Configure 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.

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Configure PM Parameters

You can configure the performance monitoring parameters for the OTS controllers. To configure PM parameters, use the following commands.

configure
controller controllertype R/S/I/P { pm { 15-min | 24-hour | 30-sec } ots { report | threshold } { opr | opt }value }
commit

Examples

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

configure
controller ots 0/1/0/0 pm 24-hour ots report opr max-tca enable
commit

configure
controller ots 0/1/0/0 pm 24-hour ots threshold opr max 4000
commit

The PM collector starts and collects controller data at the following intervals.

- 30 seconds interval - 30 samples jitter provision of 6 seconds
• 15 minutes interval - 32 samples jitter provision of 45 seconds
• 24 hours interval - 1 sample jitter provision of 45 seconds

The jitter provides for any computation delay for data collected at the data provider PM engine.

## View PM Parameters

Use this procedure to view the performance monitoring parameters for OTS controllers.

### Procedure

```
show controllers controllertype R/S/I/P { pm { current | history } { 15-min | 24-hour | 30-sec } { optics lane-number } }
```

**Example:**

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

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

Thu Mar 16 15:07:21.093 CET

Optics in the current interval [15:00:00 - 15:07:21 Thu Mar 16 2017]

<table>
<thead>
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<th>MIN</th>
<th>AVG</th>
<th>MAX</th>
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<tbody>
<tr>
<td>LBC[%]</td>
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<td>4.5</td>
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<tr>
<td>OPT[dBm]</td>
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<tr>
<td>OPR[dBm]</td>
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<td>-17.01</td>
<td>-16.90</td>
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</table>

Last clearing of "show controllers OPTICS" counters never

The `show controllers` command occasionally returns the wrong bucket. For example, the following command query at "Mon May 29 15:02:05.697 CEST" must have returned the bucket for the interval [15:01:30 - 15:02:00 Mon May 29 2017] while it returned the previous bucket [15:01:00 - 15:01:30 Mon May 29 2017].

```
RP/0/RP0/CPU0:ios# show controllers optics 0/1/0/4 pm history 30-sec optics 1 Bucket 1
```

Mon May 29 15:02:05.697 CEST

Optics in interval 1 [15:01:00 - 15:01:30 Mon May 29 2017]

<table>
<thead>
<tr>
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<td>LBC[%]</td>
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<td>OPT[dBm]</td>
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<td>OPR[dBm]</td>
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Last clearing of "show controllers OPTICS" counters never