

# **Mirror**

**GS1900 series**

## **Support Note**

**Version 1.00 July 2013**



## Overview of Mirror

Port mirroring is used on a network switch to send a copy of network packets seen on one switch port (or an entire VLAN) to a network monitoring connection on another switch port. This is commonly used for network applications that require monitoring of network traffic and troubleshooting.

## General Operation

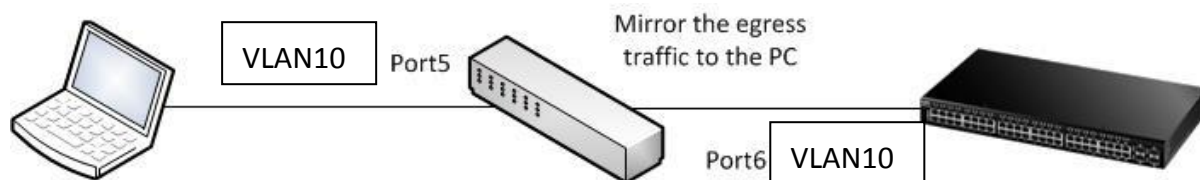
Port-based mirror mentions that the mirrored port can be one or many ports. Based on the mirrored traffic, the traffic can be divided into three types.

Ingress – Copy the incoming traffic to the specific port on the switch.

Egress – Copy the outgoing traffic from the specific port on the switch.

Both – Copy both incoming and outgoing traffic of the specific port on the switch.

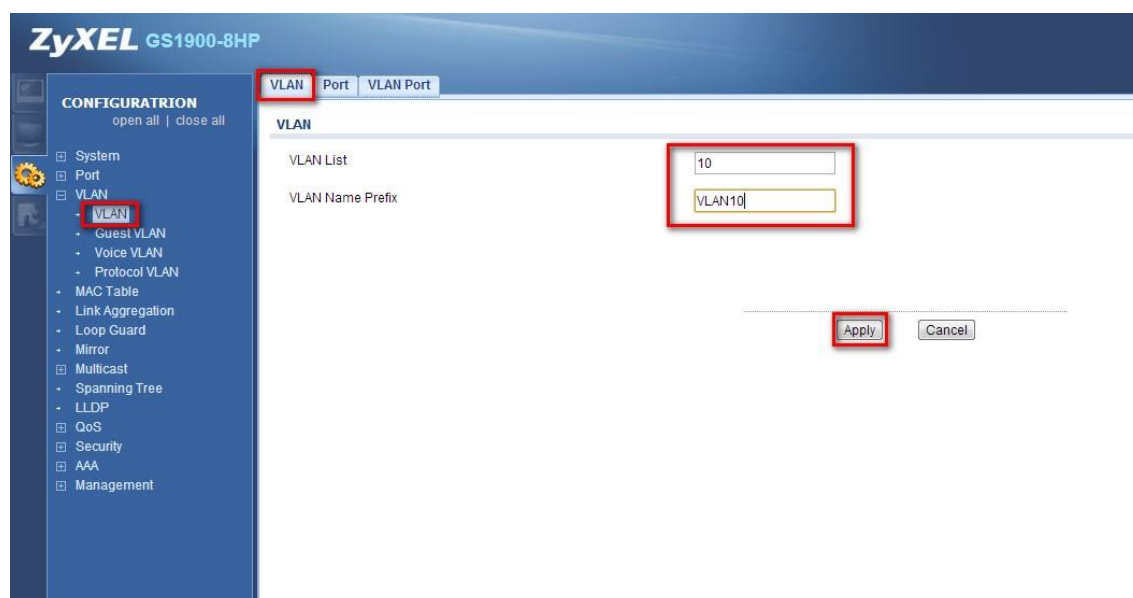
## Scenario



PC connects to port 5 of the GS1900-8HP and port 6 of the GS1900-8HP connects to the third switch. We would like to capture the egress tagged out traffic from GS1900-8HP to the third switch. Thus, we enable the egress mirror port on port 6 and the monitor port on port 5 using the following configuration in the web GUI.

## Web GUI configuration

Step 1. Setup VLAN 10.



## Step 2. Configure PVID for port 5 and port 6.

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Welcome: admin | Logout | Save | About | Help

CONFIGURATION open all | close all

- System
- Port
- VLAN
  - VLAN
  - Guest VLAN
  - Voice VLAN
  - Protocol VLAN
- MAC Table
- Link Aggregation
- Loop Guard
- Mirror
- Multicast
- Spanning Tree
- LLDP
- QoS
- Security
- AAA
- Management

VLAN Port VLAN Port

Port

Edit

Port	PVID	Accept Frame Type	Ingress Check	VLAN Trunk
1	1	ALL	Disable	Disable
2	1	ALL	Disable	Disable
3	1	ALL	Disable	Disable
4	1	ALL	Disable	Disable
5	1	ALL	Disable	Disable
6	1	ALL	Disable	Disable
7	1	ALL	Disable	Disable
8	1	ALL	Disable	Disable
LAG1	1	ALL	Disable	Disable
LAG2	1	ALL	Disable	Disable
LAG3	1	ALL	Disable	Disable
LAG4	1	ALL	Disable	Disable
LAG5	1	ALL	Disable	Disable
LAG6	1	ALL	Disable	Disable
LAG7	1	ALL	Disable	Disable
LAG8	1	ALL	Disable	Disable

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VLAN Port VLAN Port

Port

Port Select: 5

PVID: 10 (Range: 1 - 4094)

Accepted Type: ☒ All ☐ Tag Only ☐ Untag Only

Ingress Filtering: ☐ Enable ☒ Disable

VLAN Trunk: ☐ Enable ☒ Disable

Apply Cancel

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Welcome: admin | Logout | Save | About | Help

CONFIGURATION open all | close all

- System
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  - VLAN
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  - Protocol VLAN
- MAC Table
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- Mirror
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- LLDP
- QoS
- Security
- AAA
- Management

VLAN Port VLAN Port

Port

Edit

Port	PVID	Accept Frame Type	Ingress Check	VLAN Trunk
1	1	ALL	Disable	Disable
2	1	ALL	Disable	Disable
3	1	ALL	Disable	Disable
4	1	ALL	Disable	Disable
5	10	ALL	Disable	Disable
6	1	ALL	Disable	Disable
7	1	ALL	Disable	Disable
8	1	ALL	Disable	Disable
LAG1	1	ALL	Disable	Disable
LAG2	1	ALL	Disable	Disable
LAG3	1	ALL	Disable	Disable
LAG4	1	ALL	Disable	Disable
LAG5	1	ALL	Disable	Disable
LAG6	1	ALL	Disable	Disable
LAG7	1	ALL	Disable	Disable
LAG8	1	ALL	Disable	Disable

tagged, PVID=1

Step 3. Set VLAN 10 members.

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**CONFIGURATION**  
open all | close all

- System
- Port
- VLAN
  - VLAN
  - Guest VLAN
  - Voice VLAN
  - Protocol VLAN
- MAC Table
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- Management

**VLAN Port**

VLAN ID: 10

Port	Membership
*	Excluded
1	Forbidden Excluded Tagged Untagged
2	Forbidden Excluded Tagged Untagged
3	Forbidden Excluded Tagged Untagged
4	Forbidden Excluded Tagged Untagged
5	Forbidden Excluded Tagged <b>Untagged</b>
6	Forbidden Excluded Tagged <b>Untagged</b>
7	Forbidden Excluded Tagged Untagged
8	Forbidden Excluded Tagged Untagged
LAG1	Forbidden Excluded Tagged Untagged
LAG2	Forbidden Excluded Tagged Untagged
LAG3	Forbidden Excluded Tagged Untagged
LAG4	Forbidden Excluded Tagged Untagged
LAG5	Forbidden Excluded Tagged Untagged
LAG6	Forbidden Excluded Tagged Untagged
LAG7	Forbidden Excluded Tagged Untagged
LAG8	Forbidden Excluded Tagged Untagged

Step 4. Setup mirrored port 6 and monitor port 5.

**ZyXEL GS1900-8HP**

**CONFIGURATION**  
open all | close all

- System
- Port
- VLAN
- MAC Table
- Link Aggregation
- Loop Guard
- Mirror**
- Multicast
- Spanning Tree
- LLDP
- QoS
- Security
- AAA
- Management

**Mirror**

Mirroring: **Enable** Disable

Monitor Port: 5

Egress

Available: 1, 2, 3, 4, 5, 7, LAG1, LAG2  
Acting: 6

Ingress

Available: 1, 2, 3, 4, 5, 6, LAG1  
Acting:

Apply Cancel

Verification:

With Wireshark, we can capture the egress tagged out traffic from port 6 of the GS1900-8HP to the third switch.

No.	Time	Source	Destination	Protocol	Length	Info
13	4.99334900	RealtekS_00:00:00	WistronI_30:0e:a0	ARP	60	who has 192.168.1.100? Tell 192.168.1.10
14	4.99337300	WistronI_30:0e:a0	RealtekS_00:00:00	ARP	42	192.168.1.100 is at 3c:97:0e:30:0e:a0
15	8.08247600	WistronI_30:0e:a0	Broadcast	ARP	42	who has 192.168.1.20? Tell 192.168.1.100
16	8.08253800	WistronI_30:0e:a0	Broadcast	ARP	64	who has 192.168.1.20? Tell 192.168.1.100
17	8.09236400	ZyxeCom_00:02:02	WistronI_30:0e:a0	ARP	60	192.168.1.20 is at 00:19:cb:00:02:02
18	8.09239200	192.168.1.100	192.168.1.20	ICMP	74	Echo (ping) request id=0x0001, seq=200/51200, ttl=128
19	8.09254100	192.168.1.100	192.168.1.20	ICMP	78	Echo (ping) request id=0x0001, seq=200/51200, ttl=128
20	8.10777100	ZyxeCom_00:02:02	Broadcast	ARP	60	who has 192.168.1.100? Tell 192.168.1.20
21	8.10778000	WistronI_30:0e:a0	ZyxeCom_00:02:02	ARP	42	192.168.1.100 is at 3c:97:0e:30:0e:a0
22	8.10785300	WistronI_30:0e:a0	ZyxeCom_00:02:02	ARP	64	192.168.1.100 is at 3c:97:0e:30:0e:a0
23	8.10899700	192.168.1.20	192.168.1.100	ICMP	74	Echo (ping) reply id=0x0001, seq=200/51200, ttl=254
24	9.08579600	192.168.1.100	192.168.1.20	ICMP	74	Echo (ping) request id=0x0001, seq=201/51456, ttl=128
25	9.08650500	192.168.1.100	192.168.1.20	ICMP	78	Echo (ping) request id=0x0001, seq=201/51456, ttl=128
26	9.08750100	192.168.1.20	192.168.1.100	ICMP	74	Echo (ping) reply id=0x0001, seq=201/51456, ttl=254
27	10.08659500	192.168.1.100	192.168.1.20	ICMP	74	Echo (ping) request id=0x0001, seq=202/51712, ttl=128
28	10.08775000	192.168.1.100	192.168.1.20	ICMP	78	Echo (ping) request id=0x0001, seq=202/51712, ttl=128

Frame 25: 78 bytes on wire (624 bits), 78 bytes captured (624 bits) on interface 0	
Ethernet II, Src: WistronI_30:0e:a0 (3c:97:0e:30:0e:a0), Dst: ZyxeCom_00:02:02 (00:19:cb:00:02:02)	
802.1Q Virtual LAN, PRI: 0, CFI: 0, ID: 10	
000. .... = Priority: Best Effort (default) (0)	
...0. .... = CFI: Canonical (0)	
VLAN ID: 10 (0000.0000.1010) = ID: 10, LAN10 tagged	
Type: IP (0x0800)	
Internet Protocol Version 4, Src: 192.168.1.100 (192.168.1.100), Dst: 192.168.1.20 (192.168.1.20)	
Internet Control Message Protocol	