

## Mirroring function

Everflow can mirror traffic that matches the ACL to a remote mirror server. This is an alternative to ERSPAN (Encapsulated Remote Switch Port Analysis).

SPAN (Switched Port Analysis) can mirror traffic in and out of physical ports.

Everflow

SPAN

Frequently Asked Question

How to mirror the packets of the specified VLAN ID.

Everflow

Topology:

everflow\_topology.png

Procedure:

Step 1. Build the topology as picture. (refer to Management and front port IPv4 and IPv6 Address and VLAN & Inter-VLAN Routing)

Step 2. Create a mirror session to specify source and destination IP address.

```
admin@sonic:~$ sudo config mirror_session add ts1_everflow 192.168.10.1
192.168.50.2 63 255
```

Step 3: Create ACL table

```
admin@sonic:~$ sudo config acl add table ACL_Mirror MIRROR --description
'mirror' --stage ingress --ports Ethernet0
```

Step 4. Create ACL JSON file and load to configuration database for everflow.

```
admin@sonic:$ cat acl.json
```

```
{
  "ACL_RULE": {
    "ACL_Mirror|ACE_Mirror": {
      "PRIORITY": "55",
      "IP_TYPE": "ipv4any",
      "MIRROR_ACTION": "ts1_everflow"
    }
  }
}
```

```
admin@sonic:$ sudo config load acl.json -y
```

Running command: /usr/local/bin/sonic-cfggen -j acl.json --write-to-db

```
admin@sonic:~$
```

Note:

The value of ACL type must be MIRROR.

The value of MIRROR\_ACTION is the name of the mirror session.

Result:

Check the mirror status

```
admin@sonic:~$ show mirror_session
```

ERSPAN Sessions

Name	Status	SRC IP	DST IP	GRE	DSCP	TTL	Queue
Policer	Monitor Port	SRC Port	Direction				
ts1_everflow	inactive	192.168.10.1	192.168.50.2		63	255	

Ethernet52

```
admin@sonic:~$ show acl table
```

Name	Type	Binding	Description	Stage
ACL_Mirror	MIRROR	Ethernet0	mirror	ingress

```
admin@sonic:~$ show acl rule
```

Table	Rule	Priority	Action	Match
ACL_Mirror	ACE_Mirror	55	MIRROR INGRESS: ts1_everflow	IP_TYPE:

ipv4any

Caution: Destination arp should be learned to arp table, otherwise the status is

inactive.

admin@sonic:~\$ show arp

Address	MacAddress	Iface	Vlan
192.168.10.2	04:f8:f8:8d:81:e1	Ethernet0	10
192.168.10.3	04:f8:f8:6b:06:91	Ethernet48	10
192.168.50.2	80:a2:35:d2:3b:b5	Ethernet52	-

Total number of entries 5

admin@sonic:~\$ show mirror\_session

ERSPAN Sessions

Name	Status	SRC IP	DST IP	GRE	DSCP	TTL	Queue
Policer	Monitor Port	SRC Port	Direction				
ts1_everflow	active	192.168.10.1	192.168.50.2		63	255	
Ethernet52							

SPAN Sessions

Name	Status	DST Port	SRC Port	Direction	Queue	Policer
------	--------	----------	----------	-----------	-------	---------

SPAN

Topology:

mceclip0.png

Pre-configuration:

VLAN configuration is as topology.

admin@sonic:~\$ show vlan brief

VLAN ID	IP Address	Ports	Port Tagging	DHCP Helper
DHCP Source	DHCP Link	Proxy ARP		Address
Interface	Selection			
10	192.168.10.1/24	Ethernet4	untagged	
	disabled			
		Ethernet5	untagged	

IP binding is as topology.

admin@sonic:~\$ show ip interfaces

Interface	Master	IPv4 address/mask	Admin/Oper	BGP Neighbor
Ethernet6		192.168.2.1/24	up/up	N/A
Loopback0		10.1.0.1/32	up/up	N/A
Vlan10		192.168.10.1/24	up/up	N/A
docker0		240.127.1.1/24	up/down	N/A
eth0		192.168.254.1/24	up/up	N/A
lo		127.0.0.1/16	up/up	N/A

Procedure:

Steps 1. Create a mirror session for SPAN.

```
admin@sonic:~$ sudo config mirror_session span add span_mirror Ethernet6
Ethernet4
```

Result:

Check the mirror table

```
admin@sonic:~$ show mirror_session
```

ERSPAN Sessions

Name	Status	SRC IP	DST IP	GRE	DSCP	TTL	Queue	Policer
Monitor Port		SRC Port	Direction					
-----	-----	-----	-----	-----	-----	-----	-----	-----
-----	-----	-----	-----	-----	-----	-----	-----	-----

SPAN Sessions

Name	Status	DST Port	SRC Port	Direction	Queue	Policer
-----	-----	-----	-----	-----	-----	-----
span_mirror	active	Ethernet6	Ethernet4	both		

Packet captured.  
image2022-1-19\_11-34-7.png

### Frequently Asked Question

How to mirror the packets of the specified VLAN ID.

Tested model & firmware version:

Switch model name:

DCS201 (AS5835-54X)

Edgecore SONiC version:

202111.0

202111.3

Restriction:

This method can only be used on the ingress stage.

Problem description:

Mirroring from Vlan interface is not acceptable, because it will get traffic from all ports in VLAN.

For example:

I want to mirror the traffic from Ethernet8 to Ethernet12, and the traffic only for VLAN 20.

Topology:

mceclip0.png

Solution

Step 1: Create a mirror session, ACL table

```
admin@sonic:~$ sudo config mirror_session span add test Ethernet12
```

```
admin@sonic:~$ sudo config acl add table Test MIRROR -p Ethernet8 -s ingress
```

Step 2: Create ACL JSON file and load it to the configuration database for Mirror

```
admin@sonic:~$ cat acl.json
```

```
{
  "ACL_RULE": {
    "Test|Forward": {
      "PRIORITY": "2",
      "MIRROR_ACTION": "test",
      "VLAN_ID": "20"
    }
  }
}
```

```

    }
}

```

admin@sonic:\$ sudo config load acl.json -y  
Running command: /usr/local/bin/sonic-cfggen -j acl.json --write-to-db  
After version 202111.5, the ACL rule can be added by sonic command, based on the  
acl.json above, the corresponding command is below

admin@sonic:\$sudo config acl add rule --priority 2 --mirror-ingress test --vlan-  
id 20 Test permit

Step 3: Check the status

admin@sonic:~\$ show mirror\_session

ERSPAN Sessions

Name	Status	SRC IP	DST IP	GRE	DSCP	TTL	Queue	Policer
Monitor Port		SRC Port	Direction					
-----	-----	-----	-----	-----	-----	-----	-----	-----
-----	-----	-----	-----					

SPAN Sessions

Name	Status	DST Port	SRC Port	Direction	Queue	Policer
-----	-----	-----	-----	-----	-----	-----

test active Ethernet12

admin@sonic:~\$ show acl table

Name	Type	Binding	Description	Stage
-----	-----	-----	-----	-----

Test MIRROR Ethernet8 Test ingress

admin@sonic:~\$ show acl rule

Table	Rule	Priority	Action	Match
-----	-----	-----	-----	-----

Test Forward 2 MIRROR INGRESS: test VLAN\_ID: 20

Result: Capture the packet from the Server.

mceclip1.png