

Aruba CX DHCP relay

Config:

```
interface vlan 11
    vsx-sync active-gateways policies
    ip address 10.1.11.1/24
    active-gateway ip mac 02:00:00:00:00:01
    active-gateway ip 10.1.11.1
    ip mtu 9198
    l3-counters
    ip ospf 1 area 0.0.0.0
    ip ospf passive
    ip helper-address 10.254.1.21
    exit
```

Ping 10.254.1.21 source 10.1.11.1

```
Aggl(config-bgp-ipv4-uc)# show run int vlan 11
interface vlan 11
    vsx-sync active-gateways policies
    ip address 10.1.11.1/24
    active-gateway ip mac 02:00:00:00:00:01
    active-gateway ip 10.1.11.1
    ip mtu 9198
    l3-counters
    ip ospf 1 area 0.0.0.0
    ip ospf passive
    ip helper-address 10.254.1.21
    exit
Aggl(config-bgp-ipv4-uc)# ping 10.254.1.21 source
A.B.C.D Enter the source IPv4 address
IFNAME Enter the source interface
Aggl(config-bgp-ipv4-uc)# ping 10.254.1.21 source 10.1.11.1
PING 10.254.1.21 (10.254.1.21) from 10.1.11.1 : 100(128) bytes of data.
108 bytes from 10.254.1.21: icmp_seq=1 ttl=126 time=8.52 ms
108 bytes from 10.254.1.21: icmp_seq=2 ttl=126 time=3.07 ms
```

```
# Enable debugging
debug dhcprelay all severity debug
```

```
### not working
2025-05-14:02:41:44.213321|hpe-relay|LOG_DEBUG|AMM|-|
DHCPRELAY|DHCPRELAY|DHCP DISCOVER Packet received on
interface vlan11 from client MAC 005056-b18c96.
2025-05-14:02:41:44.213489|hpe-relay|LOG_INFO|AMM|-|
DHCPRELAY|DHCPRELAY|DHCP DISCOVER Packet sent to
Server(10.254.1.21) successfully via src VRF [default] for
Client MAC is 005056-b18c96, present on interface vlan11.
Flag: 128, gwip is 10.1.11.1
```

###

Client sends DHCP discover

2025-05-14:02:43:30.620093|hpe-relay|LOG_DEBUG|AMM|-|
DHCPRELAY|DHCPRELAY|DHCP DISCOVER Packet received on
interface vlan11 from client MAC 005056-b18c96.
2025-05-14:02:43:30.620265|hpe-relay|LOG_INFO|AMM|-|
DHCPRELAY|DHCPRELAY|DHCP DISCOVER Packet sent to
Server(10.254.1.21) successfully via src VRF [default] for
Client MAC is 005056-b18c96, present on interface vlan11.
Flag: 0, gwip is 10.1.11.1

SERVER

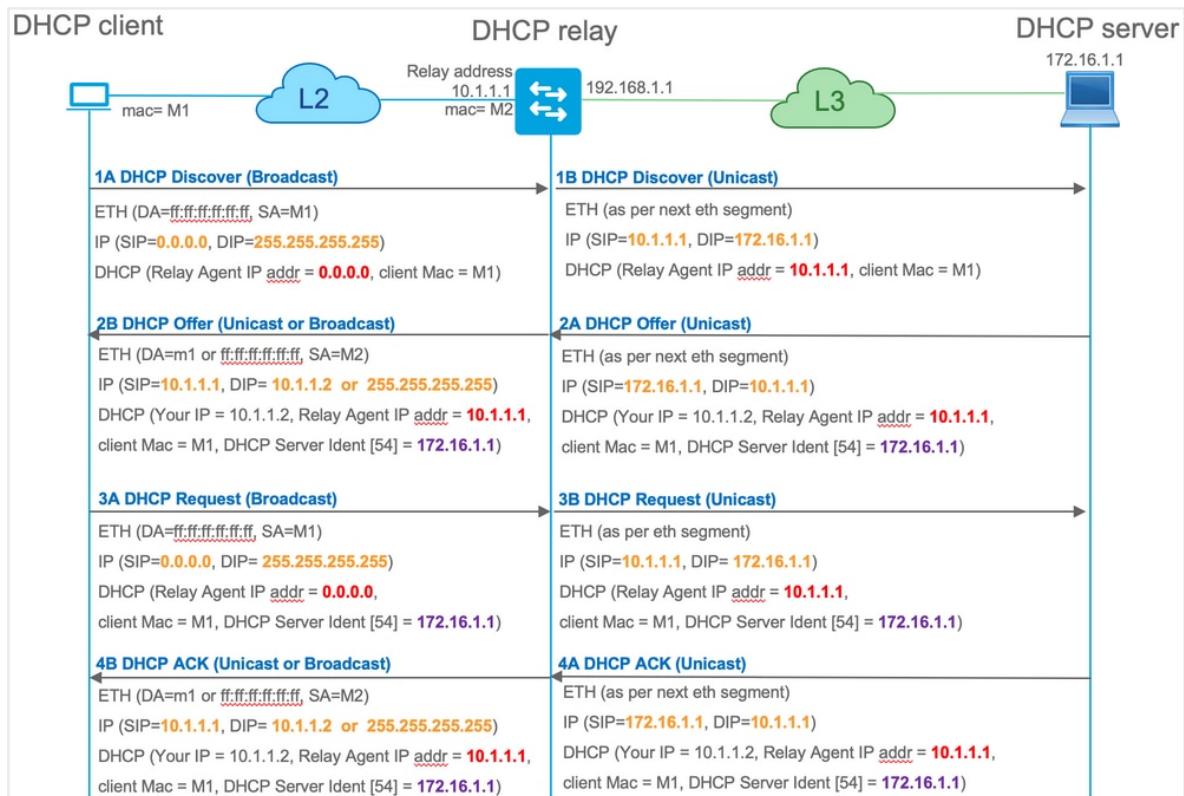
2025-05-14:02:43:30.623434|hpe-relay|LOG_DEBUG|AMM|-|
DHCPRELAY|DHCPRELAY|DHCP OFFER Packet received on interface
1/1/7 from Server 10.254.1.21 to client MAC 005056-b18c96.
2025-05-14:02:43:30.623517|hpe-relay|LOG_INFO|AMM|-|
DHCPRELAY|DHCPRELAY|DHCP OFFER Packet sent to client
successfully via interface vlan11. Client MAC is 005056-
b18c96. & Client VRF Table ID:0

Client

2025-05-14:02:43:30.624021|hpe-relay|LOG_DEBUG|AMM|-|
DHCPRELAY|DHCPRELAY|DHCP REQUEST Packet received on
interface vlan11 from client MAC 005056-b18c96.
2025-05-14:02:43:30.624132|hpe-relay|LOG_INFO|AMM|-|
DHCPRELAY|DHCPRELAY|DHCP REQUEST Packet sent to
Server(10.254.1.21) successfully via src VRF [default] for
Client MAC is 005056-b18c96, present on interface vlan11.
Flag: 0, gwip is 10.1.11.1

SERVER

2025-05-14:02:43:30.626914|hpe-relay|LOG_DEBUG|AMM|-|
DHCPRELAY|DHCPRELAY|DHCP ACK Packet received on interface
1/1/7 from Server 10.254.1.21 to client MAC 005056-b18c96.
2025-05-14:02:43:30.626973|hpe-relay|LOG_INFO|AMM|-|
DHCPRELAY|DHCPRELAY|DHCP ACK Packet sent to client
successfully via interface vlan11. Client MAC is 005056-
b18c96. & Client VRF Table ID:0



When a switch enables DHCPV4-snooping, the option 82 is added by default:
The port-number is included in option 82.

Frame 1: 376 bytes on wire (3008 bits), 376 bytes captured (3008 bits) on interface MirrorRxNet, id 0

Interface id: 0 (MirrorRxNet)

Interface name: MirrorRxNet

Encapsulation type: Ethernet (1)

Arrival Time: May 14, 2025 03:40:16.178654141 EDT

[Time shift for this packet: 0.000000000 seconds]

Epoch Time: 1747208416.178654141 seconds

[Time delta from previous captured frame: 0.000000000 seconds]

[Time delta from previous displayed frame: 0.000000000 seconds]

[Time since reference or first frame: 0.000000000 seconds]

Frame Number: 1

Frame Length: 376 bytes (3008 bits)

Capture Length: 376 bytes (3008 bits)

[Frame is marked: False]

[Frame is ignored: False]

[Protocols in frame:

```

eth:ethertype:vlan:ethertype:ip:udp:dhcp]
Ethernet II, Src: 00:50:56:b1:8c:96, Dst: ff:ff:ff:ff:ff:ff
    Destination: ff:ff:ff:ff:ff:ff
        Address: ff:ff:ff:ff:ff:ff
            .... ..1. .... = LG bit: Locally
administered address (this is NOT the factory default)
            .... ...1 .... = IG bit: Group
address (multicast/broadcast)
        Source: 00:50:56:b1:8c:96
            Address: 00:50:56:b1:8c:96
                .... ..0. .... = LG bit: Globally
unique address (factory default)
                .... ...0 .... = IG bit: Individual
address (unicast)
            Type: 802.1Q Virtual LAN (0x8100)
802.1Q Virtual LAN, PRI: 1, DEI: 0, ID: 0
            001. .... = Priority: Background (1)
            ...0 .... = DEI: Ineligible
            .... 0000 0000 0000 = ID: 0
            Type: IPv4 (0x0800)
Internet Protocol Version 4, Src: 0.0.0.0, Dst:
255.255.255.255
            0100 .... = Version: 4
            .... 0101 = Header Length: 20 bytes (5)
            Differentiated Services Field: 0x00 (DSCP: CS0, ECN:
Not-ECT)
                0000 00.. = Differentiated Services Codepoint:
Default (0)
                .... ..00 = Explicit Congestion Notification: Not
ECN-Capable Transport (0)
            Total Length: 358
            Identification: 0x3a5a (14938)
            Flags: 0x0000
                0... .... = Reserved bit: Not set
                .0.. .... = Don't fragment: Not set
                ..0. .... = More fragments: Not set
            Fragment offset: 0
            Time to live: 128
            Protocol: UDP (17)
            Header checksum: 0xff2d [validation disabled]
            [Header checksum status: Unverified]
            Source: 0.0.0.0
            Destination: 255.255.255.255
User Datagram Protocol, Src Port: bootpc (68), Dst Port:
bootps (67)
    Source Port: bootpc (68)
    Destination Port: bootps (67)

```

Length: 338
[Checksum: [missing]]
[Checksum Status: Not present]
[Stream index: 0]
[Timestamps]
 [Time since first frame: 0.000000000 seconds]
 [Time since previous frame: 0.000000000 seconds]
Dynamic Host Configuration Protocol (Request)
 Message type: Boot Request (1)
 Hardware type: Ethernet (0x01)
 Hardware address length: 6
 Hops: 0
 Transaction ID: 0x48059a50
 Seconds elapsed: 0
 Bootp flags: 0x0000 (Unicast)
 0... = Broadcast flag: Unicast
 .000 0000 0000 0000 = Reserved flags: 0x0000
 Client IP address: 0.0.0.0
 Your (client) IP address: 0.0.0.0
 Next server IP address: 0.0.0.0
 Relay agent IP address: 0.0.0.0
 Client MAC address: 00:50:56:b1:8c:96
 Client hardware address padding: 00000000000000000000
 Server host name not given
 Boot file name not given
 Magic cookie: DHCP
 Option: (53) DHCP Message Type (Request)
 Length: 1
 DHCP: Request (3)
 Option: (61) Client identifier
 Length: 7
 Hardware type: Ethernet (0x01)
 Client MAC address: 00:50:56:b1:8c:96
 Option: (50) Requested IP Address (10.1.11.103)
 Length: 4
 Requested IP Address: 10.1.11.103
 Option: (12) Host Name
 Length: 11
 Host Name: P54-T13-PC3
 Option: (81) Client Fully Qualified Domain Name
 Length: 14
 Flags: 0x00
 0000 = Reserved flags: 0x0
 0... = Server DDNS: Some server updates
 0.. = Encoding: ASCII encoding
 0. = Server overrides: No override
 0 = Server: Client

```

    A-RR result: 0
    PTR-RR result: 0
    Client name: P54-T13-PC3
Option: (60) Vendor class identifier
    Length: 8
    Vendor class identifier: MSFT 5.0
Option: (55) Parameter Request List
    Length: 14
    Parameter Request List Item: (1) Subnet Mask
    Parameter Request List Item: (3) Router
    Parameter Request List Item: (6) Domain Name Server
    Parameter Request List Item: (15) Domain Name
    Parameter Request List Item: (31) Perform Router
Discover
    Parameter Request List Item: (33) Static Route
    Parameter Request List Item: (43) Vendor-Specific
Information
    Parameter Request List Item: (44) NetBIOS over TCP/
IP Name Server
    Parameter Request List Item: (46) NetBIOS over TCP/
IP Node Type
    Parameter Request List Item: (47) NetBIOS over TCP/
IP Scope
    Parameter Request List Item: (119) Domain Search
    Parameter Request List Item: (121) Classless Static
Route
    Parameter Request List Item: (249) Private/Classless
Static Route (Microsoft)
    Parameter Request List Item: (252) Private/Proxy
autodiscovery
    Option: (82) Agent Information Option
        Length: 14
        Option 82 Suboption: (1) Agent Circuit ID
            Length: 4
            Agent Circuit ID: 00000003
        Option 82 Suboption: (2) Agent Remote ID
            Length: 6
            Agent Remote ID: 9c3708fbfd40
    Option: (255) End
    Option End: 255

```

To disable option 82:

```
no dhcpv4-snooping option 82
```

After tuning:

Frame 1: 360 bytes on wire (2880 bits), 360 bytes captured
(2880 bits) on interface MirrorRxNet, id 0
Interface id: 0 (MirrorRxNet)
Interface name: MirrorRxNet
Encapsulation type: Ethernet (1)
Arrival Time: May 14, 2025 04:47:25.832412926 EDT
[Time shift for this packet: 0.000000000 seconds]
Epoch Time: 1747212445.832412926 seconds
[Time delta from previous captured frame: 0.000000000
seconds]
[Time delta from previous displayed frame: 0.000000000
seconds]
[Time since reference or first frame: 0.000000000
seconds]
Frame Number: 1
Frame Length: 360 bytes (2880 bits)
Capture Length: 360 bytes (2880 bits)
[Frame is marked: False]
[Frame is ignored: False]
[Protocols in frame:
eth:ethertype:vlan:ethertype:ip:udp:dhcp]
Ethernet II, Src: 00:50:56:b1:8c:96, Dst: ff:ff:ff:ff:ff:ff
Destination: ff:ff:ff:ff:ff:ff
Address: ff:ff:ff:ff:ff:ff
.... ..1. = LG bit: Locally
administered address (this is NOT the factory default)
.... ..1 = IG bit: Group
address (multicast/broadcast)
Source: 00:50:56:b1:8c:96
Address: 00:50:56:b1:8c:96
.... ..0. = LG bit: Globally
unique address (factory default)
.... ..0 = IG bit: Individual
address (unicast)
Type: 802.1Q Virtual LAN (0x8100)
802.1Q Virtual LAN, PRI: 1, DEI: 0, ID: 0
001. = Priority: Background (1)
...0 = DEI: Ineligible
.... 0000 0000 0000 = ID: 0
Type: IPv4 (0x0800)
Internet Protocol Version 4, Src: 0.0.0.0, Dst:
255.255.255.255
0100 = Version: 4
.... 0101 = Header Length: 20 bytes (5)
Differentiated Services Field: 0x00 (DSCP: CS0, ECN:
Not-ECT)

```

    0000 00.. = Differentiated Services Codepoint:
Default (0)
    .... ..00 = Explicit Congestion Notification: Not
ECN-Capable Transport (0)
    Total Length: 342
    Identification: 0x3a5d (14941)
    Flags: 0x0000
        0... .... = Reserved bit: Not set
        .0.. .... = Don't fragment: Not set
        ..0. .... = More fragments: Not set
    Fragment offset: 0
    Time to live: 128
    Protocol: UDP (17)
    Header checksum: 0xff3a [validation disabled]
    [Header checksum status: Unverified]
    Source: 0.0.0.0
    Destination: 255.255.255.255
User Datagram Protocol, Src Port: bootpc (68), Dst Port:
bootps (67)
    Source Port: bootpc (68)
    Destination Port: bootps (67)
    Length: 322
    Checksum: 0x2a5d [unverified]
    [Checksum Status: Unverified]
    [Stream index: 0]
    [Timestamps]
        [Time since first frame: 0.000000000 seconds]
        [Time since previous frame: 0.000000000 seconds]
Dynamic Host Configuration Protocol (Request)
    Message type: Boot Request (1)
    Hardware type: Ethernet (0x01)
    Hardware address length: 6
    Hops: 0
    Transaction ID: 0x2a803a9a
    Seconds elapsed: 0
    Bootp flags: 0x0000 (Unicast)
        0... .... = Broadcast flag: Unicast
        .000 0000 0000 0000 = Reserved flags: 0x0000
    Client IP address: 0.0.0.0
    Your (client) IP address: 0.0.0.0
    Next server IP address: 0.0.0.0
    Relay agent IP address: 0.0.0.0
    Client MAC address: 00:50:56:b1:8c:96
    Client hardware address padding: 0000000000000000000000
    Server host name not given
    Boot file name not given
    Magic cookie: DHCP

```


Option: (53) DHCP Message Type (Request)
Length: 1
DHCP: Request (3)

Option: (61) Client identifier
Length: 7
Hardware type: Ethernet (0x01)
Client MAC address: 00:50:56:b1:8c:96

Option: (50) Requested IP Address (10.1.11.103)
Length: 4
Requested IP Address: 10.1.11.103

Option: (12) Host Name
Length: 11
Host Name: P54-T13-PC3

Option: (81) Client Fully Qualified Domain Name
Length: 14
Flags: 0x00
0000 = Reserved flags: 0x0
.... 0... = Server DDNS: Some server updates
.... .0.. = Encoding: ASCII encoding
.... ..0. = Server overrides: No override
.... ...0 = Server: Client
A-RR result: 0
PTR-RR result: 0
Client name: P54-T13-PC3

Option: (60) Vendor class identifier
Length: 8
Vendor class identifier: MSFT 5.0

Option: (55) Parameter Request List
Length: 14
Parameter Request List Item: (1) Subnet Mask
Parameter Request List Item: (3) Router
Parameter Request List Item: (6) Domain Name Server
Parameter Request List Item: (15) Domain Name
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Discover
Parameter Request List Item: (33) Static Route
Parameter Request List Item: (43) Vendor-Specific

Information
Parameter Request List Item: (44) NetBIOS over TCP/
IP Name Server
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IP Node Type
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IP Scope
Parameter Request List Item: (119) Domain Search
Parameter Request List Item: (121) Classless Static
Route

Parameter Request List Item: (249) Private/Classless
Static Route (Microsoft)

Parameter Request List Item: (252) Private/Proxy
autodiscovery

Option: (255) End

Option End: 255