

Rate Limit and Storm Commands

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clear storm-control counters

To clear storm control counters, use the **clear storm-control counters** command in Privileged EXEC mode.

Syntax

clear storm-control counters [**broadcast** | **multicast** | **unicast**] [interface *interface-id*]

Parameters

- **broadcast**—(Optional) Clear Broadcast storm control counters.
- **multicast**—(Optional) Clear Multicast storm control counters.
- **unicast**—(Optional) Clear Unicast Unknown storm control counters.
- **interface** *interface-id*—(Optional) Clear storm control counters for the specified Ethernet port.

Command Mode

Privileged EXEC mode

User Guidelines

The switch clears the port counter of a given traffic type when storm control for this traffic type on this port is enabled.

Use this command to clear the storm control counters when storm control is running.

Use the **clear storm-control counters** command to clear all the storm control counters of all Ethernet ports.

Use the **clear storm-control counters interface** *interface-id* command to clear all the storm control counters of a given port.

Use the **clear storm-control counters broadcast** | **multicast** | **unicast** command to clear all storm control counters of a given traffic type of all Ethernet ports.

Use the **clear storm-control counters broadcast** | **multicast** | **unicast interface** *interface-id* command to clear one storm control counter of a given traffic type and of a given port.

Example 1. The following example clears all storm control counters of all ports:

```
switchxxxxxx# clear storm-control counters
```

Example 2. The following example clears all storm control counters of port gi1/0/1:

```
switchxxxxxx# clear storm-control counters interface gi1/0/1
```

Example 3. The following example clears broadcast storm control counter of all ports:

```
switchxxxxxx# clear storm-control counters broascat
```

Example 4. The following example clears multicast storm control counter of port gi1/0/1:

```
switchxxxxxx# clear storm-control counters multicast interface gi1/0/1
```

rate-limit (Ethernet)

To limit the incoming traffic rate on a port, use the **rate-limit** command in Interface (Ethernet) Configuration mode. To disable the rate limit, use the **no** form of this command.

Syntax

rate-limit *committed-rate-kbps* **[burst** *committed-burst-bytes***]**

no rate-limit

Parameters

- ***committed-rate-kbps***—Specifies the maximum number of kilobits per second of ingress traffic on a port. The range is 3–maximal port speed.
- **burst** *committed-burst-bytes*—(Optional) The burst size in bytes. (Range: 3000–19173960). If unspecified, defaults to 128K.

Default Configuration

Rate limiting is disabled.

Command Mode

Interface (Ethernet) Configuration mode

User Guidelines

The calculated rate includes the 20 bytes of Ethernet framing overhead (preamble+SFD+IPG).

The Rate Limit does not calculate traffic controlled by Storm control. The real allowed rate will be sum of the rate specified by the command and the rates specified by the Storm control commands for particular traffic types.

Example

The following example limits the incoming traffic rate on gi1/0/1 to 150,000 kbps.

```
switchxxxxxx(config)# interface gi1/0/1
switchxxxxxx(config-if)# rate-limit 150000
```

rate-limit vlan

To limit the incoming traffic rate for a VLAN in, use the **rate-limit vlan** command in Global Configuration mode. To disable the rate limit, use the **no** form of this command.

Syntax

rate-limit vlan *vlan-id committed-rate committed-burst-bytes*

no rate-limit vlan *vlan-id*

Parameters

- ***vlan-id***—Specifies the VLAN ID.
- ***committed-rate***—Specifies the average traffic rate (CIR) in kbits per second (kbps). (Range: 3-57982058)
- ***committed-burst***—Specifies the maximum burst size (CBS) in bytes. (Range: 3000–19173960).

Default Configuration

Rate limiting is disabled.

Command Mode

Global Configuration mode

User Guidelines

The calculated rate includes the 20 bytes of Ethernet framing overhead (preamble+SFD+IPG).

Traffic policing in a policy map takes precedence over VLAN rate limiting. If a packet is subject to traffic policing in a policy map and is associated with a VLAN that is rate limited, the packet is counted only in the traffic policing of the policy map.

VLAN Rate limiting is calculated separately for each unit in a stack.

It does not work in conjunction with IP Source Guard.

Example

The following example limits the rate on VLAN 11 to 150000 kbps and the committed burst size to 9600 bytes.

```
switchxxxxxx(config)# rate-limit vlan 11 150000 9600
```

storm-control

To enable broadcast, multicast, or unicast storm control on a port, use the **storm-control** command in Interface (Ethernet) Configuration mode. To return to default, use the **no** form of this command.

Syntax

storm-control broadcast {**level** *level* | **kbps** *kbps***} [trap**] [**shutdown**]

no storm-control broadcast

storm-control multicast [**registered** | **unregistered**] {**level** *level* | **kbps** *kbps***} [trap**] [**shutdown**]

no storm-control multicast

storm-control unicast {**level** *level* | **kbps** *kbps***} [trap**] [**shutdown**]

no storm-control unicast

no storm-control

Parameters

- **broadcast**—Enables broadcast storm control on the port.
- **multicast** [**registered** | **unregistered**]—Enables either all multicast, only registered multicast, or only unregistered multicast storm control on the port.
- **unicast**—Enables unicast unknown storm control on the port.
- **level** *level*—Suppression level in percentage. Block the flooding of storm packets when the value specified for level is reached. (Range 1-100)
- **kbps** *kbps*—Maximum of kilobits per second of Broadcast traffic on a port. (Range 1 –10000000)
- **trap**—(Optional) Sends a trap when a storm occurs on a port. If the keyword is not specified the trap is not sent.
- **shutdown**—(Optional) Shut down a port when a storm occurs on the port. If the keyword is not specified extra traffic is discarded.

Default Configuration

Storm control is disabled.

Command Mode

Interface (Ethernet) Configuration mode

User Guidelines

The calculated rate includes the 20 bytes of Ethernet framing overhead (preamble+SFD+IPG).

The rate limit on a port does not calculate traffic controlled by storm control on this port.

Use the **no storm-control** command to disable storm control of all traffic type on the port.

Example

The following example enables broadcast, multicast, and unicast unknown storm control on port gi1/0/1 and multicast unregistered and unicast unknown on port gi1/0/2:

Enable group 1 for registered and unregistered multicast traffic on interface gi1/0/1. Extra traffic is discarded.

switchxxxxxx(config)# **interface gi1/0/1** switchxxxxxx(config-if)# **storm-control broadcast kbps 10000 shutdown** switchxxxxxx(config-if)# **storm-control multicast level 20 trap** switchxxxxxx(config-if)# **storm-control unicast level 5 trap shutdown** switchxxxxxx(config-if)# **exit** switchxxxxxx(config)# **interface gi1/0/2** switchxxxxxx(config-if)# **storm-control multicast unregistered level 5 trap shutdown** switchxxxxxx(config-if)# **storm-control unicast level 5 trap** switchxxxxxx(config-if)# **exit**

show rate-limit interface

To display rate limit configuration on an interface, use the **show rate-limit interface** command in Privileged EXEC mode.

Syntax

show rate-limit interface [*interface-id***]**

Parameters

- ***interface-id***—(Optional) Specifies an Ethernet port. If the argument is not configured rate limit configuration of all Ethernet ports is displayed.

Command Mode

Privileged EXEC mode

Examples

The following is an example of the output from the **show rate-limit interface**:

```
switchxxxxxx> show rate-limit interface
```

Interface	Rate Limit (kbps)	Burst (Bytes)
----------	----------	----------
gi1/0/1gi1/0/2	80000	512
	100000	1024

show rate-limit vlan

To display rate limit configuration on a VLAN, use the **show rate-limit vlan** command in Privileged EXEC mode.

Syntax

show rate-limit vlan [*vlan-id***]**

Parameters

- ***vlan-id***—(Optional) Specifies a VLAN ID If the argument is not configured rate limit configuration of all VLANs is displayed.

Default Configuration

N/A

Command Mode

Privileged EXEC mode

Examples

The following is an example of the output from the **show rate-limit vlan**:

```
switchxxxxxx> show rate-limit vlan 1075
```

VLAN	Rate Limit (kbps)	Burst (Bytes)
--------	----------	----------
1075	100000	1024

show storm-control interface

To display storm control information of an interface, use the **show storm-control interface** command in Privileged EXEC mode.

Syntax

show storm-control interface [*interface-id***]**

Parameters

- ***interface-id***—(Optional) Specifies an Ethernet port. If the argument is not configured storm control information of all Ethernet ports is displayed.

Command Mode

Privileged EXEC mode

Examples

The following is an example of the output from the **show storm-control interface**:

```
switchxxxxxx> show storm-control interface
gi1/0/1
 Broadacst
 Rate: 5%
 Action: Shutdown
 Passed Counter (Bytes): 124997
 Dropped Counter (Bytes): 10
 Last drop time: 27-Jan-2014, 09:00:01
 Multicast
 Rate: 1000 kbps
 Action: Drop, Trap
 Passed Counter (Bytes):112876
 Dropped Counter (Bytes):1272
 Last drop time: 20-Jan-2014, 11:00:01
 Unicast
 Rate: 10%
 Action: drop
 Passed Counter (Bytes): 27653
 Dropped Counter (Bytes):1
 Last drop time: 27-Feb-2014, 09:00:01
gi1/0/2
 Broadacst
 Rate: 5%
 Action: Shutdown
 Passed Counter (Bytes): 124997
 Dropped Counter (Bytes): 0
 Last drop time:
 Multicast Unregistred
 Rate: 5%
 Action: Shutdown
 Traffic Type:Broadcast
 Passed Counter (Bytes): 124997
 Dropped Counter (Bytes): 3
 Last drop time: 26-Jan-2014, 10:00:01
```