



## Configuring Performance Monitoring

Performance monitoring (PM) parameters are used by service providers to gather, store, set thresholds for, and report performance data for early detection of problems. The user can retrieve both current and historical PM counters for the various controllers in 15 minutes and 1 day intervals.

PM for optical parameters include laser bias current, transmit and receive optical power, mean polarization mode dispersion, accumulated chromatic dispersion, and received optical signal-to-noise ratio (OSNR). These parameters simplify troubleshooting operations and enhance data that can be collected directly from the equipment.

For descriptions of optics, Ethernet, fec, and otn parameters, see the *Command Reference for Cisco NCS 1000 Series*.

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## Configure PM Parameters

You can configure the performance monitoring parameters for the Optics, Ethernet, and coherent DSP controllers. The coherent DSP controller is created on the trunk port when the slice is provisioned using the **hw-module** command. To configure PM parameters, use the following commands.

**configure**

```
controller controllertype R/S/I/P { pm { 15-min | 30-sec | 24-hour } { optics | ether | fec | otn } { report | threshold } value }
```

**commit**

### Examples

The following is a sample in which the performance monitoring parameters of Optics controller is configured in 24 hour intervals.

```
configure
controller optics 0/0/0/0 pm 24-hour optics report cd max-tca enable
commit
```

The following is a sample in which the performance monitoring parameters of Ethernet controller is configured in 15 minute intervals.

```
configure
controller HundredGigECtrlr 0/0/0/1 pm 15-min ether report 1024-1518-octets enable
commit
```

The following is a sample in which the performance monitoring parameters of Coherent DSP controller is configured in 15 minute intervals.

```
configure
controller coherentDSP 0/0/0/12 pm 15-min otn threshold es-ne
commit
```

### Associated Commands

- [pm](#)
- [controller optics](#)
- [controller GigECtrlr](#)
- [controller coherentDSP](#)
- [show controllers](#)

## View PM Parameters

Use this procedure to view the performance monitoring parameters for Optics, Ethernet, and coherent DSP controllers.

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```
show controllers controllertype R/S/I/P { pm { current | history } { 15-min | 24-hour } { optics | ether | fec | otn }
linenumber }
```

### Example:

```
RP/0/RP0/CPU0:ios# show controllers optics 0/0/0/1 pm current 15-min optics 1
```

Displays the current performance monitoring parameters of the Optics controller in 15 minute intervals.

```
Fri Aug 21 09:28:57.608 UTC
```

```
Optics in the current interval [ 9:15:00 - 09:28:57 Fri Aug 21 2015]
```

```
Optics current bucket type : Valid
```

	MIN	AVG	MAX	Threshold (min)	TCA (enable)	Threshold (max)	TCA (enable)
LBC[% ]	: 0.0	0.0	0.0	0.0	NO	0.0	NO
OPT[dBm]	: -inf	-inf	-inf	0.00	NO	0.00	NO
OPR[dBm]	: -inf	-inf	-inf	0.00	NO	0.00	NO

```
Last clearing of "show controllers OPTICS" counters never
```

### Example:

```
RP/0/RP0/CPU0:ios# show controllers hundredGigECtrlr 0/0/0/3 pm current 15-min ether
```

Displays the current performance monitoring parameters of the Ethernet controller in 15 minute intervals.

```
Mon Jan 28 07:20:28.170 IST
```

ETHER in the current interval [07:15:00 - 07:20:29 Mon Jan 28 2019]

```
ETHER current bucket type : Valid
RX-UTIL[%]                : 2.90                Threshold : 0.00          TCA(enable) : NO
TX-UTIL[%]                : 2.84                Threshold : 0.00          TCA(enable) : NO
RX-PKT                    : 78662810            Threshold : 0              TCA(enable) : NO
STAT-PKT                  : 0                  Threshold : 0              TCA(enable) : NO
OCTET-STAT                : 117994199787          Threshold : 0              TCA(enable) : NO
OVERSIZE-PKT              : 0                  Threshold : 0              TCA(enable) : NO
FCS-ERR                   : 0                  Threshold : 0              TCA(enable) : NO
LONG-FRAME                 : 0                  Threshold : 0              TCA(enable) : NO
JABBER-STATS              : 0                  Threshold : 0              TCA(enable) : NO
64-OCTET                  : 0                  Threshold : 0              TCA(enable) : NO
65-127-OCTET              : 0                  Threshold : 0              TCA(enable) : NO
128-255-OCTET             : 0                  Threshold : 0              TCA(enable) : NO
256-511-OCTET             : 0                  Threshold : 0              TCA(enable) : NO
512-1023-OCTET            : 0                  Threshold : 0              TCA(enable) : NO
1024-1518-OCTET          : 0                  Threshold : 0              TCA(enable) : NO
IN-UCAST                  : 78662799          Threshold : 0              TCA(enable) : NO
IN-MCAST                  : 11                Threshold : 0              TCA(enable) : NO
IN-BCAST                  : 0                  Threshold : 0              TCA(enable) : NO
OUT-UCAST                 : 0                  Threshold : 0              TCA(enable) : NO
OUT-BCAST                 : 0                  Threshold : 0              TCA(enable) : NO
OUT-MCAST                 : 0                  Threshold : 0              TCA(enable) : NO
TX-PKT                    : 76889333          Threshold : 0              TCA(enable) : NO
OUT-OCTET                 : 115333999500     Threshold : 0              TCA(enable) : NO
IFIN-ERRORS               : 0                  Threshold : 0              TCA(enable) : NO
IFIN-OCTETS               : 0                  Threshold : 0              TCA(enable) : NO
STAT-MULTICAST-PKT       : 0                  Threshold : 0              TCA(enable) : NO
STAT-BROADCAST-PKT      : 0                  Threshold : 0              TCA(enable) : NO
STAT-UNDERSIZED-PKT     : 0                  Threshold : 0              TCA(enable) : NO
IN_GOOD_BYTES            : 117994199787     Threshold : 0              TCA(enable) : NO
IN_GOOD_PKTS             : 78662810         Threshold : 0              TCA(enable) : NO
IN_DROP_OTHER            : 0                  Threshold : 0              TCA(enable) : NO
IN_ERROR_FRAGMENTS       : 0                  Threshold : 0              TCA(enable) : NO
IN_PKT_64_OCTET         : 0                  Threshold : 0              TCA(enable) : NO
IN_PKTS_65_127_OCTETS   : 11                Threshold : 0              TCA(enable) : NO
IN_PKTS_128_255_OCTETS  : 0                  Threshold : 0              TCA(enable) : NO
IN_PKTS_256_511_OCTETS  : 0                  Threshold : 0              TCA(enable) : NO
IN_PKTS_512_1023_OCTETS : 0                  Threshold : 0              TCA(enable) : NO
IN_PKTS_1024_1518_OCTETS : 78662799          Threshold : 0              TCA(enable) : NO
TX_UNDERSIZED_PKT       : 0                  Threshold : 0              TCA(enable) : NO
TX_OVERSIZED_PKT        : 0                  Threshold : 0              TCA(enable) : NO
TX_FRAGMENTS            : 0                  Threshold : 0              TCA(enable) : NO
TX_JABBER                : 0                  Threshold : 0              TCA(enable) : NO
TX_BAD_FCS              : 0                  Threshold : 0              TCA(enable) : NO
```

Last clearing of "show controllers ETHERNET" counters never

**Example:**

RP/0/RP0/CPU0:ios# show controllers coherentDSP 0/0/0/13 pm current 15-min otn  
 Displays the current performance monitoring parameters of the Coherent DSP controller in 15 minute intervals.

Tue Feb 13 15:43:00.173 UTC

g709 OTN in the current interval [15:30:00 - 15:43:00 Tue Feb 13 2001]

```
OTN current bucket type : Valid
ES-NE : 0                Threshold : 500          TCA(enable) : YES
ESR-NE : 0.00000         Threshold : 0.00000     TCA(enable) : NO
SES-NE : 0                Threshold : 500          TCA(enable) : YES
SESR-NE : 0.00000        Threshold : 0.00000     TCA(enable) : NO
UAS-NE : 0                Threshold : 500          TCA(enable) : YES
BBE-NE : 0                Threshold : 10000        TCA(enable) : YES
BBER-NE : 0.00000         Threshold : 0.00000     TCA(enable) : NO
FC-NE : 0                Threshold : 10           TCA(enable) : YES
```

```
ES-FE   : 0           Threshold : 500      TCA(enable) : YES
ESR-FE  : 0.00000    Threshold : 0.00000  TCA(enable) : NO
SES-FE  : 0           Threshold : 500      TCA(enable) : YES
SESR-FE : 0.00000    Threshold : 0.00000  TCA(enable) : NO
UAS-FE  : 0           Threshold : 500      TCA(enable) : YES
BBE-FE  : 0           Threshold : 10000   TCA(enable) : YES
BBER-FE : 0.00000    Threshold : 0.00000  TCA(enable) : NO
FC-FE   : 0           Threshold : 10       TCA(enable) : YES
```

Last clearing of "show controllers OTU" counters never

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### Associated Commands

- [pm](#)
- [show controllers](#)
- [controller optics](#)
- [controller GigECtrlr](#)
- [controller coherentDSP](#)