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Unknown Unicast and Multicast Flood Control

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**Note**

- For complete syntax and usage information for the commands used in this chapter, see these publications:
http://www.cisco.com/en/US/products/ps11846/prod_command_reference_list.html
 - Cisco IOS Release 15.4SY supports only Ethernet interfaces. Cisco IOS Release 15.4SY does not support any WAN features or commands.
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**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

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Prerequisites for Unknown Traffic Flood Control

None.

Restrictions for Unknown Traffic Flood Control

- Entering the **switchport block multicast** command on nonreceiver (router) ports of the VLAN could disrupt routing protocols. This command could also disrupt ARP functionality and other protocols, such as Network Time Protocol (NTP), that make use of local subnetwork multicast control groups in the 224.0.0.0/24 range.

- 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.

Information About 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 unknown unicast flood blocking (UUFB), unknown multicast flood blocking (UMFB), and unknown unicast flood rate-limiting (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 globally rate limits unknown unicast traffic on all VLANs.

Default Settings for Unknown Traffic Flood Control

None.

How to Configure Unknown Traffic Flood Control

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How to Configure UUFB or UMFB

To configure UUFB or UFMB, perform this task:

	Command	Purpose
Step 1	Router# configure terminal	Enters global configuration mode.
Step 2	Router(config)# interface {{type slot/port} {port-channel number}}	Selects the interface to configure.
Step 3	Router(config-if)# switchport	Configures the port for Layer 2 switching.
Step 4	Router(config-if)# switchport block {unicast multicast}	Enables unknown unicast or multicast flood blocking on the port.

How to Configure UUFRL

To configure UUFRL, perform this task:

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

When you configure UUFRL, note the following information:

- 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.

Configuration Examples for Unknown Traffic Flood Control

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

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

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)# platform rate-limit layer2 unknown 1000 20
Router(config)# exit
```



Tip

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