
# Configuring Traffic Storm Control

This chapter describes how to configure the traffic storm control feature on the Cisco 7600 series routers. Release 12.1(12c)E1 and later releases support traffic storm control. For earlier releases, refer to Chapter 29, "Configuring Broadcast Suppression."

**Note**

- For complete syntax and usage information for the commands used in this chapter, refer to the *Cisco 7600 Series Router Cisco IOS Command Reference* publication.
- The WS-X6548-GE-TX, WS-X6548V-GE-TX, WS-X6148-GE-TX, and WS-X6148V-GE-TX switching modules do not support traffic storm control.

This chapter consists of these sections:



## Understanding Traffic Storm Control

A traffic storm occurs when packets flood the LAN, creating excessive traffic and degrading network performance. The traffic storm control feature prevents LAN ports from being disrupted by a broadcast, multicast, or unicast traffic storm on physical interfaces.

Traffic storm control (also called traffic suppression) monitors incoming traffic levels over a 1-second traffic storm control interval and, during the interval, compares the traffic level with the traffic storm control level that you configure. The traffic storm control level is a percentage of the total available bandwidth of the port. Each port has a single traffic storm control level that is used for all types of traffic (broadcast, multicast, and unicast).

**Note**

- The router supports multicast and unicast traffic storm control only on Gigabit Ethernet LAN ports.
- The router supports broadcast traffic storm control on all LAN ports.
- Traffic storm control does not suppress spanning tree packets. Except for spanning tree packets, traffic storm control does not differentiate between control traffic and data traffic.

Traffic storm control monitors the level of each traffic type for which you enable traffic storm control in 1-second traffic storm control intervals. Within an interval, when the ingress traffic for which traffic storm control is enabled reaches the traffic storm control level that is configured on the port, traffic storm control drops the traffic until the traffic storm control interval ends.

The following are examples of traffic storm control behavior:

- If you enable broadcast traffic storm control, and broadcast traffic exceeds the level within a 1-second traffic storm control interval, traffic storm control drops all broadcast traffic until the end of the traffic storm control interval.
- If you enable broadcast and multicast traffic storm control, and the combined broadcast and multicast traffic exceeds the level within a 1-second traffic storm control interval, traffic storm control drops all broadcast and multicast traffic until the end of the traffic storm control interval.
- If you enable broadcast and multicast traffic storm control, and broadcast traffic exceeds the level within a 1-second traffic storm control interval, traffic storm control drops all broadcast and multicast traffic until the end of the traffic storm control interval.
- If you enable broadcast and multicast traffic storm control, and multicast traffic exceeds the level within a 1-second traffic storm control interval, traffic storm control drops all broadcast and multicast traffic until the end of the traffic storm control interval.

# Default Traffic Storm Control Configuration

Traffic storm control is disabled by default.

# Enabling Traffic Storm Control

To enable traffic storm control, perform this task:

| | Command | Purpose |
|---|---|---|
| **Step 1** | `Router(config)# interface {{type[1] slot/port} \| {port-channel number}}` | Selects an interface to configure. |
| **Step 2** | `Router(config-if)# storm-control broadcast level level[.level]` | Enables broadcast traffic storm control on the interface, configures the traffic storm control level, and applies the traffic storm control level to all traffic storm control modes enabled on the interface. |
| | `Router(config-if)# no storm-control broadcast level` | Disables broadcast traffic storm control on the interface. |
| **Step 3** | `Router(config-if)# storm-control multicast level level[.level]`<br>**Note** The **storm-control multicast** command is supported only on Gigabit Ethernet interfaces. | Enables multicast traffic storm control on the interface, configures the traffic storm control level, and applies the traffic storm control level to all traffic storm control modes enabled on the interface. |
| | `Router(config-if)# no storm-control multicast level` | Disables multicast traffic storm control on the interface. |

| | Command | Purpose |
|---|---|---|
| **Step 4** | `Router(config-if)# storm-control unicast level level[.level]`<br>**Note** The **storm-control unicast** command is supported only on Gigabit Ethernet interfaces. | Enables unicast traffic storm control on the interface, configures the traffic storm control level, and applies the traffic storm control level to all traffic storm control modes enabled on the interface. |
| | `Router(config-if)# no storm-control unicast level` | Disables unicast traffic storm control on the interface. |
| **Step 5** | `Router(config-if)# end` | Exits configuration mode. |
| **Step 6** | `Router# show running-config interface` | Verifies the configuration. |

1. *type* = **ethernet**, **fastethernet**, **gigabitethernet**, or **tengigabitethernet**

When configuring the traffic storm control level, note the following:

- You can configure traffic storm control on an EtherChannel (a port channel interface).
- Do not configure traffic storm control on ports that are members of an EtherChannel. Configuring traffic storm control on ports that are configured as members of an EtherChannel puts the ports into a suspended state.
- Specify the level as a percentage of the total interface bandwidth:
  - The level can be from 0 to 100.
  - The optional fraction of a level can be from 0 to 99.
  - 100 percent means no traffic storm control.
  - 0.0 percent suppresses all traffic.

Because of hardware limitations and the method by which packets of different sizes are counted, the level percentage is an approximation. Depending on the sizes of the frames making up the incoming traffic, the actual enforced level might differ from the configured level by several percentage points.

This example shows how to enable multicast traffic storm control on Gigabit Ethernet interface 3/16 and how to configure the traffic storm control level at 70.5 percent. This configuration applies the traffic storm control level to all traffic storm control modes enabled on Gigabit Ethernet interface 3/16:

```
Router# configure terminal
Router(config)# interface gigabitethernet 3/16
Router(config-if)# storm-control multicast level 70.5
Router(config-if)# end
```

# Displaying Traffic Storm Control Settings

To display traffic storm control information, use the commands described in Table 28-1.

***Table 28-1 Commands for Displaying Traffic Storm Control Status and Configuration***

| Command | Purpose |
|---|---|
| Router# **show interfaces** [{*type*[1] *slot/port*} \| {**port-channel** *number*}] **switchport** | Displays the administrative and operational status of all Layer 2 LAN ports or the specified Layer 2 LAN port. |
| Router# **show interfaces** [{*type*[1] *slot/port*} \| {**port-channel** *number*}] **counters broadcast**<br>Router# **show interfaces** [{*type*[1] *slot/port*} \| {**port-channel** *number*}] **counters multicast**<br>Router# **show interfaces** [{*type*[1] *slot/port*} \| {**port-channel** *number*}] **counters unicast** | There is a single counter for all suppressed traffic. These commands all display the same discard count, which shows the total number of packets discarded for all three traffic storm control modes, on all interfaces or on the specified interface. |

1. *type* = **ethernet**, **fastethernet**, **gigabitethernet**, or **tengigabitethernet**

**Note** The **show interfaces** [{*interface_type slot/port*} | {**port-channel** *number*}] **counters** command does not display the discard count. You must use one of the traffic-type keywords: **broadcast**, **multicast**, or **unicast**, which all display the same discard count.