A configuration example of VLAN Tunnel(QinQ) for DXS-3600
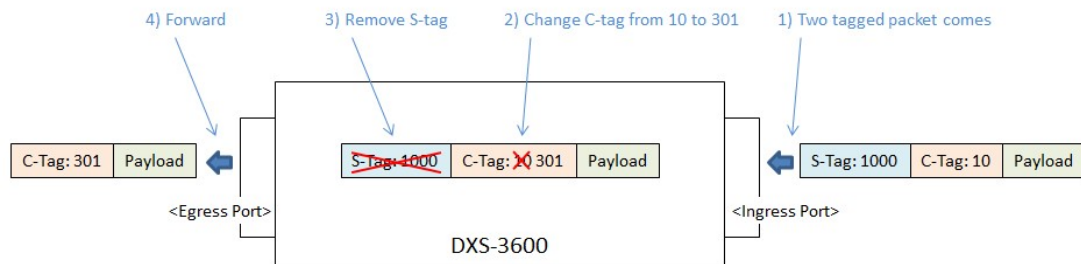
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[Object]

This document introduces how to use VLAN tunnel to replace a double tagged VLAN packet and forward to correct VLAN port.

[Overview]

1) Create multiple VLANs
2) Configure a VLAN tunnel and replace VLAN rule.
3) Assign the destination VLAN interface..

[Topology]

4) Forward   3) Remove S-tag   2) Change C-tag from 10 to 301   1) Two tagged packet comes

C-Tag: 301 | Payload   S-Tag: 1000 | C-Tag: 10 301 | Payload   S-Tag: 1000 | C-Tag: 10 | Payload

<Egress Port>   DXS-3600   <Ingress Port>

[Device]

DXS-3600 Series FW 2.40.043

[Configure]

 # DXS-3600-32S:

configure terminal

config t

vlan 10,301,1000

exit

#VLAN Tunnel

int eth 1/0/1

sw mo tru

sw vlan mapp or 1000 10 re 1000 301

exit

#Dest. VLAN port

int eth 1/0/24

sw m acc

sw acc vlan 1000exit

[Steps]

1.IXIA1 injects the qinq packets as following,

0002	00:00:00.000000060	68 bytes	00:00:04:00:03:00	00:00:04:00:04:00	1.1.1.1	1.1.1.10	IP	Good Packet
0003	00:00:00.099999980	64 bytes	00:00:04:00:03:00	00:00:04:00:04:00	1.1.1.1	1.1.1.10	IP	Good Packet
0004	00:00:00.100000060	68 bytes	00:00:04:00:03:00	00:00:04:00:04:00	1.1.1.1	1.1.1.10	IP	Good Packet
0005	00:00:00.199999980	64 bytes	00:00:04:00:03:00	00:00:04:00:04:00	1.1.1.1	1.1.1.10	IP	Good Packet
0006	00:00:00.200000060	68 bytes	00:00:04:00:03:00	00:00:04:00:04:00	1.1.1.1	1.1.1.10	IP	Good Packet

IP Unknown (0xff)

- Frame 2 (68 bytes on wire, 68 bytes captured)
- Ethernet II, Src: 00:00:04:00:03:00 (00:00:04:00:03:00), Dst: 00:00:04:00:04:00 (00:00:04:00:04:00)
- 802.1Q Virtual LAN
  - 000. .... = Priority: 0
  - ...0 .... = CFI: 0
  - .... 0011 1110 1000 = ID: 1000
  - Type: 802.1Q Virtual LAN (0x8100)
- 802.1Q Virtual LAN
  - 000. .... = Priority: 0
  - ...0 .... = CFI: 0
  - .... 0000 0000 1010 = ID: 10
  - Type: IP (0x0800)
  - Trailer: 67D49547
- Internet Protocol, Src: 1.1.1.1 (1.1.1.1), Dst: 1.1.1.10 (1.1.1.10)
- Data (22 bytes)

2.check the packets on port 24

[Verification]

Packet No	TimeStamp - Relative to first	Packet Length	Source MAC	Dest MAC	Source IP	Dest IP	Protocol
0001	00:00:00.000000000	64 bytes	00:00:04:00:03:00	00:00:04:00:04:00	1.1.1.1	1.1.1.10	IP
0002	00:00:00.000000060	68 bytes	00:00:04:00:03:00	00:00:04:00:04:00	1.1.1.1	1.1.1.10	IP
0003	00:00:00.099999980	64 bytes	00:00:04:00:03:00	00:00:04:00:04:00	1.1.1.1	1.1.1.10	IP
0004	00:00:00.100000060	68 bytes	00:00:04:00:03:00	00:00:04:00:04:00	1.1.1.1	1.1.1.10	IP
0005	00:00:00.199999980	64 bytes	00:00:04:00:03:00	00:00:04:00:04:00	1.1.1.1	1.1.1.10	IP
0006	00:00:00.200000060	68 bytes	00:00:04:00:03:00	00:00:04:00:04:00	1.1.1.1	1.1.1.10	IP

IP Unknown (0xff)

- Frame 3 (64 bytes on wire, 64 bytes captured)
- Ethernet II, Src: 00:00:04:00:03:00 (00:00:04:00:03:00), Dst: 00:00:04:00:04:00 (00:00:04:00:04:00)
- 802.1Q Virtual LAN
  - 000. .... = Priority: 0
  - ...0 .... = CFI: 0
  - .... 0001 0010 1101 = ID: 301
  - Type: IP (0x0800)
  - Trailer: 37E7FDFB
- Internet Protocol, Src: 1.1.1.1 (1.1.1.1), Dst: 1.1.1.10 (1.1.1.10)
- Data (22 bytes)

[Troubleshooting]

The following useful commands can help to check the status or debug the root cause if the problem occurred.

1) **VLAN info**

   show vlan

   ⇨ Summary VLAN setup including tagged and untagged ports.

   show vlan interface eth 1/0/1

   ⇨ Detail VLAN setup on the specific port.

2) **Dot1Q tunnel info**

   show dot1q-tunnel

   ⇨ shows how to display all 802.1Q tunnel ports configuration.

   show ip interface vlan572

   ⇨ Detail IP setup on the specific VLAN interface.

3) **VLAN Mapping info**

   show vlan mapping

   ⇨ display the VLAN mapping configuration.

[Reference]

DXS-3600 Series Layer 3 Managed 10Gigabit Ethernet Switch CLI Reference