Configuring Rate Limits

This chapter contains the following sections:

About Rate Limits

You can configure span-egress hardware rate-limit to restrict amount of ERSPAN monitor traffic transmitted out of the Cisco NX-OS device. You can configure rate limits in packets per second for the following types of traffic:

- SPAN egress traffic—For this option, you can configure rate limits in kilobits per seconds.

Licensing Requirements for Rate Limits

The following table shows the licensing requirements for this feature:

Product	License Requirement
Cisco NX-OS	No license is required for rate limits. Any feature not included in a license package is bundled with the nx-os image and is provided at no extra charge to you. For an explanation of the Cisco NX-OS licensing scheme, see the *Cisco NX-OS Licensing Guide*.

Guidelines and Limitations for Rate Limits

Rate limits has the following configuration guidelines and limitations:

- Cisco Nexus 3500 Series switches do not support configuring Rate Limits on Cisco NX-OS Release 7.0(3)I7(2) and the previous releases.
- Beginning with Cisco NX-OS Release 7.0(3)I6(1), you can configure a hardware rate-limiter to show statistics for outbound ERSPAN monitor traffic on egress ports.

  The rate-limiter on egress ports is limited per ASIC, rather than per port or SPAN session.

  The rate-limiter only applies to ERSPAN and not local SPAN traffic.

  sFlow and ERSPAN cannot co-exist in the same Cisco Nexus NFE2-enabled devices.

Note If you are familiar with the Cisco IOS CLI, be aware that the Cisco NX-OS commands for this feature might differ from the Cisco IOS commands that you would use.

Default Settings for Rate Limits

This table lists the default settings for rate limits parameter.

Table 1: Default Rate Limits Parameters Settings

Parameters	Default
SPAN egress rate limit	No limits

Configuring Rate Limits

You can set rate limits on supervisor-bound traffic.

Procedure

	Command or Action	Purpose

Step 1	**configure terminal**
	Example:
	`switch# configure terminal`
	`switch(config)#`
		Enters global configuration mode.

	Command or Action	Purpose
Step 2	**hardware rate-limiter span-egress** *rate* **Example:** `switch(config)# hardware rate-limiter span-egress 100`	Configures rate limits in kilobits per second for SPAN for egress traffic. The range is from 0 to 100000000. **Note** You should not configure both sFlow and the SPAN egress rate-limiter because the SPAN egress rate-limiter can affect the functionality of sFLOW.
Step 3	(Optional) **show hardware rate-limiter span-egress** **Example:** `switch# show hardware rate-limiter span-egress`	Displays the rate limit configuration.
Step 4	(Optional) **copy running-config startup-config** **Example:** `switch# copy running-config startup-config`	Copies the running configuration to the startup configuration.

Monitoring Rate Limits

You can monitor rate limits.

Procedure

	Command or Action	Purpose
Step 1	**show hardware rate-limiter span-egress** **Example:** `switch# show hardware rate-limiter span-egress`	Displays the rate limit statistics.

Clearing the Rate Limit Statistics

You can clear the rate limit statistics.

Procedure

	Command or Action	Purpose
Step 1	**clear hardware rate-limiter span-egress** **Example:**	Clears the rate limit statistics.

	Command or Action	Purpose
	`switch# clear hardware rate-limiter span-egress`	

Verifying the Rate Limit Configuration

To display the rate limit configuration information, perform the following tasks:

Command	Purpose
show hardware rate-limiter | span-egress	Displays the rate limit configuration.

Configuration Examples for Rate Limits

The following shows an example of the rate-limiter configuration for ERSPAN:

```
switch(config)# hardware rate-limiter span-egress 100
Warning: This span-egress rate-limiter might affect functionality of sFlow
switch(config)# show hardware rate-limiter span-egress
Units for Config: packets per second (kilo bits per second for span-egress)
Allowed, Dropped & Total: aggregated since Module: 1
R-L Class         Config            Allowed        Dropped           Total
+----------------+---------+-------------+-------------+----------------+
  span-egress              123             0              0                0
<<configured
```

Additional References for Rate Limits

This section includes additional information related to implementing rate limits.

Related Documents

Related Topic	Document Title
Cisco NX-OS licensing	*Cisco NX-OS Licensing Guide*