

Traffic Mirroring Commands

Note All commands applicable for the Cisco NCS 5500 Series Router are also supported on the Cisco NCS 540 Series Router that is introduced from Cisco IOS XR Release 6.3.2. References to earlier releases in Command History tables apply to only the Cisco NCS 5500 Series Router.

Note

- Starting with Cisco IOS XR Release 6.6.25, all commands applicable for the Cisco NCS 5500 Series Router are also supported on the Cisco NCS 560 Series Routers.
- Starting with Cisco IOS XR Release 6.3.2, all commands applicable for the Cisco NCS 5500 Series Router are also supported on the Cisco NCS 540 Series Router.
- References to releases before Cisco IOS XR Release 6.3.2 apply to only the Cisco NCS 5500 Series Router.
- Cisco IOS XR Software Release 7.0.1 specific updates are not applicable for the following variants of Cisco NCS 540 Series Routers:
  - N540-28Z4C-SYS-A
  - N540-28Z4C-SYS-D
  - N540X-16Z4G8Q2C-A
  - N540X-16Z4G8Q2C-D
  - N540X-16Z8Q2C-D
  - N540-12Z20G-SYS-A
  - N540-12Z20G-SYS-D
  - N540X-12Z16G-SYS-A
  - N540X-12Z16G-SYS-D

This module provides command line interface (CLI) commands for traffic mirroring commands.

For detailed information about traffic mirroring concepts, configuration tasks, and examples, refer to the *Interface and Hardware Component Configuration Guide for Cisco NCS 5500 Series RoutersInterface and Hardware Component Configuration Guide for Cisco NCS 540 Series RoutersInterface and Hardware Component Configuration Guide for Cisco NCS 560 Series Routers*.

- acl, on page 3
- acl mpls, on page 4
- clear monitor-session counters, on page 5
- destination, on page 6
- drops, on page 10
- forward-drop rx, on page 12
- hw-module profile span-filter l2-rx-enable, on page 13
- hw-module profile span-filter l2-l3-tx-enable, on page 14
- hw-module profile tcam format, on page 16
- mirror first, on page 17
- mirror enable, on page 18
- monitor-session, on page 19
- monitor-session (interface), on page 21
- monitor session ERSPAN ACL, on page 23
- show monitor-session status, on page 25
- udf, on page 27

acl

To configure ACL-based traffic mirroring, use the **acl** command in the monitor session configuration mode. To stop ACL-based traffic mirroring, use the **no** form of this command.

acl

Command Default No default behavior or values

Command Modes Monitor session configuration

Command History

Release	Modification
Release 6.1.3	This command was introduced.

Usage Guidelines If you use the **acl** command, traffic is mirrored according to the definition of the global interface access list (ACL) defined in one of the following commands: **ipv4 access-list**, **ipv6 access-list**.

Even when the **acl** command is configured on the source mirroring port, if the ACL configuration command does not use the **capture** keyword, no traffic gets mirrored.

If the ACL configuration uses the **capture** keyword, but the **acl** command is not configured on the source port, although traffic is mirrored, no access list configuration is applied.

Examples This example shows how to configure ACL-based traffic mirroring on the interface:

```
Router(config)# monitor-session tm_example
Router(config-es-acl)# 10 deny 0000.1234.5678 0000.abcd.abcd any capture
Router(config-es-acl)# exit
Router(config)# interface GigabitEthernet0/2/0/0
Router(config-if)# monitor-session tm_example direction rx-only
Router(config-if)# acl
Router(config-if)# l2transport
Router(config-if-l2)# exit
Router(config-if)# end
```

acl mpls

To mirror the MPLS traffic based on the global interface access list (ACL) defined in the **mpls access-list** configuration, use the **acl mpls** command in monitor session configuration mode.

acl mpls *acl_name*

Syntax Description

acl_name	Specifies the ACL name specified in the **mpls access-list** definition.

Command Default

None

Command Modes

Monitor session configuration mode

Command History

Release	Modification
Release 24.4.1	This command was introduced.

Usage Guidelines

No specific guidelines impact the use of this command.

Task ID

Task ID	Operation
ethernet-services	read, write

Example

This example provides the monitor session to be used on the configured interface. Use the direction keyword to specify that only ingress MPLS traffic is mirrored.

```
Router(config)# interface tenGigE 0/0/0/14
Router(config-if)#monitor-session S1 ethernet direction rx-only port-level
Router(config-if-mon)#acl mpls mp
```

clear monitor-session counters

To clear the traffic mirroring session statistics, use the **clear monitor-session counters** command in EXEC mode.

clear monitor-session counters [*session-name*] [**interface** *type interface-path-id*]

Syntax Description

interface	Identifies the interface for which the counters are to be cleared.
type	Interface type. For more information, use the question mark (**?**) online help function.
interface-path-id	Physical interface or virtual interface. **Note** Use the **show interfaces** command to see a list of all interfaces currently configured on the router. For more information about the syntax for the router, use the question mark (**?**) online help function.
session-name	Name of the monitor session to clear.

Command Default

All stored statistics for all interfaces are cleared.

Command Modes

EXEC

Command History

Release	Modification
Release 6.1.1	This command was introduced.

Task ID

Task ID	Operations
interface	read

Examples

This example shows how to clear the traffic mirroring statistic counters:

```
clear monitor-session mon1 counters
```

destination

To associate a specifc destination with a traffic mirroring session, use the **destination** command in monitor session configuration mode. To remove the designated destination, use the **no** form of this command.

destination [**rx** | **tx**] { **interface** | **pseudowire** | **file** | **sflow** | **application** }
interface *type* { **erspan-session-id** *id* [{ **kbps** | **pps** }] }
file [**size** *kbytes* [**buffer-type linear**] [**format pcapng**] [**filter** *expression*]] [**always-on** [**periodic-write** *interval* [**capacity** *capacity* { **KB** | **MB** | **GB** }]]]
sflow *exporter-map-name*

Syntax Description

destination [**rx** | **tx**] { **interface** | **pseudowire** | **file** | **sflow** | **application** }	Destination where mirrored traffic is sent.
rx	Allows you to specify the destination for the incoming traffic (Rx).
tx	Allows you to specify the destination for the outgoing traffic (Tx).
interface *type* { **erspan-session-id** *id* }	• **interface** *type*: Physical interface or virtual interface. **Note** Use the **show interfaces** command to see a list of all interfaces currently configured on the router. For more information about the syntax for the router, use the question mark (**?**) online help function. • **erspan-session-id** *id*: Unique ERSPAN ID that is assigned to the destination session.

file [**size** *kbytes* [**buffer-type linear**] [**format pcapng**] [**filter** *expression*]] [**always-on** [**periodic-write** *interval* [**capacity** *capacity* { **KB** | **MB** | **GB** }]]]	• **size** *kbytes*: Maximum size of the file in kilobytes. If not specified, the default size is applied. • **buffer-type linear**: Buffer that operates in a linear mode. This configuration replaces the default circular mode. • **format pcapng**: Output file format for the captured packets as PCAP Next Generation (pcapng). If the format is not specified, the default format is pcap. • **filter** *expression*: Applies pcap filter expression to the traffic being captured. • **always-on** : Enables continuous packet capture at the specified interval when used with the **periodic-write** option. • **periodic-write** *interval*: Specifies that the captured data should be written to the disk periodically at a defined interval, when **always-on** is configured. • **capacity** *capacity*: Total storage capacity (KB/MB/GB) allocated for the continuous capture.
sflow *exporter-map-name*	Sends the mirrored traffic using the sFlow exporter map.

Command Default

- In the monitor session configuration with **file** as destination:
  - If **size** is not specified, the default size is applied.
  - If **buffer-type linear** is not configured, the default circular mode is applied.
  - If the **format pcapng** is not specified, the default format is pcap.

Command Modes

Monitor sessions configuration

Command History

Release	Modification
Release 6.1.1	This command was introduced.
Release 6.1.3	The ability to specify a GRE tunnel interface as a destination was added.
Release 25.3.1	A new keyword, **application**, was added to the **destination** keyword.

Usage Guidelines

Use the **destination interface** command to assign a traffic monitoring session to a specific destination interface. This is the port to which a network analyzer is connected. This is generally called the monitoring port.

A destination port has these characteristics:

- A destination port must reside on the same switch as the source port.
- A destination port can be any Ethernet physical port, nV Satellite ICL port, EFP, a GRE tunnel interface or a bundle interface. The ICL must not be a bundle interface.

- At any one time a destination port can participate in only one traffic mirroring session. A destination port in one traffic mirroring session cannot be a destination port for a second traffic mirroring session. In other words, no two monitor sessions can have the same destination port.
- A destination port cannot also be a source port.

Examples

This example shows how to configure a monitoring port for a traffic mirroring session.

```
Router(config)# monitor-session mon1
Router (config-mon)# destination interface gigabitethernet0/0/0/15
```

This example shows how to configure a monitor session to send mirrored traffic over a pseudowire. destination.

```
Router(config)# monitor-session mon1
Router (config-mon)# destination pseudowire
```

This is an example L2VPN running configuration with pseudowire as destination.

```
monitor-session mon1 ethernet
 destination rx pseudowire
 destination tx pseudowire
!
interface Loopback0
 ipv4 address 11.11.11.11 255.255.255.255
!
interface TenGigE0/0/0/0
 ipv4 address 10.0.12.1 255.255.255.0
!
router ospf 1
 area 1
  interface Loopback0
  !
  interface TenGigE0/0/0/0
  !
 !
!
l2vpn
 xconnect group XC
  p2p rx
   monitor-session mon1 rx
   neighbor ipv4 12.12.12.12 pw-id 100
   !
  !
  p2p tx
   monitor-session mon1 tx
   neighbor ipv4 12.12.12.12 pw-id 101
   !
  !
 !
!
mpls ldp
 router-id 11.11.11.11
 interface TenGigE0/0/0/0
 !
!
```

This example shows how to write the mirrored traffic directly into a file in an internal storage.

```
Router(config)# monitor-session mon1
Router (config-mon)# destination file
```

This example shows how to use an sFlow protocol as destination.

```
Router(config)# monitor-session mon1
Router (config-mon)# destination sflow EXP-MAP-DROP
```

This example shows how to configure a monitor session with **application** as the destination.

```
Router# configure
Router(config)# monitor-session mon1
Router (config-mon)# destination application
```

drops

To mirror Traffic Management (TM) buffer drop packets or forward-drop packets at the ingress of a router to a configured destination, use the **drops** command in XR Config mode.

```
drops [rx|tx] { traffic-management |packet-processing |unique-punt |
unique-port |filter expression }
```

Syntax Description

rx	Mirror packet drops in the Rx direction only.
tx	Mirror packet drops in the Tx direction only.
traffic-management	Mirror TM buffer drop packets in the specified direction (Rx or Tx).
packet-processing	Mirror forward-drop packets in the specified direction (Rx or Tx).
unique-punt	Monitor packets that are punted to the CPU for processing.
unique-port	Specify packet drops associated with specific port conditions.
filter *expression*	Apply pcap filter expression to the traffic being captured.

Command Default

All packet drops are mirrored.

Command Modes

XR Config mode

Command History

Release	Modification
Release 24.2.1	This command was introduced.

Usage Guidelines

The command is not available on management interface.

This configuration allows the user to easily configure mirroring all drops on the router. The user can additionally specify that only **packet-processing** and **traffic-management** drops should be mirrored, either in the rx or tx directions. The **unique-punt** and **unique-port** options indicate only the first dropped packet for a given drop-reason or interface are mirrored respectively.

Task ID

Task ID	Operation
ethernet-services	read, write

Examples

This example shows how to configure a global traffic mirroring session for forward-drop packets.

```
Router(config)# interface tunnel-ip2
Router(config-if)# tunnel mode gre ipv4
Router(config-if)# tunnel source 10.10.10.10
Router(config-if)# tunnel destination 192.0.2.1
```

```
Router(config-if)# exit
Router(config)# monitor-session mon2 ethernet
Router(config-mon)# destination interface tunnel-ip2
Router(config-mon)# drops packet-processing rx
Router(config-mon)# commit
```

forward-drop rx

To mirror forward-drop packets at the ingress of a router to a configured destination, use the **forward-drop rx** command in XR Config mode.

forward-drop rx

Syntax Description

This command has no keywords or arguments.

Command Default

Mirroring forward-drop packets is disabled.

Command Modes

XR Config mode

Command History

Release	Modification
Release 7.5.4	This command was introduced.
Release 24.2.1	This command was deprecated. Use the **drops** command to achieve the same functionality.

Usage Guidelines

The **forward-drop rx** command is not available on management interface.

Task ID

Task ID	Operation
ethernet-services	read, write

Example

This example shows how to configure a global traffic mirroring session for forward-drop packets.

```
Router(config)# interface tunnel-ip 2
Router(config-if)# tunnel mode gre ipv4
Router(config-if)# tunnel source 20.20.20.20
Router(config-if)# tunnel destination 192.1.1.3
Router(config-if)!
Router(config)# monitor-session mon2 ethernet
Router(config-mon)#destination interface tunnel-ip2
Router(config-mon)#forward-drop rx
Router(config-mon)#!
```

hw-module profile span-filter l2-rx-enable

To enable SPAN filtering on Layer 2 incoming (rx) traffic, use the **hw-module profile span-filter l2-rx-enable** command in monitor session configuration mode. To remove the filtering, use the **no** form of this command.

hw-module profile span-filter l2-rx-enable

Syntax Description

span-filter	Specifies SPAN filtering.
l2-rx-enable	Enables intra-bridge layer 2 incoming (rx) traffic for filtering.

Command Default

No default behavior or values

Command Modes

Monitor session configuration

Command History

Release	Modification
Release 7.7.1	This command was introduced.

Usage Guidelines

To activate the filtering, you must reload the chassis or all the line cards.

Examples

This example shows how to enable SPAN filtering for incoming Layer 2 interface traffic:

```
Router(config)# hw-module profile npu native-mode-enable
hw-module profile span-filter l2-rx-enable


interface Bundle-Ether1
 monitor-session mon1 ethernet direction rx-only port-level
!
interface Bundle-Ether1.1 l2transport
 encapsulation dot1q 1
 rewrite ingress tag pop 1 symmetric
!
interface Bundle-Ether1.2 l2transport
 encapsulation dot1q 2
 rewrite ingress tag pop 1 symmetric
!
l2vpn
 bridge group bg1
  bridge-domain bg1
   interface Bundle-Ether1.1
   !
   interface Bundle-Ether1.2
   !
   interface HundredGigE0/0/0/17
   !
   routed interface BVI100
   !
  !
 !
```

hw-module profile span-filter l2-l3-tx-enable

To enable SPAN filtering on Layer 2 outgoing (Tx) traffic, use the **hw-module profile span-filter l2-l3-tx-enable** command in monitor session configuration mode. To remove the filtering, use the **no** form of this command.

hw-module profile span-filter l2-l3-tx-enable

Syntax Description

span-filter	Specifies SPAN filtering.
l2-l3-tx-enable	Enables intra-bridge layer 2 outgoing (Tx) traffic for filtering.

Command Default

No default behavior or values

Command Modes

Monitor session configuration

Command History

Release	Modification
Release 7.8.1	This command was introduced.

Usage Guidelines

To activate the filtering, you must reload the chassis or all the line cards.

Examples

This example shows how to enable SPAN filtering for outgoing Layer 2 interface traffic:

```
Router(config)# hw-module profile npu native-mode-enable
hw-module profile span-filter l2-l3-tx-enable


interface Bundle-Ether1
 monitor-session mon1 ethernet direction tx-only port-level
!
interface Bundle-Ether1.1 l2transport
 encapsulation dot1q 1
 rewrite ingress tag pop 1 symmetric
!
interface Bundle-Ether1.2 l2transport
 encapsulation dot1q 2
 rewrite ingress tag pop 1 symmetric
!
l2vpn
 bridge group bg1
  bridge-domain bg1
   interface Bundle-Ether1.1
   !
   interface Bundle-Ether1.2
   !
   interface HundredGigE0/0/0/17
   !
   routed interface BVI100
   !
  !
```

!

hw-module profile tcam format

To add UDF field definitions to the ACL key definition that is sent to the hardware, use the **hw-module profile tcam format** command in monitor session configuration mode. To remove the UDF field definitions, use the **no** form of this command.

hw-module profile tcam format access-list {**ipv4** | **ipv6**} [*acl-qualifiers*] [**udf1** *udf-name1* ... **udf8** *udf-name8*]
no hw-module profile tcam format access-list {**ipv4** | **ipv6**} [*acl-qualifiers*] [**udf1** *udf-name1* ... **udf8** *udf-name8*]

Syntax Description

access-list	Specifies the access-list format.
ipv4	Specifies the IPv4 access list.
ipv6	Specifies the IPv6 access list.
acl-qualifiers	Specifies the ACL qualifiers.
udf1 *udf-name1* ... **udf8** *udf-name8*	Specifies the UDF-defined filter. **Note** The range is from 1 to 8.

Command Default

No default behavior or values

Command Modes

Monitor session configuration

Command History

Release	Modification
Release 6.1.3	This command was introduced.

Usage Guidelines

To activate the new IPv4 profile, you must manually reload the chassis or all the line cards.

Examples

This example shows how to add UDF to the ACL key definitions:

```
Router(config)# hw-module profile tcam format access-list ipv4 src-addr dst-addr packet-length
precedence proto udf1 udf-test
```

mirror first

To configure partial traffic mirroring, use the **mirror first** command in monitor session configuration mode and global configuration mode. To stop mirroring a portion of the packet, use the **no** form of this command.

mirror { **first** *bytes* }

Syntax Description

bytes Number of bytes mirrored. The mirrored packet length value can range from 65 to 128.

Note
In global configuration mode, the mirrored packet length ranges from 1 to 10000.

Command Default

The entire packet is mirrored.

Command Modes

Monitor session configuration
Global configuration

Command History

Release	Modification
Release 6.1.1	This command was introduced.
Release 7.5.2	The `mirror first` option is introduced in the global configuration mode.

Usage Guidelines

To mirror the first 64 to 128 bytes of the packet, use the **mirror first** command. The actual mirrored packet is the configured partial packet monitoring size plus the 4-byte trailing CRC.

Examples

This example shows how to mirror the first 100 bytes of a packet:

```
Router(config)# interface gigabitethernet0/0/0/11
Router(config-if)# monitor-session mon1
Router(config-if-mon)# mirror first 100
```

mirror enable

To copy files or directories automatically from `/harddisk:/mirror` location in active RP to `/harddisk:/mirror` location in standby RP or RSP without user intervention or EEM scripts, use `mirror enable` command. The `mirror enable checksum` command enables MD5 checksum across active to standby RP to check integrity of the files. This command is optional. A slight delay is observed in `show mirror` command output when mirror checksum configuration is enabled.

mirror enable

Command Default

The `/harddisk:/mirror` directory is created by default, but file mirroring functionality is only enabled by executing the `mirror enable` command from configuration terminal.

Command Modes

Monitor configuration

Command History

Release	Modification
Release 7.2.1	This command was introduced.

File mirroring has to be enabled explicitly on the router. It is not enabled by default.

```
RP/0/RSP0/CPU0:router#show run mirror
Thu Jun 25 10:12:17.303 UTC
mirror enable
mirror checksum
```

monitor-session

To define a traffic mirroring session and enter monitor session configuration mode, use the **monitor-session** command in global configuration mode. To remove the traffic mirroring session, use the **no** form of this command.

monitor-session { **router-id** *router-id* | **local-capture-capacity** *capacity*
monitor-session *session-name* [**ethernet** | **ipv4** | **ipv6** | **mpls-ipv4** | **mpls-ipv6**]
[**destination** [**rx** | **tx**] { **interface** | **pseudowire** | **file** | **sflow** | **application** }] [**discard class** { **0-7** }] [**traffic class** { **0-7** }] [**drops** [**rx** | **tx**] { **traffic-management** | **packet-processing** | **unique-punt** | **unique-port** | **filter** *expression* }] [**protocol-capture** [**rx** | **tx**] [**filter** *expression*]]
[**mirror first** *bytes*] [**inject-interface** { **bvi** | **bundle-ether** | **EightHundredGigE** | **FastEthernet** | **FiftyGigE** | **FortyGigE** | **FourHundredGigE** | **GigabitEthernet** | **HundredGigE** | **TenGigE** | **TwentyFiveGigE** | **TwoHundredGigE** }] [**mirror interval**]

Syntax Description

session-name	Name of the monitor session to configure.
router-id	Allows you to configure router id with a value that can range from 1 to 255.
local-capture-capacity	Specifies the maximum amount of memory on disk used to maintain periodic capture files for all sessions.
monitor-session *session-name* [**ethernet** | **ipv4** | **ipv6** | **mpls-ipv4** | **mpls-ipv6**]	Specifies the monitor session type. Ethernet is the default type if none of these session types are specified: • **ipv4** • **ipv6** • **mpls-ipv4** • **mpls-ipv6**
rx	Allows you to configure the monitor session for the incoming traffic (Rx) only.
tx	Allows you to configure the monitor session for the outgoing traffic (Tx) only.
destination	Allows you to configure the destination for the current monitor-session for incoming traffic (Rx) or outgoing traffic (Tx).
destination interface	Sends mirrored traffic to the specified interface.
destination pseudowire	Sends mirrored traffic over a pseudowire.
destination file	Stores mirrored traffic directly into a file.
destination sflow	Configures the monitoring session to send the network traffic data using the sFlow protocol.
destination application	Sends mirrored traffic to a third-party application.

discard-class	Allows you to specify the discard class value to be set on all traffic that is mirrored to the destination.
traffic-class	Allows you to specify the traffic class value to be set on all traffic that is mirrored to the destination.
protocol-capture	Configures the session to capture packets related to specific control-plane protocols.
mirror first	Specifies that only the first x bytes of a packet to be mirrored to the destination.
mirror interval	Specifies that sampling of traffic is performed on all sessions. Only the sampled packets are mirrored. Valid sampling intervals are generated one in every 2, 4, 8, 16, 32, 64, 128, 256, 512, 1k, 2k, 4k, 8k or 16k packets. **Note** Valid sampling intervals vary for different platforms.

Command Default

Ethernet is the default monitor session type.

Command Modes

Global configuration mode

Command History

Release	Modification
Release 6.1.1	This command was introduced.
Release 7.4.1	**destination rx** and **destination tx** keywords were added.
Release 25.3.1	A new keyword, **application**, was added to the **destination** keyword to specify a third-party application as the destination.

Usage Guidelines

Before you can assign a monitor session to a specific interface, you must configure it using the **monitor-session** command. The *session-name* should not be the same as any interface name.

In monitor session configuration mode, you should define the destination to be used in the traffic mirroring session using the **destination** command. The session will be non-operable until a destination is configured for the session.

Ethernet is the default monitor session type.

Inject interfaces are only supported for Ethernet monitor sessions with pseudowire destinations, and should be configured to be one of the session's source interfaces.

Examples

This example shows how to enter monitor session configuration mode:

```
Router(config)# monitor-session mon1
Router(config-mon)#
```

monitor-session (interface)

To associate a traffic mirroring session with a specific interface, use the **monitor-session** command in interface configuration mode or dynamic-template configuration mode. To remove the association between a traffic mirroring session and an interface, use the **no** form of this command.

monitor-session *session-name*
acl
port-level
destination [**rx** | **tx**] { **interface** | **pseudowire** | **nexthop** | **file** | **udp** | **sflow** | **application** }
[**destination** { **rx** | **tx** }] [**discard class** { **0-7** }] [**traffic class** { **0-7** }] [**mirror** { **first** *bytes* }] [**inject-interface** { **bvi** | **bundle-ether** | **EightHundredGigE** | **FastEthernet** | **FiftyGigE** | **FortyGigE** | **FourHundredGigE** | **GigabitEthernet** | **HundredGigE** | **TenGigE** | **TwentyFiveGigE** | **TwoHundredGigE** }] [**direction** { **rx-only** | **tx-only** *bytes* }] [**mirror-interval**]

[{ `rx` *interface* | `tx` *interface* }]

Syntax Description

session-name	Name of the monitor session to configure.
acl	Allows you to enable acl-based mirroring.
direction	Allows you to specify the direction of traffic to replicate.
ethernet	Allows you to replicate Ethernet traffic.
port-level	Specifies port-level mirroring.
mirror {first}	Specifies that only the first x bytes of a packet to be mirrored to the destination.
rx-only	Specifies that only ingress traffic is replicated.
tx-only	Specifies that only egress traffic is replicated.
rx*interface*	Specifies the ingress traffic and its destination.
tx*interface*	Specifies the egress traffic and its destination.
mirror-interval	Specifies that sampling of traffic is performed on all sessions. Only the sampled packets are mirrored. Valid sampling intervals are generated one in every 2, 4, 8, 16, 32, 64, 128, 256, 512, 1k, 2k, 4k, 8k or 16k packets.

Command Default

Replicates both ingress and egress traffic.

Command Modes

Interface configuration

Command History

Release	Modification
Release 6.1.1	This command was introduced.

Release	Modification
Release 7.4.1	The **rx***interface* and **tx***interface* keywords were added.

Usage Guidelines

Before you can associate a traffic mirroring session to a specific interface, you must define it using the **monitor-session** global configuration command. After the traffic mirroring session is defined, use the **monitor-session** interface configuration command to associate this session with a specific source interface. When the session is associated, all specified traffic on the interface is then replicated to the destination location defined in the monitor session configuration.

The **monitor-session** interface configuration command also enters monitor session configuration mode for you to configure additional features of the mirroring session.

Task ID

Task ID	Operations
interface	read, write
config-services	read, write

Examples

This example shows a sample configuration of the **monitor-session** command in the interface configuration mode:

```
Router# configure
Router(config)# interface gigabitethernet0/0/0/11
Router(config-if)# monitor-session mon1 port-level direction rx-only
Router(config-if-mon)mirror first 101#
```

This example shows a sample to configure separate interface destination for incoming (rx) and outgoing (tx) traffic:

```
Router# configure
Router(config)# monitor-session mon1 ethernet
Router(config-mon)# monitor-session foo ethernet destination rx interface tenGigE 0/0/0/0
Router(config-mon)# monitor-session foo ethernet destination tx interface tenGigE 0/0/0/1
Router(config-if)# end
Router(config)#
```

monitor session ERSPAN ACL

This command defines a monitor session, and enters monitor session configuration mode.

monitor-session ERSPANethernetdirection {*rx-onlyport-levelacl*}

Syntax Description

ERSPAN	Name of the session.
ethernet	Replicates Ethernet traffic.
direction	Use the direction keyword to specify that only ingress or egress traffic is mirrored. monitor-session session-name [direction { rx-only | tx-only]
rx-only	Specifies that only ingress traffic is mirrored.
port-level	Use this port level command to mirror all traffic types.
acl	The ACL that is attached in the ingress interface. • Even when the acl command is configured on the source mirroring port, if the ACL configuration command does not use the capturekeyword, no traffic gets mirrored. • If the ACL configuration uses the capture keyword, but the acl command is not configured on the source port, although traffic is mirrored, no access list configuration is applied. • All ingress traffic is mirrored.

Command Default

No default behavior or values

Command Modes

Route-policy configuration

Command History

Release	Modification
Release 6.6.1	This command was introduced.

Task ID

Task ID	Operations
route-policy	read, write

Examples

```
RP/0/RP0/CPU0: pyke-008#sh run monitor-session ERSPAN
monitor-session ERSPAN ethernet
destination interface tunnel-ip1
!

RP/0/RP0/CPU0:pyke-008#sh run int tunnel-ip 1
interface tunnel-ip1
ipv4 address 4.4.4.1 255.255.255.0
tunnel mode gre ipv4
tunnel source 20.1.1.1
```

```
tunnel destination 20.1.1.2
!
```

show monitor-session status

To display status information about configured traffic mirroring sessions, use the **show monitor-session status** command in XR EXEC mode.

show monitor-session [*session-name*] **status** [**detail**] [**errors**]

Syntax Description

session-name	Name of the monitor session to configure.
detail	Displays the full error string for any errors.
errors	Displays all sessions, but only source interfaces with errors are displayed (if no source interfaces have errors, then 'No errors' is displayed).

Command Default

No default behavior or values

Command Modes

XR EXEC mode

Command History

Release	Modification
Release 6.1.1	This command was introduced.

Usage Guidelines

The **show monitor-sessions status** command displays the following information:

- Destination information for the session (including the name of the interface).
- Destination status (interface state).
- List of source interfaces.
- Any other status information that may be pertinent, such as a software or hardware error that would stop sessions operating correctly. If an error is returned from interactions with another component, then the full error string is only displayed in detail output; standard tabular output reports that there has been an error but refers the user to the detailed output.

Examples

This example shows sample output from the **show monitor-session status** command:

```
Router# show monitor-session status

Monitor-session foo
Destination interface GigabitEthernet 0/0/0/0
================================================================================
Source Interface      Dir   Status
--------------------- ----  --------------------------------------------------
Gi0/1/0/0.10          Both  Operational
Gi0/1/0/0.11          Rx    Operational
Gi0/1/0/0.12          Tx    Operational
```

This example shows the sample output for the **show monitor-session status detail** command:

```
Router show monitor-session status detail
```

```
Monitor-session foo
  Destination interface GigabitEthernet 0/0/0/0
  Source Interfaces
  -----------------
  GigabitEthernet 0/1/0/0.100:
    Direction: Both
    Status:    Operating
  GigabitEthernet 0/2/0/0.200:
    Direction: Rx
    Status:    Error: <blah>

Monitor session bar
  No destination configured
  Source Interfaces
  -----------------
  GigabitEthernet 0/3/0/0.100:
    Direction: Rx
    Status:    Not operational(no destination interface)
```

This example shows a sample output for the **show monitor-session status** command for mirror-first option:

```
Monitor-session foo mirror-first 101
Destination interface GigabitEthernet 0/0/0/0
================================================================================
Source Interface      Dir   Status
--------------------- ----  -------------------------------------------------
```

udf

To configure user-defined fields (UDFs), use the **udf** command in monitor session configuration mode. To remove the UDF field definitions, use the **no** form of this command.

udf *udf-name* **header** {**inner** | **outer**} {**l2** | **l3** | **l4**} **offset** *offset-in-bytes* **length** *length-in-bytes*
no udf *udf-name* **header** {**inner** | **outer**} {**l2** | **l3** | **l4**} **offset** *offset-in-bytes* **length** *length-in-bytes*

Syntax Description

udf-name	Name of the UDF.
header	Specifies the header.
inner	Specifies the offset base from inner header.
outer	Specifies the offset base from outer header.
l2	Specifies the offset base from Layer 2 header.
l3	Specifies the offset base from Layer 3 header.
l4	Specifies the offset base from Layer 4 header.
offset *offset-in-bytes*	Specifies the offset from the offset base, in bytes. **Note** The maximum offset is 63 bytes from the start of any header.
length *length-in-bytes*	Specifies the length from the offset, in bytes. Range: 1 to 4 bytes.

Command Default

No default behavior or values

Command Modes

Monitor session configuration

Command History

Release	Modification
Release 6.1.3	This command was introduced.

Usage Guidelines

UDFs for Layer 2 inner header is not supported.

Examples

This example shows how to confgure UDFs:

```
Router(config)# udf udf-test header outer l3 offset 4 length 4
```