provisioning or higher

Procedure

Step 1 In the **Node View**, double-click the line card.

Step 2 Click the **Performance** tab.

Step 3 Click the relevant subtabs and click **Clear** to clear the selected PM counts for a controller.

Step 4 (For the NCS4K-2H-OK) From the Channel No. drop-down list, choose an option. The PM value in the table gets updated accordingly.

Step 5 (For the ODU controller) From the Layer Name drop-down list, choose an option.

Note
Permon (Performance Monitoring) should be enabled for ODU controllers.

Step 6 From the Controller Name drop-down list, choose a **controller**.

Step 7 Select a port and click **Clear** to clear the specific PM counts for a specific port at node level. Verify that the selected PM counts have been cleared.

Step 8 Return to your originating procedure.

Set the Auto-Refresh Interval for Displayed PM Counts Using CTC

Purpose	This procedure provide instructions to set the auto-refresh interval for displayed PM counts using CTC.
Tools/Equipment	None
Prerequisite Procedures	"Login to CTC" in *System Setup and Software Installation Guide for Cisco NCS 4000 Series.*
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Procedure

Step 1 In the **Node View**, double-click the line card.

Step 2 Click the **Performance** tab.

Step 3 Click the relevant sub-tabs to set the PM auto-refresh interval for a controller.

Step 4 (For the NCS4K-2H-OK From the **Channel No**. drop-down list, choose an option. The PM value in the table gets updated accordingly.

Step 5 (For the ODU controller) From the **Layer Name** drop-down list, choose an option. This drop-down list is applicable only for ODU controller.

Note
Permon (Performance Monitoring) should be enabled for ODU controllers.

Step 6 From the **Controller Name** drop-down list, choose a controller.

Step 7 From the **TCM** drop-down list, choose an option. This drop-down list is applicable only for TCM pane.

Note
Permon (Performance Monitoring) should be enabled for TCM controllers.

Step 8 From the **Auto-Refresh** drop-down list, choose an option to refresh the table in the selected interval automatically. The available options are :

- None.
- 15 Seconds.
- 30 Seconds.
- 1 Minute.
- 3 Minutes.
- 5 Minutes.

The PM counts for the newly selected auto-refresh time interval appears.

Note
Based on the selected auto-refresh interval, the displayed PM counts automatically get refreshed 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 9 Return to your originating procedure.

Set the PM Threshold Values Using CTC

Purpose	This procedure provides instructions to sets the PM threshold values using CTC.
Tools/Equipment	None
Prerequisite Procedures	Login to CTC in *System Setup and Software Installation Guide for Cisco NCS 4000 Series.*
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Procedure

Step 1 In the **Node View**, double-click the line card.

Step 2 Click the **Provisioning > PM Thresholds** tab.

Step 3 Click the relevant sub-tabs.

The sub-tabs are:

- Optics
- SD FEC
- OC
- STS
- STM
- VC
- Ethernet
- HD FEC
- ODU
- OTU
- TCM
- TCA

Step 4 Select a cell, to modify the selected PM threshold for a controller.

Note
Verify that the PM thresholds value has been modified.

Step 5 Double-click the selected cell and modify it.

Step 6 Click **Apply**.

Step 7 Return to your originating procedure.

Reset PM Thresholds Using CTC

Purpose	This procedure provide instructions to reset the PM thresholds using CTC.
Tools/Equipment	None
Prerequisite Procedures	"Login to CTC" in *System Setup and Software Installation Guide for Cisco NCS 4000 Series.*
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Procedure

Step 1 In the **Node View**, double-click the line card.

Step 2 Click the **Provisioning** > **PM Thresholds** tab.

Step 3 Click **Reset to Default**.

Note
All the threshold values of the selected controller are set to their default values. Verify that the PM thresholds have been reset.

Step 4 Return to your originating procedure.

Refresh PM Threshold at 15-Minute/ 1Day Intervals Using CTC

Purpose	This procedure provide instructions to change the PM Threshold in 15-minute/ 1day intervals using CTC.
Tools/Equipment	None
Prerequisite Procedures	Login to CTC in *System Setup and Software Installation Guide for Cisco NCS 4000 Series.*
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Procedure

Step 1 In the **Node View**, double-click the line card.

Step 2 Click the **Provisioning** tab.

Step 3 Click the relevant sub-tabs to change the PM Threshold interval to 15-minute/ 1day for a controller.

Step 4 (For the ODU controller) From the **Layer Name** drop-down list, choose an option.

Step 5 (For the ODU controller) From the **Controller Name** drop-down list, choose an option.

Step 6 Click the **15 Min/ 1Day** radio button.

Step 7 Click **Refresh**.

Note
PM thresholds appear at 15-minute/ 1day intervals in the populated table.

Step 8 Return to your originating procedure.