

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

Storm control enables you to prevent network outage 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:

- Requirements on page 1
- Overview and Topology on page 1
- Configuration on page 2

Requirements

This example uses the following hardware and software components:

- One Juniper Networks EX-series 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 level, of broadcast traffic or unknown unicast traffic or both to be allowed on a port interface. This level is a percentage of the total available bandwidth of the port. For example, if the level is set to 20, up to 20 (plus or minus two) percent of the total available bandwidth of the port can be used for transmitting broadcast traffic or unknown unicast traffic or both. A maximum value of 50 can be specified for the level.



NOTE: If you do not specify the level, the default level will be applied. The default level is 50.

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

The topology used in this example consists of one EX 3200 switch with 24 ports. The switch is connected to various network devices. In this example, storm control is configured to rate limit both broadcast and unknown unicast traffic on port interface `ge-0/0/0`. The rate limit level is set to 40. Therefore, if broadcast traffic or unknown

unicast traffic or both exceed 40 (plus or minus two) percent of the total available bandwidth of the port, packets for the controlled traffic types are dropped to prevent network outage.



NOTE: When you configure storm control on an interface, both broadcast traffic and unknown unicast traffic are rate limited, by default. You can exempt either type of traffic from rate limiting by using the no-broadcast or no-unknown-unicast statement.

Configuration

CLI Quick Configuration To quickly configure storm control, copy the following commands and paste them into the switch terminal window:

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

Step-by-Step Procedure To configure storm control:

1. Enable storm control on the interface and specify the level of allowed broadcast traffic and unknown unicast traffic:

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

Results Display the results of the configuration:

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

Related Topics ■ Understanding Storm Control on EX-series Switches