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# 1 Configuring Storm Control

## 1.1 Introduction

### 1.1.1 Overview

When a local area network (LAN) has excess broadcast, multicast, or unknown unicast data flows, the network speed will slow down and packet transmission will have an increased timeout probability. This situation is called a LAN storm. A storm may occur when topology protocol execution or network configuration is incorrect.

Storm control can be implemented to limit broadcast, multicast, or unknown unicast data flows. When the rate of broadcast, multicast, or unknown unicast data flows received over a device port exceeds the specified range, the device transmits only packets in the specified range and discards packets beyond the range until the packet rate falls within the range. This prevents flooded data from entering the LAN and causing a storm.

### 1.1.2 Principles

#### 1. Storm Control Based on the Percentage-based Bandwidth Threshold

If the rate of data flows received over a device port exceeds the specified bandwidth, excess data flows are discarded until the rate falls within the threshold.

---

**i** Instruction

Due to chip implementation limitations, when the storm suppression threshold is set to the percentage-based bandwidth, ~~some products may convert~~ the configured value is converted to a multiple of the step supported by the chip. Therefore, the actual effective suppression threshold on a port may be smaller than the configured suppression threshold.

---

#### 2. Storm Control Based on the Packets-per-Second Threshold

If the rate of data flows received over a device port exceeds the configured packets-per-second threshold, excessive data flows are discarded until the rate falls within the threshold.

#### 3. Storm Control Based on the Kilobits-per-Second Threshold

If the rate of data flows received over a device port exceeds the configured kilobits-per-second threshold, excessive data flows are discarded until the rate falls within the threshold.

---

**i** Instruction

Due to chip implementation limitations, when the storm suppression threshold is set to kilobits-per-second, ~~some products may convert~~ the configured value is converted to a multiple of the step supported by the chip. Therefore, the actual effective suppression threshold on a port may be smaller than the configured suppression threshold.

---

## 1.2 Configuring Storm Control

(1) Enter the privileged EXEC mode.

**enable**

(2) Enter the global configuration mode.

**configure terminal**

(3) Enter the interface configuration mode.

**interface** *interface-type interface-number*

(4) Enable packet storm control.

**storm-control** { **broadcast** | **multicast** | **unicast** } [ **level** *percent* | **pps** *packets* | **rate** ]

Packet storm control is disabled by default.

## 1.3 Monitoring

Run the **show** commands to check the running status of a configured function to verify the configuration effect.

Table 1-1 Monitoring

Command	Purpose
<b>show storm-control</b> [ <i>interface-type interface-number</i> ]	Displays storm control information.

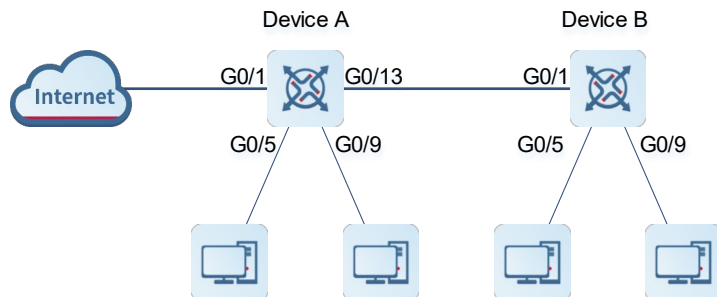
## 1.4 Configuration Examples

### 1. Requirements

Enable storm control to prevent excessive broadcast, multicast, or unknown unicast data flows in a LAN, which will cause the network speed to slow down.

### 2. Topology

Figure 1-1 Topology of Configuring Storm Control



### 3. Notes

Enable storm control on access devices A and B.

## 4. Procedure

- (1) Enable storm control on Device A.

```
DeviceA> enable
DeviceA# configure terminal
DeviceA(config)# interface range gigabitethernet 0/5,0/9,0/13
DeviceA(config-if-range)# storm-control broadcast
DeviceA(config-if-range)# storm-control multicast
DeviceA(config-if-range)# storm-control unicast
```

- (2) Enable storm control on Device B.

```
DeviceA> enable
DeviceA# configure terminal
DeviceB(config)# interface range gigabitethernet 0/1,0/5,0/9
DeviceB(config-if-range)# storm-control broadcast
DeviceB(config-if-range)# storm-control multicast
DeviceB(config-if-range)# storm-control unicast
```

## 5. Verification

- (1) Check whether storm control is enabled on Device A.

```
DeviceA# show storm-control
Interface          Broadcast Control Multicast Control Unicast Control
Action
-----
GigabitEthernet 0/1      Disabled          Disabled          Disabled
none
GigabitEthernet 0/5      default           default           default
none
GigabitEthernet 0/9      default           default           default
none
GigabitEthernet 0/13     default           default           default
none
```

- (2) Check whether storm control is enabled on Device B.

```
DeviceA# show storm-control
Interface          Broadcast Control Multicast Control Unicast Control
Action
-----
GigabitEthernet 0/1      default           default           default
none
GigabitEthernet 0/5      default           default           default
none
GigabitEthernet 0/9      default           default           default
none
```

## 6. Configuration Files

- Device A configuration file

```
hostname DeviceA
!
interface GigabitEthernet 0/5
 storm-control broadcast
 storm-control multicast
 storm-control unicast
!
interface GigabitEthernet 0/9
 storm-control broadcast
 storm-control multicast
 storm-control unicast
!
interface GigabitEthernet 0/13
 storm-control broadcast
 storm-control multicast
 storm-control unicast
!
End
```

- Device B configuration file

```
hostname DeviceB
!
interface GigabitEthernet 0/1
 storm-control broadcast
 storm-control multicast
 storm-control unicast
!
interface GigabitEthernet 0/5
 storm-control broadcast
 storm-control multicast
 storm-control unicast
!
interface GigabitEthernet 0/9
 storm-control broadcast
 storm-control multicast
 storm-control unicast
!
end
```