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Introduction

This document provides Ethernet OAM configuration examples.

Ethernet OAM is a tool that monitors the status of the link between two directly connected devices.

Prerequisites

The configuration examples in this document were created and verified in a lab environment, and all the devices were started with the factory default configuration. When you are working on a live network, make sure you understand the potential impact of every command on your network.

This document assumes that you have basic knowledge of Ethernet OAM.

Example: Configuring Ethernet OAM

Network configuration

As shown in [Figure 1](#), the edge devices Device A and Device B connect the enterprise network and the carrier network. Configure Ethernet OAM on Device A and Device B to meet the following Service Level Agreement (SLA) requirements:

- Device A and Device B automatically monitor the link between them.
- The administrator can view critical link events on the link between Device A and Device B.
- The administrator can obtain the link status by observing link error event statistics.

Figure 1 Network diagram



Analysis

For Device A to establish an Ethernet OAM connection with Device B, configure GE 1/0/1 on Device A to operate in active mode, and configure GE 1/0/1 on Device B to operate in passive mode.

To implement link event detection based on the network environment, configure errored frame event detection parameters and use global settings for other detection parameters.

Applicable hardware and software versions

The following matrix shows the hardware and software versions to which this configuration example is applicable:

Hardware	Software version
SC 3570 switch series	Release 11xx

SC 5525 switch series	Release 63xx, Release 65xx, Release 6615Pxx, Release 6628Pxx
SC 5520 switch series	Release 63xx, Release 65xx, Release 6615Pxx, Release 6628Pxx
SC 3170 switch series	Release 11xx
SC 3130 switch series	Release 63xx

Restrictions and guidelines

To change the Ethernet OAM mode on an Ethernet OAM-enabled port, first disable Ethernet OAM on the port.

Procedures

Configuring Device A

Configure GigabitEthernet 1/0/1 to operate in active Ethernet OAM mode (default mode), and enable Ethernet OAM for it.

```
<DeviceA> system-view
[DeviceA] interface gigabitethernet 1/0/1
[DeviceA-GigabitEthernet1/0/1] oam mode active
[DeviceA-GigabitEthernet1/0/1] oam enable

# Set the errored frame event detection window to 20000 milliseconds, and set the errored frame
event triggering threshold to 10 on GigabitEthernet 1/0/1.
[DeviceA-GigabitEthernet1/0/1] oam errored-frame window 200
[DeviceA-GigabitEthernet1/0/1] oam errored-frame threshold 10
[DeviceA-GigabitEthernet1/0/1] quit
```

Configuring Device B

Configure GigabitEthernet 1/0/1 to operate in passive Ethernet OAM mode, and enable Ethernet OAM for it.

```
<DeviceB> system-view
[DeviceB] interface gigabitethernet 1/0/1
[DeviceB-GigabitEthernet1/0/1] oam mode passive
[DeviceB-GigabitEthernet1/0/1] oam enable
[DeviceB-GigabitEthernet1/0/1] quit
```

Verifying the configuration

Display Ethernet OAM configuration globally and on ports that do not use the default configuration.

```
[DeviceA] display oam configuration
----- [Global] -----
OAM timers
  Hello timer      : 1000 milliseconds
  Keepalive timer  : 5000 milliseconds
Link monitoring
  Errored symbol period
    Window         : 100 x 1000000 symbols
    Threshold       : 1 error symbols
  Errored frame
    Window         : 10 x 100 milliseconds
    Threshold       : 1 error frames
  Errored frame period
    Window         : 1000 x 10000 frames
    Threshold       : 1 error frames
  Errored frame seconds
    Window         : 600 x 100 milliseconds
    Threshold       : 1 error seconds

----- [GigabitEthernet1/0/1] -----
OAM timers
  Hello timer      : 1000 milliseconds
  Keepalive timer  : 5000 milliseconds
Link monitoring
```

```

Errored symbol period
  Window          : 100 x 1000000 symbols
  Threshold        : 1 error symbols
Errored frame
  Window          : 200 x 100 milliseconds
  Threshold        : 10 error frames
Errored frame period
  Window          : 1000 x 10000 frames
  Threshold        : 1 error frames
Errored frame seconds
  Window          : 600 x 100 milliseconds
  Threshold        : 1 error seconds

```

Display the statistics for critical Ethernet OAM link events that occurred on all ports of Device A.

```

[DeviceA] display oam critical-event
----- [GigabitEthernet1/0/1] -----
Local link status   : UP
Event statistics
Link fault          : Not occurred
Dying gasp          : Not occurred
Critical event      : Not occurred

```

The output shows that no critical link event has occurred on the link between Device A and Device B.

Display Ethernet OAM link event statistics for the local end of Device A.

```

[DeviceA] display oam link-event local
----- [GigabitEthernet1/0/1] -----
Link status: UP
OAM local errored frame event
Event time stamp    : 5789 x 100 milliseconds
Errored frame window : 200 x 100 milliseconds
Errored frame threshold : 10 error frames
Errored frame       : 13 error frames
Error running total  : 350 error frames
Event running total  : 17 events

```

The output shows the following information:

- 350 errors have occurred after Ethernet OAM is enabled on Device A.
- 17 errors are caused by error frames.
- The link is unstable.

NOTE:

If the link is unstable, contact HPE Support.

Configuration files

NOTE:

Support for the `port link-mode bridge` command depends on the device model.

- **Device A:**

interface GigabitEthernet1/0/1
port link-mode bridge
oam errored-frame window 200
oam errored-frame threshold 10
oam enable
- **Device B:**

interface GigabitEthernet1/0/1
port link-mode bridge
oam mode passive
oam enable