Configuring MAC Limiting on the Cisco ASR 903 Router

This document describes how to configure MAC limiting on the Cisco ASR 903 Router.

Restrictions and Usage Guidelines

MAC limiting is supported on the following interface types:

- You can apply MAC limiting only to bridge-domains.
- MAC limiting is supported for dynamic MAC addresses.

Configuring MAC Limiting

Mac address limiting per bridge-domain restricts the number of MAC addresses that the router learns in bridge-domain on an EFP, pseudowire or switchport.

When the total number of addresses in a bridge-domain exceeds the maximum number, the router takes a violation action. You can enable the following actions:

- Warning—The router sends a syslog message and takes no further action. The router continues learning new MAC addresses and forwarding traffic.
- Limit—The router sends a syslog message and generates a trap; MAC learning is disabled on the bridge-domain until the recovery mechanism activates. Flooding of frames with new MAC addresses continues; to disable flooding, use the **flood** keyword. Flooding continues once the total number of MAC entries drops below the threshold value. This option applies only when you configure the **limit** keyword.

Note The threshold value must be 80% of the maximum value configured for the recovery mechanism.

- Shutdown—If the number of addresses exceeds the maximum (MAX) value, the router sends a syslog message and moves the bridge-domain (bdomain) to a disabled state. To restore the bridge-domain, disable and re-enable the mac-limiting feature.

Follow these steps to configure MAC limiting on the Cisco ASR 903 Router:

	Command	Purpose
Step 1	**configure terminal**	Enter global configuration mode.
Step 2	**mac-address-table limit** [**bridge-domain** *id*] [**maximum** *num*] [**action** {**warning** | **limit** | **shutdown**}] [**flood**]	Sets the specific limit and any optional actions to be imposed at the bridge-domain level. The default **maximum** value is 500.
Step 3	**end**	Return to privileged EXEC mode.
Step 4	**show mac-address-table limit** [**bridge-domain** *id*]	Displays the information about the MAC-address table.
Step 5	**copy running-config startup-config**	(Optional) Save your entries in the configuration file.

This example shows how to enable per-bridge-domain MAC limiting. The first instance of the **mac-address-table limit** command enables MAC limiting. The second instance of the command sets the limit and any optional actions to be imposed at the bridge-domain level.

```
Router# enable
Router# configure terminal
Router(config)# mac-address-table limit
Router(config)# mac-address-table limit bridge-domain 10 maximum 100 action limit flood
Router(config)# end

Router#show mac-address-table limit bdomain 10
  bdomain      action      flood      maximum    Total entries    Current state
-------------+----------+------------+------------+---------------+---------------
    10         limit      Disable      100            0            Within Limit
```