R Commands

This chapter describes the Cisco NX-OS system management commands that begin with the letter R.

rate-limit

To configure the source rate limit for Ethernet Switched Port Analyzer (SPAN) packets in the specified SPAN session, use the **rate-limit** command. To remove the rate limit configuration, use the **no** form of this command.

rate-limit {**auto** | **1-100**}

no rate-limit

Syntax Description

auto	Automatically calculates the rate limit on a per gigabyte basis as follows: destination bandwidth/aggregate source bandwidth.
1-100	Specifies the percentage of the maximum rate of SPAN packets that can be sent out from each forwarding engine on a line card. The range is from 1 to 100.

Defaults

Disabled

Command Modes

Monitor configuration (config-monitor)

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

Make sure that you are in the correct virtual device context (VDC). To change the VDC, use the **switchto vdc** command.

MTU truncation and the SPAN rate limit cannot be enabled for the same SPAN session. If you configure both for one session, only the rate limit is allowed on F1 Series modules, and MTU truncation is disabled until you disable the rate limit configuration.

Note SPAN rate limit is supported only on F1 Series modules and F2 Series modules.

This command does not require a license

Examples

This example shows how to configure the rate limit for SPAN packets in the specified SPAN session:

```
switch# configure terminal
switch(config)# monitor session 3
switch(config-monitor)# rate-limit 30
```

```
switch(config-monitor)#
```

This example shows how to remove the rate limit configuration for SPAN packets in the specified SPAN session:

```
switch# configure terminal
switch(config)# monitor session 3
switch(config-monitor)# no rate-limit
```

Related Commands

Command	Description
monitor session	Places you in the monitor configuration mode for configuring a SPAN session.
show monitor session	Displays the status of the SPAN or ERSPAN session.

record

To specify a flow record to be used by a NetFlow monitor, use the **record** command. To remove the record, use the **no** form of this command.

record *name*

no record [*name*]

Syntax Description

name	Name of an existing NetFlow record.

Defaults

None

Command Modes

NetFlow monitor configuration (config-flow-record)

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
4.0(1)	This command was introduced.

Usage Guidelines

Make sure that you are in the correct virtual device context (VDC). To change the VDC, use the **switchto vdc** command.

This command does not require a license.

Examples

This example shows how to specify a NetFlow record to use for a NetFlow monitor:

```
switch(config)# switch(config)# flow monitor newflow1
switch(config-flow-monitor)# description recordflow
switch(config-flow-monitor)# record netflow ipv6 original-input
switch(config-flow-monitor)#
```

This example shows how to remove a record from a NetFlow monitor:

```
switch(config-flow-record)# no record netflow ipv4 original-input
switch(config-flow-record)#
```

Related Commands

Command	Description
show flow sw-monitor	Displays information about NetFlow monitors.

record netflow

To select a traditional Layer 2 record for the NetFlow monitor, use the **record netflow** command. To remove the record selection, use the **no** form of this command.

record netflow layer2-switched input

no record netflow layer2-switched input

Syntax Description

layer2-switched	Specifies the traditional Layer 2 NetFlow collection scheme.
input	Specifies the input NetFlow.

Defaults

None

Command Modes

NetFlow monitor configuration

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
4.0	This command was introduced.

Usage Guidelines

This command does not require a license.

Examples

This example shows how to select a traditional Layer 2 record for the NetFlow monitor:

```
switch(config)# flow monitor FLowMonitor1
switch(config-flow-monitor)# record netflow layer2-switched input
switch(config-flow-monitor)#
```

This example shows how to remove the traditional Layer 2 NetFlow record selection:

```
switch(config-flow-monitor)# no record netflow layer2-switched input
switch(config-flow-monitor)#
```

Related Commands

Command	Description
record	Specifies a flow record to be used by a NetFlow monitor.
record netflow-original	Selects an input IPv4 record.

record netflow ipv4

To select an IPv4 record for the NetFlow monitor, use the **record netflow ipv4** command. To remove the record selection, use the **no** form of this command.

record netflow ipv4 {**original-input** | **original-output** | **protocol-port**}

no record netflow ipv4 {**original-input** | **original-output** | **protocol-port**}

Syntax Description

original-input	Specifies the traditional IPv4 input NetFlow.
original-output	Specifies the traditional IPv4 output NetFlow.
protocol-port	Specifies the protocol and ports aggregation scheme.

Defaults

None

Command Modes

NetFlow monitor configuration (config-flow-monitor)

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
4.0(1)	This command was introduced.

Usage Guidelines

This command does not require a license.

Examples

This example shows how to select a NetFlow IPv4 record for the NetFlow monitor:

```
switch(config)# switch(config)# flow monitor newflow1
switch(config-flow-monitor)# description recordflow
switch(config-flow-monitor)# record netflow ipv4 original-input
switch(config-flow-monitor)#
```

This example shows how to remove the NetFlow IPv4 record selection:

```
switch(config-flow-monitor)# no record netflow ipv4 original-input
```

Related Commands

Command	Description
show flow sw-monitor	Displays information about NetFlow monitors.

record netflow ipv6

To select a NetFlow IPv6 record for the NetFlow monitor, use the **record netflow ipv6** command. To remove the record selection, use the **no** form of this command.

record netflow ipv6 {**original-input** | **original-output** | **protocol-port**}

no record netflow ipv6 {**original-input** | **original-output** | **protocol-port**}

Syntax Description

original-input	Specifies the traditional IPv6 input NetFlow.
original-output	Specifies the traditional IPv6 output NetFlow.
protocol-port	Specifies the protocol and ports aggregation scheme.

Defaults

None

Command Modes

NetFlow monitor configuration (config-flow-monitor)

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
4.1(3)	This command was introduced.

Usage Guidelines

This command does not require a license.

Examples

This example shows how to select a NetFlow IPv6 record for the NetFlow monitor:

```
switch(config)# flow monitor Custom-NetFlow-Record-1
switch(config-flow-monitor)# record netflow ipv6 original-input
```

This example shows how to remove the NetFlow IPv6 record selection:

```
switch(config-flow-monitor)# no record netflow ipv6 original-input
switch(config-flow-monitor)#
```

Related Commands

Command	Description
show flow sw-monitor	Displays information about NetFlow monitors.

record netflow-original

To select an input IPv4 record, use the **record netflow-original** command. To remove the record selection, use the **no** form of this command.

record netflow-original

no record netflow-original

Syntax Description

This command has no arguments or keywords.

Defaults

None

Command Modes

NetFlow monitor configuration (config-flow-monitor)

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
4.0(1)	This command was introduced.

Usage Guidelines

This command does not require a license.

Examples

This example shows how to select an IPv4 input record:

```
switch(config)# flow monitor Custom-NetFlow-Monitor-1
switch(config-flow-monitor)# record netflow-original
switch(config-flow-monitor)#
```

This example shows how to remove the record selection:

```
switch(config-flow-monitor)# no record netflow-original
switch(config-flow-monitor)#
```

Related Commands

Command	Description
show flow sw-monitor	Displays information about NetFlow monitors.

remote-span

To specify a remote Ethernet Switched Port Analyzer (RSPAN) VLAN as a SPAN session source, use the **remote-span** command. To remove an RSPAN VLAN as a SPAN session source, use the **no** form of this command.

remote-span

no remote-span

Syntax Description

This command has no arguments or keywords.

Defaults

None

Command Modes

Vlan configuration (config-vlan)

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
4.0(1)	This command was introduced.

Usage Guidelines

This command does not require a license.

Examples

This example shows how to configure an RSPAN VLAN as a SPAN session source:

```
switch(config)# vlan 100
switch(config-vlan)# remote-span
```

This example shows how to remove an RSPAN VLAN configuration:

```
switch(config-vlan)# no remote-span
switch(config-vlan)#
```

Related Commands

Command	Description
monitor session	Enters the monitor configuration mode.

rmon alarm

To configure a 32-bit remote monitoring RMON alarm, use the **rmon alarm** command. To delete RMON alarms, use the **no** form of this command.

rmon alarm *alarm number mib-object sample-interval* {**absolute** | **delta**} **rising-threshold value** [*rising-event*] **falling-threshold** *value* [*falling-event*] [**owner** *alarm-owner*]

no rmon alarm *alarm-number*

Syntax Description

alarm number	RMON alarm number. The range is from 1 to 65535.
mib-object	MIB object to monitor. The maximum length is 80 characters.
sample-interval	Sample interval in seconds. The range is from 1 to 2147483647.
absolute	Specifies to test each sample directly.
delta	Specifies to test the difference (delta) between the current and previous sample.
rising-threshold *value*	Specifies the rising threshold value. The range is from 2147483648 to 2147483647.
rising-event	(Optional) Event to trigger on a rising threshold crossing. The range is from 1 to 65535. If no event is specified, event 0 is used.
falling-threshold *value*	Specifies the falling threshold value. The range is from 2147483648 to 2147483647.
falling-event	(Optional) Event to trigger on a falling threshold crossing. The range is from 1 to 65535. If no event is specified, event 0 is used.
owner *alarm owner*	(Optional) Specifies an owner for the alarm. The maximum size is 80 characters.

Defaults

None

Command Modes

Global configuration mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
4.0(1)	This command was introduced.

Usage Guidelines

This command does not require a license.

Examples

This example shows how to configure the 32-bit alarm number 20 for OID (1.3.6.1.2.1.2.2.1.14). The sample interval is 30 seconds and delta samples are tested. The rising threshold is 15 errors per sample window; reaching this level triggers event 1. The falling threshold is 0 errors in the sample window; reaching this level triggers event 0 (no action).

```
switch# config terminal
switch(config)# rmon alarm 20 1.3.6.1.2.1.2.2.1.14.16777216 30 delta rising-threshold 15 1
falling-threshold 0 owner cisco

switch(config)# no rmon alarm 20 1.3.6.1.2.1.2.2.1.14.16777216 30 delta rising-threshold
15 1 falling-threshold 0 owner cisco
```

Related Commands

Command	Description
rmon event	Configures an RMON event.
rmon hcalarm	Configures the 64-bit RMON alarm.
show rmon	Displays RMON configuration and logged information.

rmon event

To configure an RMON event, use the **rmon event** command. To delete an RMON event, use the **no** form of this command.

rmon event *event-number* [**description** *text*] [**log**] [**trap** *community-string*] [**owner** *owner-name*]

no rmon event *event-number*

Syntax Description

event-number	RMON event number. The range is from 1 to 65535.
description *text*	(Optional) Specifies a description of the event. The maximum length is 80 characters.
log	(Optional) Generates an RMON log entry in the onboard RMON log when the event is triggered by an alarm.
trap *community-string*	(Optional) Generates SNMP traps with the specified name when the event is triggered by an alarm. The maximum length is 32 characters.
owner *owner-name*	(Optional) Specifies an owner for the alarm. The maximum length is 80 characters.

Defaults

None

Command Modes

Global configuration mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
4.0(1)	This command was introduced.

Usage Guidelines

You can trigger an events created by this command with an alarm that you configured by using the **rmon alarm** or **rmon hcalarm** commands.

Events can be used by both **rmon alarm** (32-bit) and **hcalarm** (64-bit) commands.

Note You may chose to load the default RMON events template configuration or you can delete these entries and create new RMON events. Until you create RMON alarm configurations, however, no alarms will be triggered by these configurations.

This command does not require a license.

Examples

This example shows how to configure RMON event 2 to log the onboard RMON log and send an SNMP trap to public community trap destinations:

```
switch# config terminal
switch(config)# rmon event 2 log trap public description CriticalErrors owner cisco
switch#
```

Related Commands

Command	Description
rmon alarm	Configures a 32-bit RMON alarm.
rmon hcalarm	Configures a 64-bit RMON alarm.
show rmon	Displays RMON configuration and logging information.

rmon hcalarm

To configure a 64-bit RMON high-capacity alarm (hcalarm), use the **rmon hcalarm** command. To delete an rmon hcalarm, use the **no** form of this command.

rmon hcalarm *alarm-number mib-object sample-interval* {**absolute** | **delta**} {**rising-threshold-high** *value* **rising-threshold-low** *value* [*rising-event*] [**falling-threshold-high** *value* **falling-threshold-low** *value* [*falling-event*]]} [**owner** *alarm-owner*]

no rmon hcalarm *alarm-number*

Syntax Description

alarm-number	RMON hcalarm number. The range is from 1 to 65535.
mib-object	MIB object to monitor. The maximum length is 80 alphanumeric characters.
sample-interval	Sample interval in seconds. The range is from 1 to 700000.
absolute	Specifies to test each sample directly.
delta	Specifies to test the difference (delta) between the current and previous sample.
rising-threshold -high *value*	Configures the upper 32 bits of the 64-bit rising threshold value. The range is from 0 to 4294967295.
rising-threshold-low *value*	Configures the lower 32 bits of the 64-bit rising threshold value. The range is from 0 to 4294967295.
rising-event	(Optional) Event to trigger on rising threshold crossing. The range is from 0 to 65535.
falling-threshold-high *value*	Configures the upper 32 bits of the 64-bit falling threshold value. The range is from 0 to 4294967295.
falling-threshold-low *value*	Configures the lower 32 bits of the 64-bit falling threshold value. The range is from 0 to 4294967295.
falling-event	(Optional) Event to trigger on a falling threshold crossing. The range is from 0 to 65535.
owner *alarm-owner*	(Optional) Specifies an owner for the alarm. The maximum size is 80 alphanumeric characters.

Defaults

None

Command Modes

Global configuration mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
4.0(1)	This command was introduced.

Usage Guidelines

Event number 0 is a predefined null (or no operation) event. When no event is specified by the user in an alarm, this event is automatically used by the system. The event causes no action to be taken when triggered; however, the alarm is still reset. The event cannot be redefined by the user. It is a predefined event.

This command does not require a license.

Examples

This example shows how to configure a RMON high-capacity alarm:

```
switch# config terminal
switch(config)# rmon hcalarm 2 1.3.6.1.2.1.31.1.1.1.6.22544384 30 delta
rising-threshold-high 55 rising-threshold-low 3776798720 4 falling-threshold-high 41
falling-threshold-low 3906340864 owner cisco
```

Related Commands

Command	Description
rmon alarm	Configures a 32-bit RMON alarm.
rmon hcalarm	Configures a 64-bit RMON alarm.
show rmon	Displays RMON configuration and logging information.

role distribute

To enable Cisco Fabric Services (CFS) to distribute role configurations, use the **role distribute** command.

role distribute

Syntax Description

This command has no arguments or keywords.

Defaults

None

Command Modes

Global configuration mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
4.1(2)	This command was introduced.

Usage Guidelines

This command does not require a license.

Examples

This example shows how to enable CFS to distribute role configurations and then display the status:

```
switch(config)# role distribute
switch(config)# show role status
Distribution: Enabled
Session State: Unlocked
```

Related Commands

Command	Description
show *application_name* **status**	Displays the status of the specified application, including whether CFS distribution is enabled for the application.

rollback running-config checkpoint

To implement a rollback for the configured checkpoint file, use the **rollback running-config checkpoint** command.

rollback running-config {**checkpoint** *cp-name* | **file** *cp-file*} [**atomic** | **best-effort** | **stop-at-first-failure**]

Syntax Description

checkpoint	Rolls back the running configuration to a checkpoint.
cp-name	Checkpoint name used in the checkpoint database. The name can be any alphanumeric string up to 80 characters but cannot contain spaces.
file	Rolls back the running configuration to a configuration file.
cp-file	Name of configuration file.
atomic	(Optional) Implements a rollback only if no errors occur.
best-effort	(Optional) Implements a rollback and skips any errors.
stop-at-first-failure	(Optional) Implements a rollback that stops if an error occurs.

Defaults

None

Command Modes

Global configuration mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
4.0(1)	This command was introduced.

Usage Guidelines

The **rollback running-config checkpoint** command creates a rollback to the specified checkpoint name or file. The default rollback type is atomic.

Note The running configuration may be disrupted before the rollback operation finally fails if you mistakenly roll back with the file option using a file from a different device but with the same VDC ID as the local VDC.

This command does not require a license.

Examples

This example shows how to implement a rollback for the configured checkpoint file:

```
switch# rollback running-config checkpoint user-checkpoint-1 atomic
Note: Applying config parallelly may fail Rollback verification
Collecting Running-Config
Generating Rollback Patch
Executing Rollback Patch
Generating Running-config for verification
Generating Patch for verification
switch(config)#
```

Related Commands

Command	Description
show diff rollback-patch	Displays the differences between the source and the destination file.