



# Configuring Unknown Unicast and Multicast Flood Control

This chapter describes how to configure the unknown unicast flood blocking (UUFB), unknown multicast flood blocking (UMFB), and unknown unicast flood rate-limiting (UUFRL) features in Cisco IOS Release 12.2SX.

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## Note

For complete syntax and usage information for the commands used in this chapter, see the Cisco IOS Master Command List, at this URL:

[http://www.cisco.com/en/US/docs/ios/mcl/allreleasemcl/all\\_book.html](http://www.cisco.com/en/US/docs/ios/mcl/allreleasemcl/all_book.html)



## Tip

For additional information about Cisco Catalyst 6500 Series Switches (including configuration examples and troubleshooting information), see the documents listed on this page:

[http://www.cisco.com/en/US/products/hw/switches/ps708/tsd\\_products\\_support\\_series\\_home.html](http://www.cisco.com/en/US/products/hw/switches/ps708/tsd_products_support_series_home.html)

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# Understanding Unknown Traffic Flood Control

By default, unknown unicast and multicast traffic is flooded to all Layer 2 ports in a VLAN. You can use the UUFB, UMFB, and UUFRL features to prevent or limit this traffic.

The UUFB and UMFB features block unknown unicast and multicast traffic flooding at a specific port, only permitting egress traffic with MAC addresses that are known to exist on the port. The UUFB and UMFB features are supported on all ports that are configured with the **switchport** command, including private VLAN (PVLAN) ports.

The UUFRL feature applies a rate limit globally to unknown unicast traffic on all VLANs.



## Note

Enter the **switchport block multicast** command only on ports where all unknown multicast flooded traffic needs to be completely blocked. UMFB disrupts protocols that make use of local subnetwork multicast control groups in the 224.0.0.0/24 range, for example:

- ARP
- IPv6 neighbor discovery (IPv6 ND)
- Network Time Protocol (NTP)

Do not enter this command on nonreceiver (router) ports or host ports that rely on dynamic ARP. Use IGMP snooping or other rate-limiting options to restrict, rather than completely block, unknown multicast flooded traffic.

## Configuring UUFB or UMFB

To configure UUFB or UFMB, perform this task:

	Command	Purpose
Step 1	Router# <b>configure terminal</b>	Enters global configuration mode.
Step 2	Router(config)# <b>interface</b> {{type <sup>1</sup> slot/port}   {port-channel number}}	Selects the interface to configure.
Step 3	Router(config-if)# <b>switchport</b>	Configures the port for Layer 2 switching.
Step 4	Router(config-if)# <b>switchport block</b> {unicast   multicast}	Enables unknown unicast or multicast flood blocking on the port.
Step 5	Router(config-if)# <b>do show interfaces</b> [type <sup>1</sup> slot/port] <b>switchport   include Unknown</b>	Verifies the configuration.

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

This example shows how to configure UUFB on Fast Ethernet port 5/12 and how to verify the configuration:

```
Router# configure terminal
Router(config)# interface fastethernet 5/12
Router(config-if)# switchport
Router(config-if)# switchport block unicast
Router(config-if)# do show interface fastethernet 5/12 switchport | include Unknown
Unknown unicast blocked: enabled
```

# Configuring UUFRL

**Note**

The UUFRL feature is available only with the Supervisor Engine 720-10GE.

To configure UUFRL, perform this task:

	Command	Purpose
Step 1	Router# <b>configure terminal</b>	Enters global configuration mode.
Step 2	Router(config)# <b>mls rate-limit layer2 unknown</b> <i>rate-in-pps [burst-size]</i>	Enables UUFRL and sets the maximum packet rate. (Optional) Specify a burst size limit.
Step 3	Router(config)# <b>exit</b>	Exits configuration mode.

When you configure UUFRL, note the following information:

- When unknown unicast flood rate-limiting (UUFRL) is enabled, per-VLAN learning must be enabled on all the Layer 3 routed ports, otherwise, any unicast flooded packet coming into a routed port will also be rate-limited by UUFRL.
- For the *rate-in-pps* value:
  - The range is 10 through 1,000,000 (entered as 1000000).
  - There is no default value.
  - Values lower than 1,000 (entered as 1000) should offer sufficient protection.
- For the *burst-size* value:
  - The range is 1 through 255.
  - The default is 10.
  - The default value should provide sufficient protection.

This example shows how to configure UUFRL with a rate limit of 1000 pps with a burst of 20 packets:

```
Router# configure terminal
Router(config)# mls rate-limit layer2 unknown 1000 20
Router(config)# exit
```

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