Ethernet Port Mirroring Configuration

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1.1.1   Overview

Mirroring refers to the process of copying packets that meet the specified rules to a destination port. Generally, a destination port is connected to a data detect device, which users can use to analyze the mirrored packets for monitoring and troubleshooting the network.
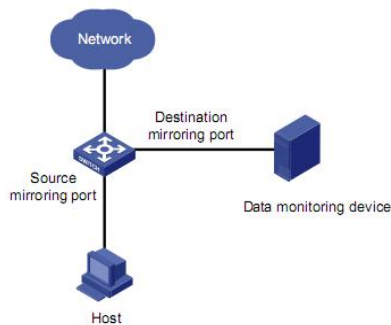

Figure 1-1 mirroring

1.1.1.1 Traffic Mirroring

Traffic mirroring maps traffic flows that match specific ACLs to the specified destination port for packet analysis and monitoring. Before configuring traffic mirroring, you need to define ACLs required for flow identification.

1.1.1.2 Port Mirroring

Port mirroring refers to the process of copying the packets received or sent by the specified port to the destination port.

1.1.2   Mirroring

Switch support one-to-one and multiple-to-one mirroring.
Mirrored: mirror source can be port or packet sent or received by CPU
Mirror: For S2500-10PS switch, mirror port can be only one. If multiple mirror port is configured, the last will be effective.

Note:

Mirror port cannot be used as a normal port.

1.1.3 Configuring Port Mirroring

Table 1-1 Mirroring functions and related command

Function	Specifications	Related command	Link
Mirroring	Traffic mirroring	**mirrored-to ip/link-group** **no mirrored-to ip/link-group**	QoS configuration
	Port mirroring	**mirror destination-interface** **mirror source-interface**	<u>Configuring Port Mirroring</u>

1.1.4 Mirroring Configuration

For mirroring features, see section <u>Overview</u>.

1.1.4.1 Configuring Traffic Mirroring

i. Configuration prerequisites

➢ ACLs for identifying traffics have been defined. For defining ACLs, see the description on the ACL module in QoS.

➢ The destination port has been defined.

➢ The port on which to perform traffic mirroring configuration and the direction of traffic mirroring has been determined.

ii. Configuration procedure

Perform the configuration in global configuration mode.

Table 1-2 Configure traffic mirroring

Operation	Command	Description
Configure traffic mirroring	**mirrored-to** { **ip-group** { *acl-number* | *acl-name* } [**subitem** *subitem*] | **link-group** { *acl-number* | *acl-name* } [**subitem** *subitem*] } **interface ethernet** *interface-num*	The command is for traffic mirroring on the packets which meet ACL rules (only be effective on ACL permit rules). The destination port should be specified when using this command for the first time.
Cancel traffic mirroring	**no mirrored-to** { **ip-group** { *acl-number* | *acl-name* } [**subitem** *subitem*] | **link-group** { *acl-number* | *acl-name* } [**subitem** *subitem*] }	

Note:

ip-group { *acl-number* | *acl-name* } [**subitem** *subitem*]: Specifies a basic or an advanced ACL. The *acl-number* argument ranges from 1 to 199;*acl-name*: Name of a string, start with letters without space and quotation mark;*subitem*: option parameter for specifying the subitem in acl-list, in the range of 0 to 127.

link-group { *acl-number* | *acl-name* } [**subitem** *subitem*]: Specifies a Layer 2 ACL. The *acl-number* argument ranges from 200 to 299; *acl-name*: Name of a string, start with letters without space and quotation mark;*subitem*: option parameter for specifying the subitem in acl-list, in the range of 0 to 127.

interface ethernet { *interface-num* }: Specifies destination port (also called monitor port) of traffic.

iii. Configuration example

! Mirror acl-list 1 to Ethernet 0/0/1.

Switch(config)#access-list 1 permit 1.1.1.1 0

Config ACL subitem successfully.

Switch(config)#mirrored-to ip-group 1 interface ethernet 0/0/1

Config mirrored-to successfully .

1.1.4.2 Configuring Port Mirroring

i. Configuration prerequisites

➢ The source port is specified and whether the packets to be mirrored are ingress or egress is specified: **ingress**: only mirrors the packets received via the port; **egress**: only mirrors the packets sent by the port; **both**: mirrors the packets received and sent by the port at the same time.

➢ The destination port is specified.

ii. Configuration procedure

Perform the following configuration in global configuration mode.

Table 1-3 Configure port mirroring

Operation	Command	Description
Configure destination port (so called monitor port)	**mirror destination-interface** *interface-num*	This command will cancel original port mirroring.
Configure source port (so called mirrored port)	**mirror source-interface** { *interface-list*	cpu } { both	egress	ingress }	**both** means both ingress and egress; **cpu** means mirroring cpu packets.
Show port mirroring	**show mirror**	

> **Note:**
>
> A port cannot be monitor and mirrored port at the same time.

iii. Configuration example

! Mirror egress of ethernet 0/0/1 to ethernet 0/0/12 to ethernet 0/1/1

Switch(config)#mirror destination-interface ethernet 0/1/1
Config monitor port successfully !
Switch(config)#mirror source-interface ethernet 0/0/1 to ethernet 0/0/12 egress
Config mirrored port successfully !

! Mirror cpu both to ethernet 0/1/2

Switch(config)#mirror destination-interface ethernet 0/1/2
Config monitor port successfully !
Switch(config)#mirror source-interface cpu both
Config mirrored port successfully !