CHAPTER 52

Configuring Local SPAN, RSPAN, and ERSPAN

This chapter describes how to configure local Switched Port Analyzer (SPAN), remote SPAN (RSPAN), and Encapsulated RSPAN (ERSPAN) on the Catalyst 6500 series switches. With a PFC3, Release 12.2(18)SXE and later releases support ERSPAN (see the "ERSPAN Guidelines and Restrictions" section on page 52-11).

Note

- For complete syntax and usage information for the commands used in this chapter, refer to the *Cisco IOS Master Command List* at this URL:

  http://www.cisco.com/en/US/docs/ios/mcl/122sxmcl/12_2sx_mcl_book.html

  OSM WAN ports and FlexWAN ports do not support SPAN, RSPAN or ERSPAN.

  PFC2 does not support ERSPAN.

This chapter consists of these sections:

Understanding How Local SPAN, RSPAN, and ERSPAN Work

Local SPAN, RSPAN, and ERSPAN Overview

or more VLANs, and send the monitored traffic to one or more destination ports. With Release 12.2(18)SXD and later releases, you can configure per-VLAN filtering on destination trunk ports.

Local SPAN, RSPAN, and ERSPAN all send traffic to a network analyzer such as a SwitchProbe device or other Remote Monitoring (RMON) probe. SPAN does not affect the switching of traffic on source ports or VLANs. SPAN sends a copy of the packets received or transmitted by the source ports and VLANs to the destination port. You must dedicate the destination port for SPAN use.

These sections provide an overview of local SPAN, RSPAN, and ERSPAN:

Local SPAN Overview

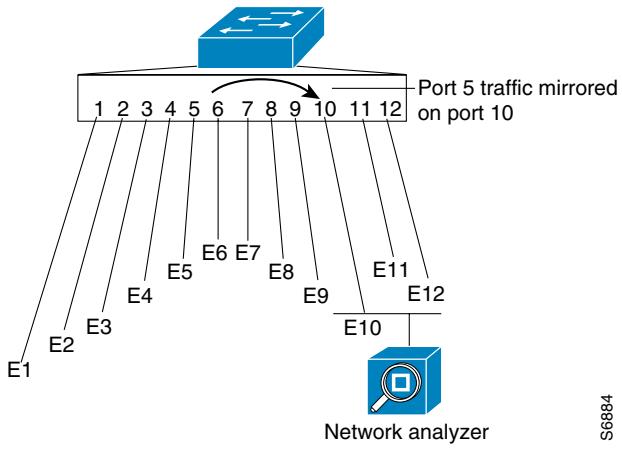
A local SPAN session is an association of source ports and source VLANs with one or more destination ports. You configure a local SPAN session on a single switch. Local SPAN does not have separate source and destination sessions.

Local SPAN sessions do not copy locally sourced RSPAN VLAN traffic from source trunk ports that carry RSPAN VLANs. Local SPAN sessions do not copy locally sourced RSPAN GRE-encapsulated traffic from source ports.

Each local SPAN session can have either ports or VLANs as sources, but not both.

Local SPAN copies traffic from one or more source ports in any VLAN or from one or more VLANs to a destination port for analysis (see Figure 52-1). For example, as shown in Figure 52-1, all traffic on Ethernet port 5 (the source port) is copied to Ethernet port 10. A network analyzer on Ethernet port 10 receives all traffic from Ethernet port 5 without being physically attached to Ethernet port 5.

Figure 52-1 Example SPAN Configuration



RSPAN Overview

RSPAN supports source ports, source VLANs, and destination ports on different switches, which provides remote monitoring of multiple switches across your network (see Figure 52-2).

RSPAN consists of an RSPAN source session, an RSPAN VLAN, and an RSPAN destination session. You separately configure RSPAN source sessions and destination sessions on different switches. To configure an RSPAN source session on one switch, you associate a set of source ports or VLANs with an RSPAN VLAN. To configure an RSPAN destination session on another switch, you associate the destination ports with the RSPAN VLAN.

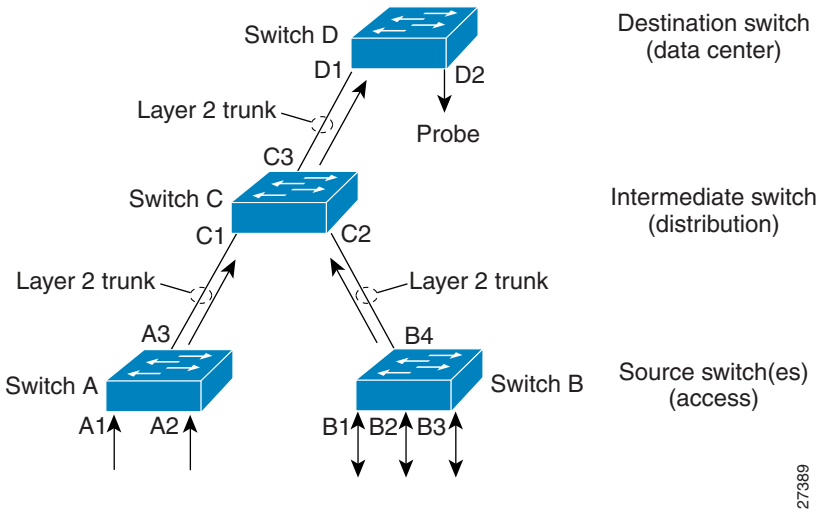
The traffic for each RSPAN session is carried as Layer 2 nonroutable traffic over a user-specified RSPAN VLAN that is dedicated for that RSPAN session in all participating switches. All participating switches must be trunk-connected at Layer 2.

RSPAN source sessions do not copy locally sourced RSPAN VLAN traffic from source trunk ports that carry RSPAN VLANs. RSPAN source sessions do not copy locally sourced RSPAN GRE-encapsulated traffic from source ports.

Each RSPAN source session can have either ports or VLANs as sources, but not both.

The RSPAN source session copies traffic from the source ports or source VLANs and switches the traffic over the RSPAN VLAN to the RSPAN destination session. The RSPAN destination session switches the traffic to the destination ports.

RSPAN Configuration



ERSPAN Overview

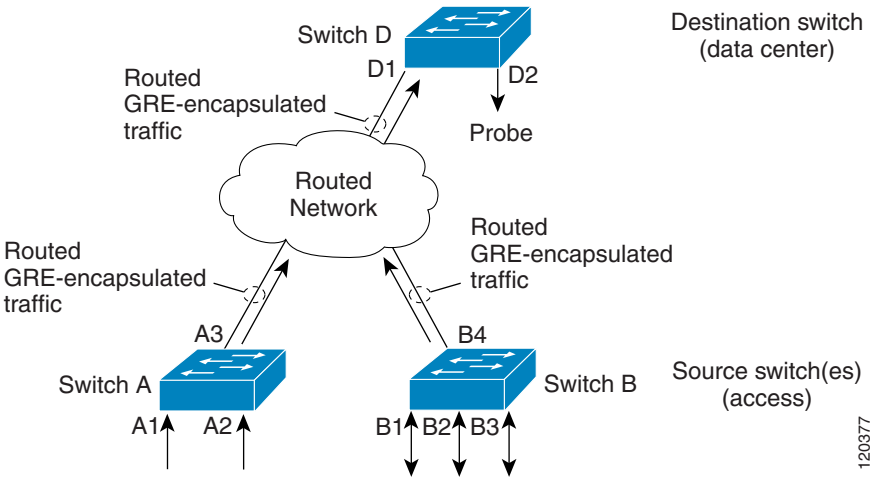
with a destination IP address, ERSPAN ID number, and optionally with a VRF name. To configure an ERSPAN destination session on another switch, you associate the destination ports with the source IP address, ERSPAN ID number, and optionally with a VRF name.

ERSPAN source sessions do not copy locally sourced RSPAN VLAN traffic from source trunk ports that carry RSPAN VLANs. ERSPAN source sessions do not copy locally sourced ERSPAN GRE-encapsulated traffic from source ports.

Each ERSPAN source session can have either ports or VLANs as sources, but not both.

The ERSPAN source session copies traffic from the source ports or source VLANs and forwards the traffic using routable GRE-encapsulated packets to the ERSPAN destination session. The ERSPAN destination session switches the traffic to the destination ports.

Figure 52-3 ERSPAN Configuration



Monitored Traffic

These sections describe the traffic that local SPAN, RSPAN, and ERSPAN can monitor:

- Monitored Traffic Direction, page 52-5
- Monitored Traffic, page 52-5
- Duplicate Traffic, page 52-5

Monitored Traffic Direction

You can configure local SPAN sessions, RSPAN source sessions, and ERSPAN source sessions to monitor ingress traffic (called ingress SPAN), or to monitor egress traffic (called egress SPAN), or to monitor traffic flowing in both directions.

Ingress SPAN copies traffic received by the source ports and VLANs for analysis at the destination port. Egress SPAN copies traffic transmitted from the source ports and VLANs. When you enter the **both**

By default, local SPAN and ERSPAN monitor all traffic, including multicast and bridge protocol data unit (BPDU) frames. RSPAN does not support BPDU monitoring.

Duplicate Traffic

In some configurations, SPAN sends multiple copies of the same source traffic to the destination port. For example, in a configuration with a bidirectional SPAN session (both ingress and egress) for two SPAN sources, called s1 and s2, to a SPAN destination port, called d1, if a packet enters the switch through s1 and is sent for egress from the switch to s2, ingress SPAN at s1 sends a copy of the packet to SPAN destination d1 and egress SPAN at s2 sends a copy of the packet to SPAN destination d1. If the packet was Layer 2 switched from s1 to s2, both SPAN packets would be the same. If the packet was Layer 3 switched from s1 to s2, the Layer 3 rewrite would alter the source and destination Layer 2 addresses, in which case the SPAN packets would be different.

Local SPAN, RSPAN, and ERSPAN Sources

These sections describe local SPAN, RSPAN, and ERSPAN sources:

- Source Ports, page 52-5
- Source VLANs, page 52-5

Source Ports

A source port is a port monitored for traffic analysis. You can configure both switched and routed ports as SPAN source ports. SPAN can monitor one or more source ports in a single SPAN session. You can configure source ports in any VLAN. Trunk ports can be configured as source ports and mixed with nontrunk source ports. SPAN does not copy the encapsulation from a source trunk port.

Source VLANs

A source VLAN is a VLAN monitored for traffic analysis. VLAN-based SPAN (VSPAN) uses a VLAN as the SPAN source. All the ports in the source VLANs become source ports.

Local SPAN, RSPAN, and ERSPAN Destination Ports

A destination port is a Layer 2 or Layer 3 LAN port to which local SPAN, RSPAN, or ERSPAN sends traffic for analysis.

When you configure a port as a destination port, it can no longer receive any traffic. When you configure a port as a destination port, the port is dedicated for use only by the SPAN feature. A SPAN destination port does not forward any traffic except that required for the SPAN session.

You can configure trunk ports as destination ports, which allows destination trunk ports to transmit encapsulated traffic. With Release 12.2(18)SXD and later releases, for local SPAN, you can configure per-VLAN filtering on destination trunk ports using allowed VLAN lists (see the "Configuring Destination Trunk Port VLAN Filtering" section on page 52-24).

Local SPAN, RSPAN, and ERSPAN Configuration Guidelines and Restrictions

These sections describe local SPAN, RSPAN, and ERSPAN configuration guidelines and restrictions:

Note Release 12.2(18)SXE and later releases support ERSPAN.

Feature Incompatiblities

These feature incompatibilities exist with local SPAN, RSPAN, and ERSPAN:

- Egress SPAN is not supported in egress multicast mode. (CSCsa95965)
- With a PFC3, EoMPLS ports cannot be SPAN sources. (CSCed51245)
- A port-channel interface (an EtherChannel) can be a SPAN source, but you cannot configure active member ports of an EtherChannel as SPAN source ports. Inactive member ports of an EtherChannel can be configured as SPAN sources but they are put into the suspended state and carry no traffic.
- With releases earlier than Release 12.2(33)SXH, a port-channel interface (an EtherChannel) cannot be a SPAN destination.
- You cannot configure active member ports of an EtherChannel as SPAN destination ports. Inactive member ports of an EtherChannel can be configured as SPAN destination ports but they are put into the suspended state and carry no traffic.

- Because SPAN destination ports drop ingress traffic, these features are incompatible with SPAN destination ports:
  - Private VLANs
  - IEEE 802.1X port-based authentication
  - Port security
  - Spanning tree protocol (STP) and related features (PortFast, PortFast BPDU Filtering, BPDU Guard, UplinkFast, BackboneFast, EtherChannel Guard, Root Guard, Loop Guard)
  - VLAN trunk protocol (VTP)
  - Dynamic trunking protocol (DTP)
  - IEEE 802.1Q tunneling

SPAN destination ports can participate in IEEE 802.3Z Flow Control.

IP multicast switching using egress packet replication is not compatible with SPAN. In some cases, egress replication can result in multicast packets not being sent to the SPAN destination port. If you are using SPAN and your switching modules are capable of egress replication, enter the **mls ip multicast replication-mode ingress**

PFC3

Total Sessions	Local SPAN, RSPAN Source, or ERSPAN Source Sessions	RSPAN Destination Sessions	ERSPAN Destination Sessions

	In Each Local SPAN Session	In Each RSPAN Source Session	In Each ERSPAN Source Session	In Each RSPAN Destination Session	In Each ERSPAN Destination Session
				—	—
With releases earlier than Release 12.2(18)SXE	1	1	1		
Release 12.2(18)SXE and later releases	128	128	128		
Ingress sources				—	—
With releases earlier than Release 12.2(18)SXD	64	64	64		
Release 12.2(18)SXD and later releases	128	128	128		
RSPAN and ERSPAN destination session sources	—	—	—	1 RSPAN VLAN	1 IP address
Destinations per session	64	1 RSPAN VLAN	1 IP address	64	64

PFC2

Note

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Total Sessions	Local SPAN Sessions	RSPAN Source Sessions	RSPAN Destination Sessions
66	2 (ingress or egress or both)	0	64
	1 ingress	1 (ingress or egress or both)	64
	1 or 2 egress	0	64

	In Each Local SPAN Session	In Each RSPAN Source Session	In Each RSPAN Destination Session
Egress or “both” sources			—
With releases earlier than Release 12.2(18)SXF2	1 (0 with a remote SPAN source session configured)	1 (0 with a local SPAN egress source session configured)	
Release 12.2(18)SXF2 and later releases	128	128	

	In Each Local SPAN Session	In Each RSPAN Source Session	In Each RSPAN Destination Session

Local SPAN, RSPAN, and ERSPAN Guidelines and Restrictions

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- **switchport**
  switchport
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VSPAN Guidelines and Restrictions

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RSPAN Guidelines and Restrictions

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ERSPAN Guidelines and Restrictions

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    show module version | include WS-SUP720-BASE

    ```
    Router# show module version | include WS-SUP720-BASE
     7    2  WS-SUP720-BASE     SAD075301SZ Hw :3.2
    ```

  - *slot_number* **| include ASIC|HYPERION**

    ```
    Router# show asic-version slot 1 | include ASIC|HYPERION
    Module in slot 1 has 2 type(s) of ASICs
            ASIC Name      Count      Version
             HYPERION          1      (6.0)
    ```

ERSPAN supports jumbo frames that contain Layer 3 packets of up to 9,202 bytes. If the length of the copied Layer 2 Ethernet frame is greater than 9,170 (9,152-byte Layer 3 packet), ERSPAN truncates the copied Layer 2 Ethernet frame to create a 9,202-byte ERSPAN Layer 3 packet.

Regardless of any configured MTU size, ERSPAN creates Layer 3 packets that can be as long as 9,202 bytes. ERSPAN traffic might be dropped by any interface in the network that enforces an MTU size smaller than 9,202 bytes.

With the default MTU size (1,500 bytes), if the length of the copied Layer 2 Ethernet frame is greater than 1,468 bytes (1,450-byte Layer 3 packet), the ERSPAN traffic is dropped by any interface in the network that enforces the 1,500-byte MTU size.

The interface command and the **system jumbomtu** command (see the "Configuring Jumbo Frame Support" section on page 9-10) set the maximum Layer 3 packet size (default is 1,500 bytes, maximum is 9,216 bytes).

All participating switches must be connected at Layer 3 and the network path must support the size of the ERSPAN traffic.

ERSPAN does not support packet fragmentation. The "do not fragment" bit is set in the IP header of ERSPAN packets. ERSPAN destination sessions cannot reassemble fragmented ERSPAN packets.

ERSPAN traffic is subject to the traffic load conditions of the network. You can set the ERSPAN packet IP precedence or DSCP value to prioritize ERSPAN traffic for QoS.

The only supported destination for ERSPAN traffic is an ERSPAN destination session on a PFC3.

All ERSPAN source sessions on a switch must use the same origin IP address, configured with the **origin ip address** command (see the "Configuring ERSPAN Source Sessions" section on page 52-19).

All ERSPAN destination sessions on a switch must use the same IP address on the same destination interface. You enter the destination interface IP address with the **ip address** command (see the "Configuring ERSPAN Destination Sessions" section on page 52-21).

The ERSPAN source session's destination IP address, which must be configured on an interface on the destination switch, is the source of traffic that an ERSPAN destination session sends to the destination ports. You configure the same address in both the source and destination sessions with the **ip address** command.

The ERSPAN ID differentiates the ERSPAN traffic arriving at the same destination IP address from various different ERSPAN source sessions.

These sections describe how to configure local SPAN, RSPAN, and ERSPAN:

Configuring Destination Port Permit Lists (Optional)

	Command	Purpose
Step 1	`Router# configure terminal`	
Step 2	`Router(config)# monitor permit-list`	
Step 3	`Router(config)# no monitor permit-list`	
Step 4	`Router(config)# monitor permit-list destination interface` *type*[1] *slot/port*`[` *port*`] [` *type*[1] *slot/port* *port*`]`	Configures a destination port permit list or adds to an existing destination port permit list.
Step 5	`Router(config)#` [1] *slot/port*`[` *port*`] [` *type*[1] *slot/port* *port*`]`	Deletes from or clears an existing destination port permit list.
Step 6	`Router(config)#`	

1. *type* = **ethernet**, **fastethernet**, **gigabitethernet**, or **tengigabitethernet**

This example shows how to configure a destination port permit list that includes Gigabit Ethernet ports 5/1 through 5/4 and 6/1:

```
        configure terminal
Router(config)# monitor permit-list
Router(config)# monitor permit-list destination interface gigabitethernet 5/1-4,
gigabitethernet 6/1


Router(config)# do show monitor permit-list
 SPAN Permit-list      :Admin Enabled
 Permit-list ports     :Gi5/1-4,Gi6/1
```

	Command	Purpose
Step 1	`Router#`	
Step 2	`Router(config)#` *local_span_session_number* `{{`*single_interface* `|` *interface_list* `|` *interface_range* `|` *mixed_interface_list* `|` *single_vlan* `|` *vlan_list* `|` *vlan_range* `|` *mixed_vlan_list*`}` `[`**rx** `|` **tx** `|` **both**`]}}`	

	Command	Purpose
Step 3	**monitor session** *local_span_session_number* **destination** *single_interface* *interface_list* *interface_range* *mixed_interface_list*	Associates the local SPAN session number and the destination ports.
	no monitor session *session_number* **all** **local** **range** *session_range* *session_range*	Clears the monitor configuration.

- *local_span_session_number*
- *single_interface* **interface** *type slot port*; *type* is , , , or .
- *interface_list* is *single_interface* , *single_interface* , *single_interface* ...

Note In lists, you must enter a space before and after the comma. In ranges, you must enter a space before and after the dash.

- *interface_range* is *type slot/first_port - last_port*.
- *mixed_interface_list* is, in any order, *single_interface* , *interface_range* , ...
- *single_vlan* is the ID number of a single VLAN.
- *vlan_list* is *single_vlan* , *single_vlan* , *single_vlan* ...
- *vlan_range* is *first_vlan_ID - last_vlan_ID*.
- *mixed_vlan_list* is, in any order, *single_vlan* , *vlan_range* , ...
- To tag the monitored traffic as it leaves a destination port, you must configure the destination port to trunk unconditionally before you configure it as a destination (see the "Configuring a Destination Port as an Unconditional Trunk" section on page 52-23).

When clearing monitor sessions, note the following information:

- The *number* command entered with no other parameters clears session *session_number*.
- *session_range* is *first_session_number-last_session_number*.

Note In the command, do not enter spaces before or after the dash. If you enter multiple ranges, do not enter spaces before or after the commas.

This example shows how to configure Fast Ethernet port 5/1 as a bidirectional source for session 1:

```
monitor session 1 source interface fastethernet 5/1
```

This example shows how to configure Fast Ethernet port 5/48 as the destination for SPAN session 1:

```
monitor session 1 destination interface fastethernet 5/48
```

For additional examples, see the "Configuration Examples" section on page 52-26.

Configuring RSPAN

RSPAN uses a source session on one switch and a destination session on a different switch. These sections describe how to configure RSPAN sessions:

Configuring RSPAN VLANs

To configure a VLAN as an RSPAN VLAN, perform this task:

	Command	Purpose
Step 1	**configure terminal**	Enters global configuration mode.
Step 2	**vlan** *vlan_ID vlan_ID vlan_ID*	Creates or modifies an Ethernet VLAN, a range of Ethernet VLANs, or several Ethernet VLANs specified in a comma-separated list (do not enter space characters).
Step 3	Router(config-vlan)# **remote-span**	Configures the VLAN as an RSPAN VLAN.
	Router(config-vlan)# **no remote-span**	Clears the RSPAN VLAN configuration.
	Router(config-vlan)# **end**	Updates the VLAN database and returns to privileged EXEC mode.

Configuring RSPAN Source Sessions

To configure an RSPAN source session, perform this task:

Router# **configure terminal**	Enters global configuration mode.
Router(config)# **monitor session** *RSPAN_source_session_number* **source** {{*single_interface* | *interface_list* | *interface_range* | *mixed_interface_list* | *single_vlan* | *vlan_list* | *vlan_range* | *mixed_vlan_list*} [**rx** | **tx** | **both**]}}	Associates the RSPAN source session number with the source ports or VLANs, and selects the traffic direction to be monitored.
Router(config)# **monitor session** *RSPAN_source_session_number* **destination remote vlan** *rspan_vlan_ID*	Associates the RSPAN source session number session number with the RSPAN VLAN.
Router(config)# **no monitor session** {*session_number* | **all** | **range** *session_range*[[,*session_range*],...] | **remote**}	Clears the monitor configuration.

When configuring monitor sessions, note the following information:

- To configure RSPAN VLANs, see the "Configuring RSPAN VLANs" section on page 52-16.
- *RSPAN_source_span_session_number* can range from 1 to 66.
- *single_interface* is *type slot/port*; *type* is , , , or .

is , , ...

In lists, you must enter a space before and after the comma. In ranges, you must enter a space before and after the dash.

is / - .

is, in any order, , , ...

is the ID number of a single VLAN.

is , , ...

is - .

is, in any order, , , ...

When clearing monitor sessions, note the following information:

The command entered with no other parameters clears session .

is - .

In the command, do not enter spaces before or after the dash. If you enter multiple ranges, do not enter spaces before or after the commas.

This example shows how to configure Fast Ethernet port 5/2 as the source for session 2:

```
Router(config)# monitor session 2 source interface fastethernet 5/2
```

This example shows how to configure RSPAN VLAN 200 as the destination for session 2:

```
Router(config)# monitor session 2 destination remote vlan 200
```

For additional examples, see the "Configuration Examples" section on page 52-26.

Configuring RSPAN Destination Sessions

Note

	Command	Purpose
Step 1	`Router# configure terminal`	
Step 2	`Router(config)# monitor session` *RSPAN_destination_session_number* `source remote vlan` *rspan_vlan_ID*	

	Command	Purpose
Step 3	`Router(config)# monitor session` *RSPAN_destination_session_number* **destination** {*single_interface* | *interface_list* | *interface_range* | *mixed_interface_list*}}	
Step 4	`Router(config)# no monitor session` {*session_number* | **all** | **range** *session_range*[[,*session_range*],...] | **remote**}	

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Note

```
Router(config)# monitor session 3 source remote vlan 200
```

```
Router(config)# monitor session 3 destination interface fastethernet 5/47
```

Configuring ERSPAN

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Note

Configuring ERSPAN Source Sessions

	Command	Purpose
Step 1	Router# **configure terminal**	
Step 2	Router(config)# **monitor session** *ERSPAN_source_session_number* **type erspan-source** Router(config)# **no monitor session** {*session_number* | **all** | **range** *session_range*[[,*session_range*],...]}	
Step 3	Router(config-mon-erspan-src)# **description** *session_description*	
Step 4	Router(config-mon-erspan-src)# **shutdown** Router(config-mon-erspan-src)# **no shutdown**	
Step 5	Router(config-mon-erspan-src)# **source** {{*single_interface* | *interface_list* | *interface_range* | *mixed_interface_list* | *single_vlan* | *vlan_list* | *vlan_range* | *mixed_vlan_list*} [**rx** | **tx** | **both**]}	
Step 6	Router(config-mon-erspan-src)# **filter** *single_vlan* | *vlan_list* | *vlan_range* | *mixed_vlan_list*	
Step 7	Router(config-mon-erspan-src)# **destination**	
Step 8	Router(config-mon-erspan-src-dst)# **ip address** *ip_address*	
Step 9	Router(config-mon-erspan-src-dst)# **erspan-id** *ERSPAN_flow_id*	
Step 10	Router(config-mon-erspan-src-dst)# **origin ip address** *ip_address* [**force**]	
Step 11	Router(config-mon-erspan-src-dst)# **ip ttl** *ttl_value*	
Step 12	Router(config-mon-erspan-src-dst)# **ip prec** *ipp_value*	

	Command	Purpose
Step 13	**ip dscp** *dscp_value*	
Step 14	**vrf** *vrf_name*	
Step 15	**end**	

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  Note

- *ERSPAN_source_span_session_number*
- *single_interface* *type slot port* *type*
- *interface_list* *single_interface* *single_interface* *single_interface*

  Note

- *interface_range* *type slot first_port* *last_port*
- *mixed_interface_list* *single_interface* *interface_range*
- *single_vlan*
- *vlan_list* *single_vlan* *single_vlan* *single_vlan*
- *vlan_range* *first_vlan_ID* *last_vlan_ID*
- *mixed_vlan_list* *single_vlan* *vlan_range*
- *ERSPAN_flow_id*
- *ip_address*
- *ttl_value*
- *ipp_value*
- *dscp_value*
- *number* *session_number*
- *session_range* *first_session_number last_session_number*

  Note

```
monitor session 3 type erspan-source
               source interface gigabitethernet 4/1
               destination
                   ip address 10.1.1.1
                   origin ip address 20.1.1.1
                   erspan-id 101
```

Configuring ERSPAN Destination Sessions

Note

	Command	Purpose
Step 1	**configure terminal**	
Step 2	**monitor session** *ERSPAN_destination_session_number* **type erspan-destination** **no monitor session** *session_number* **all** **range** *session_range* *session_range*	
Step 3	**description** *session_description*	
Step 4	**shutdown** **no shutdown**	
Step 5	**destination** *single_interface* *interface_list* *interface_range* *mixed_interface_list*	
Step 6	**source**	
Step 7	**ip address** *ip_address* **force**	
Step 8	**erspan-id** *ERSPAN_flow_id*	
Step 9	**vrf** *vrf_name*	
Step 10	**end**	

- *ERSPAN_destination_span_session_number*
- *single_interface type slot port type*
- *interface_list single_interface single_interface single_interface*

Note

- *interface_range type slot first_port last_port*
- *mixed_interface_list single_interface interface_range*
- *ip_address*

Note

- *ERSPAN_flow_id*
- *number*
  session_number
- *session_range first_session_number last_session_number*

Note

```
monitor session 3 type erspan-destination
          destination interface gigabitethernet 2/1
          source
              ip address 10.1.1.1
              erspan-id 101
```

Configuring Source VLAN Filtering for Local SPAN and RSPAN

Note

	Command	Purpose
Step 1	**configure terminal**	
Step 2	**monitor session** *session_number* **filter** *single_vlan vlan_list vlan_range mixed_vlan_list* **no monitor session** *session_number* **filter** *single_vlan vlan_list vlan_range mixed_vlan_list*	

- *single_vlan*
- *vlan_list single_vlan single_vlan single_vlan*
- *vlan_range first_vlan_ID last_vlan_ID*
- *mixed_vlan_list single_vlan vlan_range*

```
monitor session 2 filter vlan 1 - 5 , 9
```

Configuring a Destination Port as an Unconditional Trunk

	Command	Purpose
Step 1	**configure terminal**	
Step 2	**interface** *type slot/port*	
Step 3	**switchport**	
Step 4	**switchport trunk encapsulation isl dot1q**	
Step 5	**switchport mode trunk**	
Step 6	**switchport nonegotiate**	

type

```
interface fastethernet 5/12
   switchport
   switchport trunk encapsulation dot1q
   switchport mode trunk
   switchport nonegotiate
```

Configuring Destination Trunk Port VLAN Filtering

Note

	Command	Purpose
Step 1	`Router#`	
Step 2	`Router(config)#` *type*[1] *slot/port*	
Step 3	`Router(config-if)#` { | | | } *vlan* [,*vlan*[,*vlan*[,...]]]	

type

- *vlan*

  vlan

- **switchport trunk allowed vlan none**
- **switchport trunk allowed vlan add**

```
description SPAN destination interface for VLAN 10
no ip address
switchport
switchport trunk encapsulation dot1q
switchport trunk allowed vlan 10
switchport mode trunk
switchport nonegotiate
```

```
!
interface GigabitEthernet1/2
description SPAN destination interface for VLAN 11
no ip address
switchport
switchport trunk encapsulation dot1q
switchport trunk allowed vlan 11
switchport mode trunk
switchport nonegotiate
!
interface GigabitEthernet1/3
description SPAN destination interface for VLAN 12
no ip address
switchport
switchport trunk encapsulation dot1q
switchport trunk allowed vlan 12
switchport mode trunk
switchport nonegotiate
!
interface GigabitEthernet1/4
description SPAN destination interface for VLAN 13
no ip address
switchport
switchport trunk encapsulation dot1q
switchport trunk allowed vlan 13
switchport mode trunk
switchport nonegotiate
!
monitor session 1 source vlan 10 - 13
monitor session 1 destination interface Gi1/1 - 4
```

Verifying the Configuration

```
Router#
Session 2
------------
Type : Remote Source Session

Source Ports:
    RX Only:       Fa3/1
Dest RSPAN VLAN:   901
Router#
```

```
Router#
Session 2
------------
Type : Remote Source Session

Source Ports:
    RX Only:       Fa1/1-3
    TX Only:       None
    Both:          None
Source VLANs:
    RX Only:       None
    TX Only:       None
    Both:          None
Source RSPAN VLAN: None
Destination Ports: None
Filter VLANs:      None
Dest RSPAN VLAN:   901
```

Configuration Examples

```
Router(config)#
Router(config)#


Router(config)#


Router(config)#
Router(config)#
Router(config)#
Router(config)#
Router(config)#


Router(config)#


Router(config)#
Router(config)#


Router(config)#


Router(config)#
Router(config)#


monitor session 12 type erspan-source
 description SOURCE_SESSION_FOR_VRF_GRAY
 source interface Gi8/48 rx
 destination
  erspan-id 120
```

```
  ip address 10.8.1.2
  origin ip address 32.1.1.1
  vrf gray


monitor session 12 type erspan-destination
 description DEST_SESSION_FOR_VRF_GRAY
 destination interface Gi4/48
 source
  erspan-id 120
  ip address 10.8.1.2
  vrf gray


monitor session 13 type erspan-source
 source interface Gi6/1 tx
 destination
  erspan-id 130
  ip address 10.11.1.1
  origin ip address 32.1.1.1


monitor session 13 type erspan-destination
 destination interface Gi6/1
 source
  erspan-id 130
  ip address 10.11.1.1
```