Content

Chapter 1 Commands for Mirroring Configuration

1.1 monitor session source interface

Command: monitor session *<session>* source {interface *<interface-list>* | cpu} {rx| tx| both}

     no monitor session *<session>* source {interface *<interface-list>* | cpu}

Function: Specify the source interface for the mirror. The no form command will disable this configuration.

Parameters: *<session>* is the session number for the mirror. Currently only 1 is supported. *<interface-list>* is the list of source interfaces of the mirror which can be separated by "-" and ";". **cpu** means the CPU on the board to be the source of the mirror for debugging. Datagram received by or sent by the CPU. **rx** means to filter the datagram received by the interface, while **tx** for the datagram sent out, and **both** means both of income and outcome datagram.

Command mode: Global mode

Usage Guide: This command is used to configure the source interfaces for the mirror. It is not restricted the source interface of the mirror on the switch. The source can be one interface, or can be multiple interfaces. Both of the income and outcome datagram can be mirrored, or they can be mirrored selectively. If no [rx | tx | both] is specified, both are made to be the default. When multiple interfaces are mirrored, the direction of the mirror can be different, but they should be configured separately.

Example: Configure to mirror the datagram sent out by interface 1/0/1-4   and to mirror the datagram received by interface1/0/5

Switch(config)#monitor session 1 source interface ethernet 1/0/1-4 tx

Switch(config)#monitor session 1 source interface ethernet1/0/5 rx

1.2 monitor session source interface access-list

Command: monitor session *<session>* source {interface *<interface-list>*} access-list *<num>* {rx|tx|both}

no monitor session *<session>* source {interface *<interface-list>*} access-list *<num>*

Function: Specify the access control for the source of the mirror. The no form command will disable this configuration.

Parameters: *<session>* is the session number for the mirror. Currently only 1 is supported. ***<interface-list>*** is the list of source interfaces of the mirror which can be separated by '-' and ';'. ***<num>*** is the number of the access list. **rx** means to filter the datagram received by the interface. **tx** for the datagram sent out, and **both** means both of income and outcome datagram.

Command Mode: Global Mode.

Usage Guide: This command is used to configure the source interfaces for the mirror. It is not restricted the source interface of the mirror on the switch. The source can be one interface, or can be multiple interfaces. For flow mirror, only datagram received can be mirrored. The parameters can be **rx, tx, both**. The related access list should be prepared before this command is issued. For how to configure the access list, please refer to ACL configuration. The mirror can only be created after the destination interface of the corresponding session has been configured. In the moment, the command only IP ACL and MAC ACL.

Example: Configure the mirror interface 1/0/6 to filter with access list 120 in session 1.

Switch(config)#monitor session 1 source interface 1/0/6 access-list 120 rx

1.3 monitor session destination interface

Command: monitor session *<session>* destination interface *<interface-number>*

no monitor session *<session>* destination interface *<interface-number>*

Function: Specify the destination interface of the mirror. The no form command will disable this configuration.

Parameters: *<session>* is the session number of the mirror, which is currently limited to 1-4. ***<interface-number>*** is the destination interface of the mirror.

Default: None.

Command Mode: Global mode

Usage Guide: Only four destination mirror interface is supported on the switch. To be mentioned. The interface which is configured as the destination of the mirror should not be configured as the member of the interface trunk. And the maximum throughput of the interface is recommended to be larger than the total throughput of the interfaces to be mirrored. If the destination is removed, the mirror path configured will be removed at the same time. And if the destination interface is reconfigured, the interface, CPU mirror path

will be recovered. To be mentioned, the flow mirror can only be recovered after the destination of the interface is re-configured.

Example: Configure interface 1/0/7 as the destination of the mirror.

Switch(config)#monitor session 1 destination interface ethernet 1/0/7

1.4 show monitor

Command: show monitor

Function: To display information about the source and destination ports of all the mirror sessions.

Command Mode: Admin Mode

Usage Guide: This command is used to display the source and destination ports for the configured mirror sessions. For port mirroring, CPU mirroring, and flow mirroring, the mirror mode of the source can be displayed.

Example:

Switch#show monitor

1.5 mirror sample rate

Command: monitor session *<session>* sample rate <num>

             no monitor session *<session>* sample rate

Parameters: *<session>* is mirror session value, and it supports 1 to 4 at moment; **<num>**is sampled value, and ranges from 0 to 65535.

Function: It represents the how many packets mirror to destination port.

Command Mode: Global Mode.

Usage Guide: It represents how many packets mirror to destination port and it ranges from 0 to 65535, such as, when rate value equals 100, the first, 101, 201 packets can mirror destination port, when rate value equal 0, it does not configure samping rate, the default is notconfigured samping rate.

Example:

switch(config)#monitor session 1 sample rate 100

Chapter 2 Commands for sFlow

2.1 sflow agent-address

Command: sflow agent-address <*agent-address*>

          no sflow agent-address

Function: Configure the sFlow sample proxy address. The "no" form of this command deletes the proxy address.

Parameter: <*agent-address* > is the sample proxy IP address which is shown in dotted decimal notation.

Command Mode: Global Mode.

Default: None default value.

Usage Guide: The proxy address is used to mark the sample proxy which is similar to OSPF or the Router ID in the BGP. However it is not necessary to make the sFlow sample proxy work properly.

Example: Sample the proxy address at global mode.

switch (config)#sflow agent-address 192.168.1.200

2.2 sflow analyzer

Command: sflow analyzer sflowtrend

          no sflow analyzer sflowtrend

Function: Configure the analyzer used by sFlow, the no command deletes the analyzer.

Parameter: sflowtrend is the analyzer of Inmon.

Command Mode: Global Mode

Default: Do not configure

Usage Guide: Configure this command when using sFlowTrend.

Example:

Switch(config)#sflow analyzer sflowtrend

2.3 sflow counter-interval

Command: sflow counter-interval <*interval-value*>

          no sflow counter-interval

Function: Configure the max interval of the sFlow statistic sampling; the "no" form of this

command deletes the statistic sampling interval value.

Parameter:*<interval-value>* is the value of the interval with a valid range of 20~120 and shown in second.

Command Mode: Port Mode

Default: No default value

Usage Guide: If no statistic sampling interval is configured, there will not be any statistic sampling on the interface.

Example: Set the statistic sampling interval on the interface e1/0/1 to 20 seconds.

Switch(Config-If-Ethernet1/0/1)#sflow counter-interval 20

2.4 sflow data-len

Command: sflow data-len *<length-value>*

         no sflow data-len

Function: Configure the max length of the sFlow packet data; the "**no sflow data-len**" command restores the default value.

Parameter: *<length-value>* is the value of the length with a value range of 500-1470.

Command Mode: Port Mode.

Default: The value is 1400 by default.

Usage Guide: When combining several samples to a sFlow group to be sent, the length of the group excluding the MAC head and IP head parts should not exceed the configured value.

Example: Configure the max length of the sFlow packet data to 1000.

switch (Config-If-Ethernet1/0/2)#sflow data-len 1000

2.5 sflow destination

Command: sflow destination *<collector-address>* [*<collector-port>*]

         no sflow destination

Function: Configure the IP address and port number of the host on which the sFlow analysis software is installed. If the port has been configured with IP address, the port configuration will be applied, or else the global configuration will be applied. The "no" form of this command restores the port to default and deletes the IP address.

Parameter: *<collector-address>* is the IP address of the analyzer, shown in dotted decimal notation. ***<collector-port>*** is the destination port of the sent sFlow packets.

Command Mode: Global Mode and Port Mode.

Default: The destination port of the sFlow packet is defaulted at 6343, and the analyzer has no default address.

Usage Guide: If the analyzer address is configured at Port Mode, this IP address and port configured at Port Mode will be applied when sending the sample packet. Or else the address and port configured at global mode will be applied. The analyzer address should be configured to let the sFlow sample proxy work properly.

Example: Configure the analyzer address and port at global mode.

switch (config)#sflow destination 192.168.1.200 1025

2.6 sflow header-len

Command: sflow header-len *<length-value>*

        no sflow header-len

Function: Configure the length of the head data packet copied in the sFlow data sampling. The "no" form of this command restores the default value.

Parameter: *<length-value>* is the value of the length with a valid range of 32-256.

Command Mode: Port Mode.

Default: 128 by default.

Usage Guide: If the packet sample can not be identified whether it is IPv4 or IPv6 when sent to the CPU, certain length of the head of the group has to be copied to the sFlow packet and sent out. The length of the copied content is configured by this command.

Example: Configure the length of the packet data head copied in the sFlow data sampling to 50.

Switch(Config-If-Ethernet1/0/2)#sflow header-len 50

2.7 sflow priority

Command: sflow priority *<priority-value>*

        no sflow priority

Function: Configure the priority when sFlow receives packet from the hardware. The "no" form of the command restores the default.

Parameter: *<priority-value>* is the priority value with a valid range of 0-3.

Command Mode: Global Mode.

Default: The default value is 0.

Usage Guide: When sample packet is sent to the CPU, it is recommended not to assign high priority for the packet so that regular receiving and sending of other protocol packet

will not be interfered. The higher the priority value is set, the higher its priority will be.

Example: Configure the priority when sFlow receives packet from the hardware at global mode.

switch (config)#sflow priority 1

2.8 sflow rate

Command: sflow rate { input *<input-rate>* | output *<output-rate >*}

          no sflow rate [input | output]

Function: Configure the sample rate of the sFlow hardware sampling. The "no" form of this command deletes the sampling rate value.

Parameter: *<input-rate>* is the rate of ingress group sampling, the valid range is 1000~16383500.

        <output-rate> is the rate of egress group sampling, the valid range is 1000~16383500.

Command Mode: Port Mode.

Default: No default value.

Usage Guide: The traffic sampling will not be performed if the sampling rate is not configured on the port. And if the ingress group sampling rate is set to 10000, this indicates there will be one group be sampled every 10000 ingress groups.

Example: Configure the ingress sample rate on port e1/0/1 to 10000 and the egress sample rate to 20000.

Switch(Config-If-Ethernet1/0/1)#sflow rate input 10000

Switch(Config-If-Ethernet1/0/1)#sflow rate output 20000

2.9 show sflow

Command: show sflow

Function: Display the sFlow configuration state.

Parameter: None.

Command Mode: All Modes.

Usage Guide: This command is used to acknowledge the operation state of sFlow.

Switch#show sflow

Sflow version 1.2

Agent address is 172.16.1.100

Collector address have not configured

Collector port is 6343

Sampler priority is 2

Sflow DataSource: type 2, index 194(Ethernet1/0/2)

    Collector address is 192.168.1.200

    Collector port is 6343

    Counter interval is 0

    Sample rate is input 0, output 0

    Sample packet max len is 1400

    Sample header max len is 50

    Sample version is 4

Displayed Information	Explanation
Sflow version 1.2	Indicates the sFlow version is 1.2
Agent address is 172.16.1.100	Address of the sFlow sample proxy is 172.16.1.100
Collector address have not configured	the sFlow global analyzer address is not configured
Collector port is 6343	the sFlow global destination port is the defaulted 6343
Sampler priority is 2	The priority of sFlow when receiving packets from the hardware is 2.
Sflow DataSource: type 2, index 194(Ethernet1/0/1)	One sample proxy data source of the sFlow is the interface e1/0/1 and its type is 2 (Ethernet), the interface index is 194.
Collector address is 192.168.1.200	The analyzer address of the sampling address of the E1/0/1 interface is 192.168.1.200
Collector port is 6343	Default value of the port on E1/0/1 interface sampling proxy is 6343.
Counter interval is 20	The statistic sampling interval on e1/0/1 interface is 20 seconds
Sample rate is input 10000, output 0	The ingress traffic rate of e1/0/1 interface sampling proxy is 10000 and no egress traffic sampling will be performed
Sample packet max len is 1400	The length of the sFlow group data sent by the e1/0/1 interface should not exceed 1400 bytes.
Sample header max len is 50	The length of the packet data head copied in the data sampling of the e1/0/1 interface sampling proxy is 50
Sample version is 4	The datagram version of the sFlow group sent by the E1/0/1 interface sampling proxy is 4.

Chapter 3 Commands for RSPAN Configuration

3.1 remote-span

Command: remote-span

        no remote-span

Function: To configure VLAN to RSPAN VLAN. The no form of this command will delete the RSPAN VLAN.

Parameter: None.

Command Mode: VLAN Configuration Mode.

Default: Not configured.

Usage Guide: This command is used to configure the existing VLAN as RSPAN VLAN. Dedicated RSPAN VLAN should be configured before RSPAN can function. When configuring RSPAN VLAN, it should be made sure that specialized VLAN, such as the default VLAN, dynamic VLAN, private VLAN, multicast VLAN, and layer 3 interface enabled VLAN, should not be configured as RSPAN VLAN. If any existing sessions are still working when RSPAN is disabled, these sessions will be still working regardless the configuration change. However, if any layer 3 interface is configure in the VLAN after RSPAN is disable, the existing RSPAN session will be stopped.

Example:

Switch(Config-Vlan5)#remote-span

3.2 monitor session remote vlan

Command: monitor session *<session>* remote vlan *<vid>*

        no monitor session *<session>* remote vlan

Function: To configure local mirror session to RSPAN. The no form of this command will restore the RSPAN to local mirror.

Parameter: *<session>*: session ID, range between 1~4. ***<vid>*:** The id of RSPAN VLAN.

Command Mode: Global Mode.

Default: Not configured.

Usage Guide: To configure local mirror session to RSPAN. The VLAN id is the RSPAN VLAN. The mirrored data grams will be attached with RSPAN tags.

Example:

Switch(config)#monitor session 1 remote vlan 5

3.3 monitor session reflector-port

Command: monitor session *<session>* reflector-port *<interface-number>*

   no monitor session *<session>* reflector-port *<interface-number>*

Function: To configure reflector port, the no form of this command will delete the reflector port.

Parameter: *<session>*: Session ID, range between 1~4, ***<interface-number>*:** Interface number.

Command Mode: Global Mode.

Default: Not configured.

Usage Guide: This command configures the reflector port for the destination of mirror data grams, and disables the MAC learning function of the specified port. The configuration of reflector port is to change the mode of the local port from the destination port mode to be the reflector mode. Hence, the configuration of reflector port and the destination port are exclusive. The no command is used to restore the reflector port to normal port. The source port, in access or trunk mode, should not be added to RSPAN VLAN. When the reflector port is configured as springboard of CPU TX direction mirroring, it must be configured as TRUNK port and allows the RSPAN VLAN data passing, the Native VLAN should not be configured as RSPAN VLAN. After configured RSPAN, the vlan tag will be added on the packet of the egress mirror. It will cause the abort error frame on the reflection port, so the default MTU value of the switch should be modified.

Example:

Switch(config)#monitor session 1 reflector-port ethernet1/0/3