

Example: Configuring Storm Control to Prevent Network Outages on EX-series Switches

Storm control enables you to prevent network outages caused by broadcast storms on the LAN. You can configure storm control on the EX-series switch to rate limit broadcast traffic and unknown unicast traffic at a specified level and to drop packets when the specified traffic level is exceeded, thus preventing packets from proliferating and degrading the LAN.

This example shows how to configure storm control on a single EX-series switch:

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Requirements

This example uses the following hardware and software components:

- One Juniper Networks EX 3200 switch
- JUNOS Release 9.1 or later for EX-series switches

Overview and Topology

A storm is generated when messages are broadcast on a network and each message prompts a receiving node to respond by broadcasting its own messages on the network. This, in turn, prompts further responses, creating a snowball effect and resulting in a broadcast storm that can cause network outages.

You can use storm control to prevent broadcast storms by specifying the amount, also known as the storm control level, of broadcast traffic and unknown unicast traffic to be allowed on an interface. This level is given either as the traffic rate in kilobits per second of the combined broadcast and unknown unicast streams or as a percentage of the combined broadcast and unknown unicast streams.



NOTE: By default, storm control is enabled on all interfaces. The default level is 50 percent of the combined broadcast and unknown unicast streams.

Storm control monitors the incoming broadcast traffic and unknown unicast traffic and compares it with the level that you specify. If broadcast traffic and unknown unicast traffic exceed the specified level, the switch drops packets for the controlled traffic types.

The topology used in this example consists of one EX 3200 switch with 24 ports. The switch is connected to various network devices. This example shows how to configure the storm control level on interface `ge-0/0/0` by using one of two different configuration methods:

- Setting the level to a traffic rate of 15000 Kbps per second, based on the traffic rate of the combined broadcast and unknown unicast streams
- Setting the level to 40 (plus or minus 2) percent, based on the combined broadcast and unknown unicast streams

If broadcast traffic and unknown unicast traffic exceeds these levels, the switch drops packets for the controlled traffic types to prevent a network outage.

Configuration of the Storm Control Level Based on the Traffic Rate of the Controlled Traffic Types

CLI Quick Configuration To quickly configure storm control based on the traffic rate in kilobits per second of the combined broadcast and unknown unicast streams, copy the following command and paste it into the switch terminal window:

```
[edit]
set ethernet-switching-options storm-control interface ge-0/0/0 bandwidth 15000
```

Step-by-Step Procedure To configure storm control based on the traffic rate in kilobits per second of the combined broadcast and unknown unicast streams:

1. Specify the level of allowed broadcast traffic and unknown unicast traffic on a specific interface:

```
[edit ethernet-switching-options]
user@switch# set storm-control interface ge-0/0/0 bandwidth 15000
```

Results Display the results of the configuration:

```
[edit ethernet-switching-options]
user@switch# show storm-control
interface ge-0/0/0.0 {
    bandwidth 15000;
}
```

Configuration of the Storm Control Level Based on a Percentage of the Controlled Traffic Types (Deprecated Method)

CLI Quick Configuration To quickly configure storm control based on the percentage of the combined broadcast and unknown unicast streams, copy the following command and paste it into the switch terminal window:

```
[edit]
set ethernet-switching-options storm-control interface ge-0/0/0 level 40
```



NOTE: The **level** configuration statement has been deprecated and might be removed from future product releases. We strongly recommend that you phase out its use and replace it with the **bandwidth** statement.

Step-by-Step Procedure To configure storm control based on a percentage of the combined broadcast and unknown unicast streams:

1. Specify the level of allowed broadcast traffic and unknown unicast traffic on a specific interface:

```
[edit ethernet-switching-options]
user@switch# set storm-control interface ge-0/0/0 level 40
```



NOTE: The **level** configuration statement has been deprecated and might be removed from future product releases. We strongly recommend that you phase out its use and replace it with the **bandwidth** statement.

Results Display the results of the configuration:

```
[edit ethernet-switching-options]
user@switch# show storm-control
interface ge-0/0/0.0 {
  level 40; ## Warning: 'level' is deprecated
}
```

Related Topics ■ Understanding Storm Control on EX-series Switches

