

How to test DHCP relay option 82 check on DGS-3130-series (G2 command)

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[Object]

This document introduce how to testing DHCP relay option 82 check. This feature enable DHCP relay agent to validate and remove the relay agent information option in the received DHCP “reply” packets. That would make sure the packets received from the DHCP server is the original option inserted by the agent or not.

[Overview]

1. Creating Different VLAN and IP interface for DHCP server and client on DUT and DGS-3630.
2. Configuring DHCP relay and enabling DHCP option 82 check on DUT.
3. Configuring DHCP and enabling DHCP option relay on DGS-3630.
4. IXIA test port sends DHCP request to get IP from the server.

[Topology]

Client --- (2) *DGS – 3130* (1) --- (1) *DGS – 3630* (2) --- *DHCP srv*_{10.90.90.100} (Linux)

[Device]

DGS-3130-Series

[Configure]

Step 1

Creating Different VLAN and IP interface for DHCP server and client on DUT and DGS-3630.

[DUT]

configure terminal

vlan 2-3

exit

interface vlan 1

ip address 192.168.1.1 255.255.255.0

exit

interface vlan 2

ip address 192.168.2.1 255.255.255.0

exit

interface vlan 3

ip address 192.168.3.1 255.255.255.0

exit

interface ethernet 1/0/25

switchport mode access

switchport access vlan 3

ip dhcp relay

exit

interface ethernet 1/0/26

switchport mode access

switchport access vlan 2

ip dhcp relay

exit

[DGS-3630]

configure terminal

vlan 2

exit

interface vlan 2

ip address 192.168.2.2 255.255.255.0

exit

interface ethernet 1/0/21

```
switchport mode access
switchport access vlan 1
ip dhcp relay
exit
interface ethernet 1/0/22
switchport mode access
switchport access vlan 2
ip dhcp relay
exit
```

Step 2

Configuring DHCP relay and enabling DHCP option 82 check on DUT.

```
ip dhcp pool pool1
relay source 192.168.3.1 255.255.255.0
relay destination 192.168.2.2
exit
service dhcp
ip dhcp relay information option
ip dhcp relay information check
ip route 10.90.90.90 255.255.255.0 192.168.2.2
```

Step 3

Configuring DHCP and enabling DHCP option relay on DGS-3630.

```
ip dhcp pool pool1
relay source 192.168.2.2 255.255.255.0
relay destination 10.90.90.100
exit

service dhcp
ip dhcp relay information option
ip route 192.168.3.0 255.255.255.0 192.168.2.1
```

Step 4

IXIA test port sends DHCP request to get IP from the server.

[Verification]

We create a mirror port to the port DUT connects to DGS-3630 and this would help us to make sure whether DUT receiving the DHCP reply packets from the server or not. And it also help us to confirm the DHCP relay check is work normally.

1. If we enabled DHCP relay without setting policy on it, the policy is replace by default. Therefore, while DGS-3630 receiving the DHCP packets from DUT, it would replace the original option 82 information with its own one. In that way, DUT would receiving a DHCP reply packets different from the original one that DUT sent to DGS-3630. Hence, DUT would drop those packets and DHCP handshake would not be complete.
2. If we want to complete DHCP handshake, we could configure option 82 policy to keep on DGS-3630. In this way, DUT would receive the reply packets with same option 82 information to the original one. The relay agent would removes the option 82 field and help to forward the packets.