



## Configuring Traffic Storm Control

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This chapter describes how to configure the traffic storm control feature on the Catalyst 6500 series switches. 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 *Catalyst 6500 Series Switch 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.
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This chapter consists of these sections:

- [Understanding Traffic Storm Control, page 28-1](#)
- [Default Traffic Storm Control Configuration, page 28-2](#)
- [Enabling Traffic Storm Control, page 28-2](#)

## 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 switch supports multicast and unicast traffic storm control only on Gigabit Ethernet LAN ports.
  - The switch 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.
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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)# <b>interface</b> {{type <sup>1</sup> slot/port}   {port-channel number}}	Selects an interface to configure.
Step 2	Router(config-if)# <b>storm-control broadcast level</b> 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)# <b>no storm-control broadcast level</b>	Disables broadcast traffic storm control on the interface.
Step 3	Router(config-if)# <b>storm-control multicast level</b> level[.level]	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.
	<p><b>Note</b> The <b>storm-control multicast</b> command is supported only on Gigabit Ethernet interfaces.</p> Router(config-if)# <b>no storm-control multicast level</b>	Disables multicast traffic storm control on the interface.

	Command	Purpose
<b>Step 4</b>	Router(config-if)# <b>storm-control unicast level</b> <i>level[.level]</i>	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.
	<b>Note</b> The <b>storm-control unicast</b> command is supported only on Gigabit Ethernet interfaces.	
	Router(config-if)# <b>no storm-control unicast level</b>	Disables unicast traffic storm control on the interface.
<b>Step 5</b>	Router(config-if)# <b>end</b>	Exits configuration mode.
<b>Step 6</b>	Router# <b>show running-config interface</b>	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:

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

This example shows how the traffic storm control level configured for one mode affects all other modes that are already configured on the Gigabit Ethernet interface 4/10:

```
Router# show run inter gig4/10
Building configuration...

Current configuration : 176 bytes
!
Router# interface GigabitEthernet4/10
Router# switchport
Router# switchport mode access
Router# storm-control broadcast level 70.00
Router# storm-control multicast level 70.00
Router# spanning-tree portfast edge
Router# end

Router# configure terminal
Router(config)# interface gigabitethernet 4/10
Router(config-if)# storm-control unicast level 20
Router(config-if)# end
```

```

Router# show interfaces gig4/10 counters storm-control

Port          UcastSupp %    McastSupp %    BcastSupp %    TotalSuppDiscards
Gi4/10        20.00          20.00          20.00          0

Router#

```

## 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# <b>show interfaces</b> [{type <sup>1</sup> slot/port}   {port-channel number}] <b>switchport</b>	Displays the administrative and operational status of all Layer 2 LAN ports or the specified Layer 2 LAN port.
Router# <b>show interfaces</b> [{type <sup>1</sup> slot/port}   {port-channel number}] <b>counters broadcast</b> Router# <b>show interfaces</b> [{type <sup>1</sup> slot/port}   {port-channel number}] <b>counters multicast</b> Router# <b>show interfaces</b> [{type <sup>1</sup> slot/port}   {port-channel number}] <b>counters unicast</b>	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.