Configuración y verificación de DHCP en un fabric VxLAN para Nexus 9000 con NX-OS y Windows Server 2022

Contenido

Introducción Prerequisites Requirements Componentes Utilizados **Antecedentes** Configuración subvacente y superpuesta para VxLAN en laboratorio **COLUMNA VERTEBRAL** HOJA-1 LEAF-1-vPC LEAF-2-vPC N9K-ACCESS Configuración DHCP en switches Nexus HOJA-1 DHCP de LEAF-1-vPC DHCP de LEAF-2-vPC Configuración del servidor DHCP en Windows Server 2022 Configuración de alcance de direccionamiento IP para hosts. Configuración del alcance para direcciones IP únicas de loopbacks en SVI como agente relay DHCP. Configuración del superámbito para el fabric VxLAN. Configure la opción 82 en los ámbitos de host. Caminata de paquetes DHCP de principio a fin en VxLAN Fabric. Detección enviada por HOST-1 Detección en LEAF-1 Detección en COLUMNA VERTEBRAL Detección en LEAF-1-vPC Detección recibida en el servidor DHCP Oferta de DHCP enviada por servidor DHCP Oferta de DHCP en LEAF-2-vPC Oferta DHCP vPC SPINE Oferta de DHCP en LEAF-1 Oferta DHCP recibida en HOST-1 Solicitud enviada por HOST-1 Solicitud en LEAF-1 Solicitud en COLUMNA

 Solicitud en LEAF-2-vPC

 Solicitud recibida en el servidor DHCP

 ACK en viado por servidor DHCP

 ACK en LEAF-2-vPC

 ACK en COLUMNA VERTEBRAL

 ACK en LEAF-1

 ACK en HOST-1

Introducción

Este documento describe cómo configurar y resolver problemas de DHCP en un entramado VxLAN con switches Nexus 9000.

Prerequisites

Requirements

Cisco recomienda que tenga conocimiento sobre estos temas:

- Software Nexus NX-OS.
- Canal de puerto virtual (vPC).
- EVPN L2VPN BGP VxLAN
- IPv4 de la familia de direcciones BGP
- OSPF
- PIM multidifusión (modo disperso)
- DHCP

Componentes Utilizados

La información que contiene este documento se basa en las siguientes versiones de software y hardware.

- Cisco Nexus 9000 con Cisco NX-OS.
 - N9K-C93180YC-EX
 - N9K-C93180YC-FX
 - NX-OS 10.3(4a)
- Centro de datos de Windows Server 2022

La información que contiene este documento se creó a partir de los dispositivos en un ambiente de laboratorio específico. Todos los dispositivos que se utilizan en este documento se pusieron en funcionamiento con una configuración verificada (predeterminada). Si tiene una red en vivo, asegúrese de entender el posible impacto de cualquier comando.



Nota: cualquier pregunta sobre la configuración y la integrabilidad del software o hardware de terceros queda fuera del soporte de Cisco. El uso de herramientas de terceros es un esfuerzo para demostrar al cliente su configuración y funcionamiento con los equipos de Cisco.

Antecedentes

Configuración subyacente y superpuesta para VxLAN en laboratorio



Diagrama de fabric de VxLAN en laboratorio

- COLUMNA:
 - Este switch Nexus envía paquetes DHCP (Discover, Offer, Request, Ack) sin ser desencapsulado en esta situación. Sólo se utiliza el encabezado externo.
 - Actúa como puntos de routing centrales en el fabric de red.
 - Responsable de interconectar todos los switches LEAF y facilitar el flujo de datos entre ellos.
 - Participa en BGP para distribuir rutas EVPN a los switches LEAF.
 - Realiza el ruteo IP y puede rutear tráfico entre diferentes subredes o segmentos VxLAN observando los encabezados IP externos.
 - Separa la red superpuesta (VxLAN) de la red física subyacente.
 - Administra la capa subyacente con los protocolos de routing IP tradicionales, mientras que la capa la administra VxLAN con EVPN BGP, lo que proporciona una arquitectura de red escalable y flexible.
- HOJA-1:
 - Los switches LEAF proporcionan conectividad física para terminales como servidores, dispositivos de almacenamiento y otros dispositivos de red.
 - Los switches LEAF actúan como VTEP, lo que significa que encapsulan y desencapsulan los paquetes VxLAN.
 - En este escenario, el HOST#1 realiza la solicitud de dirección IP.
 - LEAF-1 es responsable de encapsular los paquetes DHCP dentro del encabezado VxLAN.
 - HOST#1 recibe los paquetes DHCP de forma transparente como Ethernet clásico.
- LEAF-1-vPC y LEAF-2-vPC:
 - Los switches LEAF participan en el plano de control EVPN ejecutando BGP e intercambiando información de ruta. Esto permite la distribución de la información de

direcciones IP y MAC, lo que garantiza que el tráfico se pueda enrutar de forma eficaz a través del fabric VxLAN.

- En este escenario, el servidor DHCP se asocia con VLAN 10 con VNI 101010, al igual que HOST#1. Esto significa que es solamente el bridging VxLAN.
- Si el servidor DHCP se asoció con un VNI distinto de HOST#1, entonces un L3VNI sería estrictamente necesario para el ruteo. Se deben crear el VNI de origen y de destino.
- El servidor DHCP recibe los paquetes DHCP de forma transparente como Ethernet clásico.
- El tráfico BUM lo reciben ambos switches Nexus en vPC, pero solo el switch Nexus principal operativo en vPC envía el tráfico. El switch Nexus secundario interrumpe el tráfico. En esta situación, LEAF-1-vPC es operativamente principal.
- El uso de infra-vlan es obligatorio porque si la interfaz de LEAF-2-vPC a SPINE deja de funcionar, no se pueden enviar paquetes DHCP. Para enviar tráfico encapsulado en VxLAN a LEAF-1-vPC, se requiere esta VLAN de respaldo. De esta manera, LEAF-1-vPC podría enviar paquetes DHCP a la COLUMNA VERTEBRAL.
- N9K-ACCESS:
 - Este switch Nexus solo proporciona conectividad a ambas Hojas mediante un canal de puerto vPC con fines de redundancia hacia el HOST nº 2

COLUMNA VERTEBRAL

```
nv overlay evpn
feature ospf
feature bgp
feature pim
feature netconf
feature nv overlay
ip pim rp-address 192.168.11.11 group-list 224.10.10.0/24
ip pim ssm range 232.0.0/8
ip pim anycast-rp 192.168.11.11 192.168.0.11
ip prefix-list direct_routes seq 5 permit 10.104.11.0/30 le 32
route-map redistribution permit 10
 match ip address prefix-list direct_routes
interface Ethernet1/1
 speed 1000
 ip address 10.104.11.1/30
 ip ospf network point-to-point
 ip router ospf 1 area 0.0.0.0
 ip pim sparse-mode
 no shutdown
interface Ethernet1/2
 ip address 10.102.11.1/30
 ip ospf network point-to-point
 ip router ospf 1 area 0.0.0.0
 ip pim sparse-mode
 no shutdown
```

```
interface Ethernet1/3
 speed 1000
 ip address 10.103.11.1/30
 ip ospf network point-to-point
 ip router ospf 1 area 0.0.0.0
 ip pim sparse-mode
 no shutdown
interface loopback0
 description ANYCAST-RP
 ip address 192.168.0.11/32
 ip router ospf 1 area 0.0.0.0
 ip pim sparse-mode
interface loopback1
 description ANYCAST-RP-CANDIDATE
 ip address 192.168.11.11/32
 ip router ospf 1 area 0.0.0.0
 ip pim sparse-mode
router ospf 1
router bgp 65000
 neighbor 192.168.3.3
    remote-as 65000
    update-source loopback0
    address-family 12vpn evpn
      send-community
      send-community extended
      route-reflector-client
 neighbor 192.168.4.4
    remote-as 65000
    update-source loopback0
    address-family 12vpn evpn
      send-community
      send-community extended
      route-reflector-client
 neighbor 192.168.5.5
    remote-as 65000
    update-source loopback0
    address-family 12vpn evpn
      send-community
      send-community extended
      route-reflector-client
```

HOJA-1

nv overlay evpn feature ospf feature bgp feature pim feature interface-vlan feature vn-segment-vlan-based feature dhcp feature nv overlay

fabric forwarding anycast-gateway-mac 0000.0a0a.0a0a

ip pim rp-address 192.168.11.11 group-list 224.10.10.0/24 ip pim ssm range 232.0.0.0/8 vlan 1,10,20,300 vlan 10 vn-segment 101010 vlan 20 vn-segment 202020 vlan 300 vn-segment 303030 spanning-tree vlan 10 priority 4096 ip prefix-list host_subnets seq 5 permit 10.10.10.0/24 le 32 ip prefix-list host_subnets seq 10 permit 192.168.20.0/24 le 32 ip prefix-list host_subnets seq 15 permit 172.16.10.8/32 route-map direct_routes_tenant-a permit 10 match ip address prefix-list host_subnets vrf context tenant-a vni 303030 rd auto address-family ipv4 unicast route-target both auto route-target both auto evpn interface Vlan10 no shutdown vrf member tenant-a no ip redirects ip address 10.10.10.1/24 no ipv6 redirects fabric forwarding mode anycast-gateway ip dhcp relay address 10.10.10.150 ip dhcp relay source-interface loopback100 interface Vlan20 no shutdown vrf member tenant-a no ip redirects ip address 192.168.20.1/24 no ipv6 redirects fabric forwarding mode anycast-gateway interface Vlan300 no shutdown vrf member tenant-a no ip redirects ip forward no ipv6 redirects interface nve1 no shutdown host-reachability protocol bgp source-interface loopback0 member vni 101010 suppress-arp mcast-group 224.10.10.10 member vni 202020 suppress-arp mcast-group 224.10.10.10

```
member vni 303030 associate-vrf
interface Ethernet1/1
 ip address 10.104.11.2/30
 ip ospf network point-to-point
 ip router ospf 1 area 0.0.0.0
 ip pim sparse-mode
 no shutdown
interface loopback0
 description UNDERLAY-VERIFICATION
 ip address 192.168.5.5/32
 ip router ospf 1 area 0.0.0.0
 ip pim sparse-mode
interface loopback100
 vrf member tenant-a
 ip address 172.16.10.8/32
router ospf 1
router bgp 65000
 address-family ipv4 unicast
 neighbor 192.168.0.11
    remote-as 65000
    update-source loopback0
    address-family 12vpn evpn
      send-community
      send-community extended
 vrf tenant-a
    address-family ipv4 unicast
      redistribute direct route-map direct_routes_tenant-a
evpn
 vni 101010 12
    rd auto
    route-target import auto
    route-target export auto
 vni 202020 12
    rd auto
    route-target import auto
    route-target export auto
```

LEAF-1-vPC

nv overlay evpn feature ospf feature bgp feature pim feature interface-vlan feature vn-segment-vlan-based feature lacp feature dhcp feature vpc feature nv overlay

fabric forwarding anycast-gateway-mac 0000.0a0a.0a0a

ip pim rp-address 192.168.11.11 group-list 224.10.10.0/24 ip pim ssm range 232.0.0/8 vlan 1,10,300,777 vlan 10 vn-segment 101010 vlan 300 vn-segment 303030 vlan 777 name BACKUP_VLAN_ROUTING_NVE_INFRA spanning-tree vlan 1,10,300 hello-time 4 ip prefix-list host_subnets seq 5 permit 10.10.10.0/24 le 32 ip prefix-list host_subnets seq 15 permit 172.16.10.9/32 route-map direct_routes_tenant-a permit 10 match ip address prefix-list host_subnets vrf context tenant-a vni 303030 rd auto address-family ipv4 unicast route-target both auto route-target both auto evpn system nve infra-vlans 777 vpc domain 1 peer-switch peer-keepalive destination 10.88.238.195 peer-gateway layer3 peer-router ip arp synchronize interface Ethernet1/3 switchport switchport mode trunk switchport trunk allowed vlan 1,10,20 channel-group 10 mode active no shutdown interface Ethernet1/19 switchport switchport mode trunk channel-group 1 mode active no shutdown interface port-channel1 switchport switchport mode trunk spanning-tree port type network vpc peer-link interface port-channel10 switchport switchport mode trunk switchport trunk allowed vlan 1,10 vpc 10 interface mgmt0 vrf member management ip address 10.88.238.194/29 interface loopback0

```
description UNDERLAY-VERIFICATION
 ip address 192.168.3.3/32
 ip router ospf 1 area 0.0.0.0
 ip pim sparse-mode
interface loopback1
 description OVERLAY-NVE
 ip address 192.168.13.1/32
 ip address 192.168.13.254/32 secondary
 ip router ospf 1 area 0.0.0.0
 ip pim sparse-mode
interface loopback10
 vrf member tenant-a
 ip address 172.16.10.1/32
interface loopback100
 vrf member tenant-a
 ip address 172.16.10.9/32
interface Vlan10
 no shutdown
 vrf member tenant-a
 no ip redirects
 ip address 10.10.10.1/24
 no ipv6 redirects
 fabric forwarding mode anycast-gateway
 ip dhcp relay address 10.10.10.150
 ip dhcp relay source-interface loopback100
interface Vlan300
 no shutdown
 vrf member tenant-a
 no ip redirects
 ip forward
 no ipv6 redirects
interface Vlan777
 description BACKUP_UNDERLAY_INFRA-VLAN
 no shutdown
 no ip redirects
 ip address 10.255.77.1/30
 no ipv6 redirects
 ip ospf network point-to-point
 ip router ospf 1 area 0.0.0.0
 ip pim sparse-mode
interface Ethernet1/2
 ip address 10.102.11.2/30
 ip ospf network point-to-point
 ip router ospf 1 area 0.0.0.0
 ip pim sparse-mode
 no shutdown
interface nve1
 no shutdown
 host-reachability protocol bgp
 advertise virtual-rmac
 source-interface loopback1
 member vni 101010
    suppress-arp
    mcast-group 224.10.10.10
```

member vni 303030 associate-vrf router ospf 1 router bgp 65000 address-family ipv4 unicast address-family 12vpn evpn advertise-pip neighbor 192.168.0.11 remote-as 65000 update-source loopback0 address-family 12vpn evpn send-community send-community extended neighbor 192.168.88.2 remote-as 65000 description OVERLAY_BACKUP update-source Vlan888 address-family 12vpn evpn send-community send-community extended vrf tenant-a address-family ipv4 unicast redistribute direct route-map direct_routes_tenant-a evpn vni 101010 12 rd auto route-target import auto route-target export auto vni 202020 12 rd auto route-target import auto route-target export auto

LEAF-2-vPC

nv overlay evpn feature ospf feature bgp feature pim feature interface-vlan feature vn-segment-vlan-based feature lacp feature dhcp feature vpc feature nv overlay fabric forwarding anycast-gateway-mac 0000.0a0a.0a0a ip pim rp-address 192.168.11.11 group-list 224.10.10.0/24 ip pim ssm range 232.0.0/8 vlan 1,10,20,300,777 vlan 10 vn-segment 101010 vlan 20 vn-segment 202020

vlan 300 vn-segment 303030 vlan 777 name BACKUP_VLAN_ROUTING_NVE_INFRA spanning-tree vlan 1,10,20,300 hello-time 4 ip prefix-list host_subnets seq 5 permit 10.10.10.0/24 le 32 ip prefix-list host_subnets seq 10 permit 192.168.20.0/24 le 32 ip prefix-list host_subnets seq 15 permit 172.16.10.10/32 route-map direct_routes_tenant-a permit 10 match ip address prefix-list host_subnets vrf context tenant-a vni 303030 rd auto address-family ipv4 unicast route-target both auto route-target both auto evpn system nve infra-vlans 777 vpc domain 1 peer-switch peer-keepalive destination 10.88.238.194 peer-gateway layer3 peer-router ip arp synchronize interface Ethernet1/1 ip address 10.103.11.2/30 ip ospf network point-to-point ip router ospf 1 area 0.0.0.0 ip pim sparse-mode no shutdown interface Ethernet1/19 switchport switchport mode trunk channel-group 1 mode active no shutdown interface port-channel1 switchport switchport mode trunk spanning-tree port type network vpc peer-link interface port-channel10 switchport switchport mode trunk switchport trunk allowed vlan 1,10,20 vpc 10 interface mgmt0 vrf member management ip address 10.88.238.195/29 interface loopback0 description UNDERLAY-VERIFICATION ip address 192.168.4.4/32 ip router ospf 1 area 0.0.0.0 ip pim sparse-mode

```
interface loopback1
 description OVERLAY-NVE
 ip address 192.168.13.2/32
 ip address 192.168.13.254/32 secondary
 ip router ospf 1 area 0.0.0.0
 ip pim sparse-mode
interface loopback10
 vrf member tenant-a
 ip address 172.16.10.2/32
interface loopback100
 vrf member tenant-a
 ip address 172.16.10.10/32
interface Vlan10
 no shutdown
 vrf member tenant-a
 no ip redirects
 ip address 10.10.10.1/24
 no ipv6 redirects
 fabric forwarding mode anycast-gateway
 ip dhcp relay address 10.10.10.150
 ip dhcp relay source-interface loopback100
interface Vlan20
 no shutdown
 vrf member tenant-a
 no ip redirects
 ip address 192.168.20.1/24
 no ipv6 redirects
 fabric forwarding mode anycast-gateway
interface Vlan300
 no shutdown
 vrf member tenant-a
 no ip redirects
 ip forward
 no ipv6 redirects
interface Vlan777
 description BACKUP_UNDERLAY_INFRA-VLAN
 no shutdown
 no ip redirects
 ip address 10.255.77.2/30
 no ipv6 redirects
 ip ospf network point-to-point
 ip router ospf 1 area 0.0.0.0
 ip pim sparse-mode
interface nve1
 no shutdown
 host-reachability protocol bgp
 advertise virtual-rmac
 source-interface loopback1
 member vni 101010
    suppress-arp
    mcast-group 224.10.10.10
 member vni 202020
    suppress-arp
    mcast-group 224.10.10.10
```

member vni 303030 associate-vrf router ospf 1 router bgp 65000 address-family ipv4 unicast address-family 12vpn evpn advertise-pip neighbor 192.168.0.11 remote-as 65000 update-source loopback0 address-family 12vpn evpn send-community send-community extended neighbor 192.168.88.1 remote-as 65000 description OVERLAY_BACKUP update-source Vlan888 address-family 12vpn evpn send-community send-community extended vrf tenant-a address-family ipv4 unicast redistribute direct route-map direct_routes_tenant-a evpn vni 101010 12 rd auto route-target import auto route-target export auto vni 202020 12 rd auto route-target import auto route-target export auto

N9K-ACCESS

feature lacp

vlan 1,10

interface port-channel10
 switchport
 switchport mode trunk

interface Ethernet1/11
 switchport
 switchport access vlan 10
 no shutdown

interface Ethernet1/45
switchport
switchport mode trunk
channel-group 10 mode active
no shutdown

interface Ethernet1/46
 switchport

switchport mode trunk
channel-group 10 mode active
no shutdown

Configuración DHCP en switches Nexus

HOJA-1

Paso 1. Active la función DHCP.

LEAF-1(config)# feature dhcp



Nota: El servidor DHCP y el servicio de comandos relay agent dhcp, ip dhcp relay e ipv6 dhcp relay están activados de forma predeterminada desde NX-OS 7.x.

Paso 2. Aplique el comando ip dhcp relay information option.

LEAF-1(config)# ip dhcp relay information option



Nota: Este comando permite al agente de retransmisión DHCP insertar y quitar información de la opción 82 en los paquetes que se reenvían.

Paso 3. Aplique el comando ip dhcp relay information option vpn.

LEAF-1(config)# ip dhcp relay information option vpn



Nota: Este comando habilita las solicitudes de retransmisión DHCP que llegan a diferentes VRF a los que pertenece el servidor DHCP.

Paso 4. Aplique el comando "ip dhcp relay address [ip address of DHCP server]".



Nota: En este ejemplo, la dirección IP del servidor DHCP es 10.10.10.150.

LEAF-1(config)# interface vlan 10
LEAF-1(config-if)# ip dhcp relay address 10.10.10.150

Paso 5. Aplique el comando "ip dhcp relay source-interface [unique loopback]".



Nota: Este comando configura la dirección IP de origen para que el agente de retransmisión DHCP administre Discover, Offer, Request y ACK, para la comunicación de unidifusión que el agente de retransmisión DHCP utiliza la dirección IP de SVI como dirección IP de origen para el agente de retransmisión DHCP. Esto no es deseado porque esta dirección IP es compartida por varios VTEPs y puede ocurrir el agujereo negro de paquetes DHCP. Para evitar esto, es necesaria una dirección IP única (que utilice una interfaz de loopback) para diferenciar cada VTEP.

LEAF-1(config)# interface vlan 10
LEAF-1(config-if)# ip dhcp relay source-interface loopback100

Paso 6. En el arrendatario correspondiente VRF dentro de BGP, redistribución de ruta directa con una lista de prefijos y un route-map que incluye la dirección IP de la interfaz de loopback.



Nota: Esta interfaz de loopback pertenece al arrendatario de SVI.

```
LEAF-1(config)# show running-config interface loopback 100
interface loopback100
vrf member tenant-a
ip address 172.16.10.8/32
LEAF-1(config)# ip prefix-list host_subnets seq 15 permit 172.16.10.8/32
LEAF-1(config)# route-map direct_routes_tenant-a permit 10
LEAF-1(config-route-map)# match ip address prefix-list host_subnets
LEAF-1(config-route-map)# router bgp 65000
LEAF-1(config-router)# vrf tenant-a
LEAF-1(config-router-vrf)# address-family ipv4 unicast
LEAF-1(config-router-vrf-af)# redistribute direct route-map direct_routes_tenant-a
```

Paso 7. Verifique que la dirección IP de la interfaz de loopback se anuncie en BGP L2VPN EVPN a los Spines con el comando: show bgp l2vpn evpn [loopback IP] vrf [tenant vrf].

LEAF-1(config)# show bgp 12vpn evpn 172.16.10.8 vrf tenant-a BGP routing table information for VRF default, address family L2VPN EVPN Route Distinguisher: 192.168.5.5:4 (L3VNI 303030) BGP routing table entry for [5]:[0]:[32]:[172.16.10.8]/224, version 421 Paths: (1 available, best #1) Flags: (0x000002) (high32 0000000) on xmit-list, is not in 12rib/evpn Advertised path-id 1 Path type: local, path is valid, is best path, no labeled nexthop Gateway IP: 0.0.0.0 AS-Path: NONE, path locally originated 192.168.5.5 (metric 0) from 0.0.0.0 (192.168.5.5) Origin incomplete, MED 0, localpref 100, weight 32768 Received label 303030 Extcommunity: RT:65000:303030 ENCAP:8 Router MAC:707d.b9b8.4daf Path-id 1 advertised to peers: 192.168.0.11 <<<< Spine

Paso 8. Verifique que la dirección IP de la interfaz de loopback esté insertada en BGP L2VPN EVPN donde se encuentra el servidor DHCP.



Nota: Si hay switches Nexus en vPC, verifique que ambos aprendan la dirección IP de la interfaz de loopback en BGP L2VPN EVPN.

```
LEAF-1# show bgp 12vpn evpn 172.16.10.8
BGP routing table information for VRF default, address family L2VPN EVPN
Route Distinguisher: 192.168.5.5:4
BGP routing table entry for [5]:[0]:[32]:[172.16.10.8]/224, version 754
Paths: (1 available, best #1)
Flags: (0x000002) (high32 0000000) on xmit-list, is not in l2rib/evpn, is not in HW
 Advertised path-id 1
 Path type: internal, path is valid, is best path, no labeled nexthop
             Imported to 2 destination(s)
             Imported paths list: tenant-a L3-303030
 Gateway IP: 0.0.0.0
 AS-Path: NONE, path sourced internal to AS
    192.168.5.5 (metric 45) from 192.168.0.11 (192.168.0.11)
     Origin incomplete, MED 0, localpref 100, weight 0
     Received label 303030
     Extcommunity: RT:65000:303030 ENCAP:8 Router MAC:707d.b9b8.4daf
     Originator: 192.168.5.5 Cluster list: 192.168.0.11
```

Path-id 1 not advertised to any peer

Route Distinguisher: 192.168.3.3:4 (L3VNI 303030) BGP routing table entry for [5]:[0]:[0]:[32]:[172.16.10.8]/224, version 761 Paths: (1 available, best #1) Flags: (0x000002) (high32 00000000) on xmit-list, is not in l2rib/evpn, is not in HW Advertised path-id 1 Path type: internal, path is valid, is best path, no labeled nexthop Imported from 192.168.5.5:4:[5]:[0]:[0]:[32]:[172.16.10.8]/224 Gateway IP: 0.0.0.0 AS-Path: NONE, path sourced internal to AS 192.168.5.5 (metric 45) from 192.168.0.11 (192.168.0.11) Origin incomplete, MED 0, localpref 100, weight 0 Received label 303030 Extcommunity: RT:65000:303030 ENCAP:8 Router MAC:707d.b9b8.4daf Originator: 192.168.5.5 Cluster list: 192.168.0.11

Path-id 1 not advertised to any peer

Paso 9. Verifique que haya una ruta para el servidor DHCP en el arrendatario de origen con el comando show ip route [DHCP server IP] vrf [tenant vrf].



Nota: La entrada de ruta a utilizar debe ser de VxLAN a VRF predeterminado. Si no hay ninguna ruta disponible, verifique si VTEP conoce localmente la dirección IP del servidor DHCP.

```
LEAF-1# show running-config interface vlan 10
interface Vlan10
no shutdown
vrf member tenant-a <<<< source tenant
no ip redirects
ip address 10.10.10.1/24
no ipv6 redirects
fabric forwarding mode anycast-gateway
ip dhcp relay address 10.10.10.150 <<<< DHCP server
ip dhcp relay source-interface loopback100
LEAF-1# show ip route 10.10.10.150 vrf tenant-a
10.10.150/32, ubest/mbest: 1/0
    *via 192.168.13.254%default, [200/0], 2w0d, bgp-65000, internal, tag 65000, segid: 303030 tunnelid:</pre>
```

Paso 10. Verifique que la IP del servidor DHCP sea accesible usando la interfaz de loopback y el VRF correspondiente como un origen VRF con el comando ping [DHCP server IP] sourceinterface loopback [x] vrf [tenant vrf].

LEAF-1# ping 10.10.10.150 source-interface loopback 100 vrf tenant-a PING 10.10.10.150 (10.10.10.150): 56 data bytes 64 bytes from 10.10.10.150: icmp_seq=0 ttl=126 time=1.262 ms 64 bytes from 10.10.10.150: icmp_seq=1 ttl=126 time=0.833 ms 64 bytes from 10.10.10.150: icmp_seq=2 ttl=126 time=0.808 ms 64 bytes from 10.10.10.150: icmp_seq=3 ttl=126 time=0.795 ms 64 bytes from 10.10.10.150: icmp_seq=4 ttl=126 time=0.78 ms --- 10.10.10.150 ping statistics ---5 packets transmitted, 5 packets received, 0.00% packet loss

Paso 11. Verifique el estado del agente de retransmisión DHCP.

LEAF-1# show ip dhcp status Current CLI Operation: show ip dhcp status Last CLI Operation: DME: ip dhcp relay information option enable Last CLI Operation Status: SUCCESS

Paso 12. Verifique la opción 82, como la opción vpn y la dirección IP de retransmisión correcta bajo el agente de retransmisión.

LEAF-1# show ip dhcp relay DHCP relay service is enabled <<<<< Insertion of option 82 is enabled <<<<< Insertion of option 82 customize circuitid is disabled TLV format in CircuitId and RemoteId suboptions is enabled Insertion of VPN suboptions is enabled <<<<<< Insertion of cisco suboptions is disabled Global smart-relay is disabled Relay Trusted functionality is disabled Relay Trusted Port is Globally disabled V4 Relay Source Address HSRP is Globally disabled Server-ID-override-disable is disabled

Smart-relay is enabled on the following interfaces:

Subnet-broadcast is enabled on the following interfaces:

Relay Trusted Port is enabled on the following interfaces:

Relay Source Address HSRP is enabled on the following interfaces:

Helper addresses are configured on the following interfaces:InterfaceRelay AddressVRF Name------------------Vlan1010.10.10.150<<<<<<<<<>><<<<>><<<<>><</td>

Paso 13. Verifique las estadísticas de los paquetes procesados y reenviados.

LEAF-1# show ip dhcp global statistics Packets processed 1297177 Packets received through cfsoe 0 Packets forwarded 1297175 Packets forwarded on cfsoe 0 Total packets dropped 0 Packets dropped from untrusted ports 0 Packets dropped due to MAC address check failure 0 Packets dropped due to Option 82 insertion failure 0 Packets dropped due to o/p intf unknown 0 Packets dropped which were unknown 0 Packets dropped due to no trusted ports 0 Packets dropped due to dhcp relay not enabled 0 Packets dropped due to no binding entry 0 Packets dropped due to interface error/no interface 0 Packets dropped due to max hops exceeded 0 Packets dropped due to Queue full 0

Paso 14. Verifique las estadísticas de los paquetes de retransmisión.

Message Type	Rx	Тх		Drops	
Discover	260521	260520		0	
Offer	289330	289330		0	
Request(*)	267162	267161		0	
Ack	8322	8322		0	
Release(*)	181121	181121		0	
Decline	1	1		0	
Inform(*)	0	0		0	
Nack	289280	289280		0	
Total	1295737	1295735		0	
Total Packets	Received			0	
Total Packets	Forwarded		:	0	
Total Packets	Dronned		:	0 0	
Non DHCP	bropped		•	Ũ	
Total Packets	Received			0	
Total Packets	Forwarded		:	0	

LEAF-1# show ip dhcp relay statistics

Total Packets Dropped :	0
DROP:	
DHCP Relay not enabled :	0
Invalid DHCP message type :	0
Interface error :	0
Tx failure towards server :	0
Tx failure towards client :	0
Unknown output interface :	0
Unknown vrf or interface for server :	0
Max hops exceeded :	0
Option 82 validation failed :	0
Packet Malformed :	0
DHCP Request dropped on MCT :	0
Relay Trusted port not configured :	0
* - These counters will show correct value when	switch
receives DHCP request packet with destination ip a	as broadcast
address. If request is unicast it will be HW swite	ched

DHCP de LEAF-1-vPC

Paso 1. Active la función DHCP.

LEAF-1-VPC(config)#feature dhcp



Nota: El servidor DHCP y el servicio de comandos relay agent dhcp, ip dhcp relay e ipv6 dhcp relay están activados de forma predeterminada desde NX-OS 7.x.

Paso 2. Aplique el comando ip dhcp relay information option.

LEAF-1-VPC(config)#ip dhcp relay information option



Nota: Este comando permite al agente de retransmisión DHCP insertar y quitar información de la opción 82 en los paquetes que se reenvían.

Paso 3. Aplique el comando "ip dhcp relay information option vpn".

LEAF-1-VPC(config)# ip dhcp relay information option vpn



Nota: Este comando habilita las solicitudes de retransmisión DHCP que llegan a diferentes VRF a los que pertenece el servidor DHCP.

Paso 4. Aplique el comando ip dhcp relay address [ip address of DHCP server].



Nota: En este ejemplo, la dirección IP del servidor DHCP es 10.10.10.150.

LEAF-1-VPC(config)#interface vlan 10 LEAF-1-VPC(config-if)#ip dhcp relay address 10.10.10.150

Paso 5. Aplique el comando "ip dhcp relay source-interface [unique loopback]".



Nota: Este comando configura la dirección IP de origen para que el agente de retransmisión DHCP administre Discover, Offer, Request y ACK, para la comunicación de unidifusión que el agente de retransmisión DHCP utiliza la dirección IP de SVI como dirección IP de origen para el agente de retransmisión DHCP. Esto no es deseado porque esta dirección IP es compartida por varios VTEPs y puede ocurrir el agujereo negro de paquetes DHCP. Para evitar esto, es necesaria una dirección IP única (que utilice una interfaz de loopback) para diferenciar cada VTEP.

LEAF-1-VPC(config)#interface vlan 10
LEAF-1-VPC(config-if)# ip dhcp relay source-interface loopback100

Paso 6. En el arrendatario correspondiente VRF dentro de BGP, redistribución de ruta directa con una lista de prefijos y un route-map que incluye la dirección IP de la interfaz de loopback.



Nota: Esta interfaz de loopback pertenece al arrendatario de SVI.

```
LEAF-1-VPC(config)# show running-config interface loopback 100
interface loopback100
vrf member tenant-a
ip address 172.16.10.9/32
LEAF-1-VPC(config)# ip prefix-list host_subnets seq 15 permit 172.16.10.9/32
LEAF-1-VPC(config)# route-map direct_routes_tenant-a permit 10
LEAF-1-VPC(config-route-map)# match ip address prefix-list host_subnets
LEAF-1-VPC(config-route-map)# router bgp 65000
LEAF-1-VPC(config-router)# vrf tenant-a
LEAF-1-VPC(config-router-vrf)# address-family ipv4 unicast
LEAF-1-VPC(config-router-vrf-af)# redistribute direct route-map direct_routes_tenant-a
```

Paso 7. Verifique que la dirección IP de la interfaz de loopback se anuncie en BGP L2VPN EVPN a los Spines con el comando: show bgp l2vpn evpn [loopback IP] vrf [tenant vrf].

LEAF-1-VPC# show bgp 12vpn evpn 172.16.10.9 vrf tenant-a BGP routing table information for VRF default, address family L2VPN EVPN Route Distinguisher: 192.168.3.3:4 (L3VNI 303030) BGP routing table entry for [5]:[0]:[32]:[172.16.10.9]/224, version 637 Paths: (1 available, best #1) Flags: (0x000002) (high32 00000000) on xmit-list, is not in 12rib/evpn Advertised path-id 1 Path type: local, path is valid, is best path, no labeled nexthop Gateway IP: 0.0.0.0 AS-Path: NONE, path locally originated 192.168.13.1 (metric 0) from 0.0.0.0 (192.168.3.3) Origin incomplete, MED 0, localpref 100, weight 32768 Received label 303030 Extcommunity: RT:65000:303030 ENCAP:8 Router MAC:6026.aa85.9887 Path-id 1 advertised to peers: 192.168.0.11

Paso 8. Verifique que la dirección IP de la interfaz de loopback esté insertada en BGP L2VPN EVPN donde se encuentra el servidor DHCP.



Nota: Si hay switches Nexus en vPC, verifique que ambos aprendan la dirección IP de la interfaz de loopback en BGP L2VPN EVPN.

LEAF-1-VPC# show bgp 12vpn evpn 172.16.10.9 BGP routing table information for VRF default, address family L2VPN EVPN Route Distinguisher: 192.168.3.3:4 (L3VNI 303030) BGP routing table entry for [5]:[0]:[32]:[172.16.10.9]/224, version 637 Paths: (1 available, best #1) Flags: (0x000002) (high32 0000000) on xmit-list, is not in 12rib/evpn Advertised path-id 1 Path type: local, path is valid, is best path, no labeled nexthop Gateway IP: 0.0.0.0 AS-Path: NONE, path locally originated 192.168.13.1 (metric 0) from 0.0.0.0 (192.168.3.3) Origin incomplete, MED 0, localpref 100, weight 32768 Received label 303030 Extcommunity: RT:65000:303030 ENCAP:8 Router MAC:6026.aa85.9887 Path-id 1 advertised to peers: 192.168.0.11

Paso 9. Verifique que haya una ruta para el servidor DHCP en el arrendatario de origen con el comando show ip route [DHCP server IP] vrf[tenant vrf].



Nota: La entrada de ruta a utilizar debe ser de VxLAN a VRF predeterminado. Si no hay ninguna ruta disponible, verifique si VTEP conoce localmente la dirección IP del servidor DHCP.

LEAF-1-VPC# show running-config interface vlan 10 interface Vlan10 no shutdown vrf member tenant-a <<<< source tenant no ip redirects ip address 10.10.10.1/24 no ipv6 redirects fabric forwarding mode anycast-gateway ip dhcp relay address 10.10.10.150 ip dhcp relay source-interface loopback100
LEAF-1-VPC# show ip route 10.10.10.150 vrf tenant-a 10.10.10.150/32, ubest/mbest: 1/0, attached *via 10.10.10.150, Vlan10, [190/0], 6d07h, hmm

Paso 10. Verifique que la IP del servidor DHCP sea alcanzable usando la interfaz de loopback y el VRF correspondiente como un origen VRF con el comando ping [DHCP server IP] sourceinterface loopback [x] vrf [tenvrf].

LEAF-1-VPC# ping 10.10.10.150 source-interface loopback 100 vrf tenant-a PING 10.10.10.150 (10.10.10.150): 56 data bytes 64 bytes from 10.10.10.150: icmp_seq=0 ttl=126 time=0.965 ms 64 bytes from 10.10.10.150: icmp_seq=1 ttl=126 time=0.57 ms 64 bytes from 10.10.10.150: icmp_seq=2 ttl=126 time=0.488 ms 64 bytes from 10.10.10.150: icmp_seq=3 ttl=126 time=0.524 ms 64 bytes from 10.10.10.150: icmp_seq=4 ttl=126 time=0.502 ms

--- 10.10.10.150 ping statistics ---

Paso 11. Verifique el estado del agente de retransmisión DHCP.

LEAF-1-VPC# show ip dhcp status Current CLI Operation: show ip dhcp status Last CLI Operation: DME: ip dhcp relay information option vpn enable Last CLI Operation Status: SUCCESS

Paso 12. Verifique la opción 82, como la opción vpn y la dirección IP de retransmisión correcta bajo el agente de retransmisión.

LEAF-1-VPC# show ip dhcp relay DHCP relay service is enabled <<<<< Insertion of option 82 is enabled <<<<< Insertion of option 82 customize circuitid is disabled TLV format in CircuitId and RemoteId suboptions is enabled Insertion of VPN suboptions is enabled <<<<<< Insertion of cisco suboptions is disabled Global smart-relay is disabled Relay Trusted functionality is disabled Relay Trusted Port is Globally disabled V4 Relay Source Address HSRP is Globally disabled Server-ID-override-disable is disabled

Smart-relay is enabled on the following interfaces:

Subnet-broadcast is enabled on the following interfaces:

Relay Trusted Port is enabled on the following interfaces:

Relay Source Address HSRP is enabled on the following interfaces:

Helper addresses are configured on the following interfaces:InterfaceRelay AddressVRF Name------------------Vlan1010.10.10.150<<<<<<<</td>

Paso 13. Verifique las estadísticas de los paquetes procesados y reenviados.

```
LEAF-1-VPC# show ip dhcp global statistics
Packets processed 263162
Packets received through cfsoe 0
Packets forwarded 263161
Packets forwarded on cfsoe 0
Total packets dropped 0
Packets dropped from untrusted ports 0
Packets dropped due to MAC address check failure 0
Packets dropped due to Option 82 insertion failure 0
Packets dropped due to o/p intf unknown 0
Packets dropped which were unknown 0
Packets dropped due to no trusted ports O
Packets dropped due to dhcp relay not enabled 0
Packets dropped due to no binding entry 0
Packets dropped due to interface error/no interface 0
Packets dropped due to max hops exceeded 0
Packets dropped due to Queue full 0
```

Paso 14. Verifique las estadísticas de los paquetes de retransmisión.

Message Type	Rx	Tx	Drops
Discover	8	7	0
Offer	29304	29304	0
Request(*)	5029	5029	0
Ack	6535	6535	0
Release(*)	191482	191482	0
Decline	0	0	0
Inform(*)	3	3	0
Nack	29281	29281	0
Total	261642	261641	0

LEAF-1-VPC# show ip dhcp relay statistics

DHCP L3 FWD: Total Packets Received

0

:

Total Packets Forwarded	:	0	
Total Packets Dropped	:	0	
Non DHCP:			
Total Packets Received	:	0	
Total Packets Forwarded	:	0	
Total Packets Dropped	:	0	
DROP:			
DHCP Relay not enabled	:	0	
Invalid DHCP message type	:	0	
Interface error	:	0	
Tx failure towards server	:	0	
Tx failure towards client	:	0	
Unknown output interface :			
Unknown vrf or interface for server :			
Max hops exceeded	:	0	
Option 82 validation failed	:	0	
Packet Malformed	:	0	
DHCP Request dropped on MCT	:	0	
Relay Trusted port not configured	:	0	
* - These counters will show correct value whe	n switch		
receives DHCP request packet with destination ip	as broad	cast	
address. If request is unicast it will be HW swi	tched		

DHCP de LEAF-2-vPC

Paso 1. Active la función DHCP.

LEAF-2-VPC(config)# feature dhcp



Nota: El servidor DHCP y el servicio de comandos relay agent dhcp, ip dhcp relay e ipv6 dhcp relay están habilitados de forma predeterminada desde NX-OS 7.x.

Paso 2. Aplique el comando "ip dhcp relay information option".

LEAF-2-VPC(config)# ip dhcp relay information option



Nota: Este comando permite al agente de retransmisión DHCP insertar y quitar información de la opción 82 en los paquetes que se reenvían.

Paso 3. Aplique el comando "ip dhcp relay information option vpn".

LEAF-2-VPC(config)# ip dhcp relay information option vpn



Nota: Este comando habilita las solicitudes de retransmisión DHCP que llegan a diferentes VRF a los que pertenece el servidor DHCP.

Paso 4. Aplique el comando "ip dhcp relay address [ip address of DHCP server]".



Nota: En este ejemplo, la dirección IP del servidor DHCP es 10.10.10.150.

LEAF-2-VPC(config)# interface vlan 10
LEAF-2-VPC(config-if)# ip dhcp relay address 10.10.10.150

Paso 5. Aplique el comando "ip dhcp relay source-interface [unique loopback]".



Nota: Este comando configura la dirección IP de origen para que el agente de retransmisión DHCP administre Discover, Offer, Request y ACK, para la comunicación de unidifusión que el agente de retransmisión DHCP utiliza la dirección IP de SVI como dirección IP de origen para el agente de retransmisión DHCP. Esto no es deseado porque esta dirección IP es compartida por varios VTEPs y puede ocurrir el agujereo negro de paquetes DHCP. Para evitar esto, es necesaria una dirección IP única (que utilice una interfaz de loopback) para diferenciar cada VTEP.

LEAF-2-VPC(config)# interface vlan 10 LEAF-2-VPC(config-if)# ip dhcp relay source-interface loopback 100

Paso 6. En el arrendatario correspondiente VRF dentro de BGP, redistribución de ruta directa con una lista de prefijos y un route-map que incluye la dirección IP de la interfaz de loopback.



Nota: Esta interfaz de loopback pertenece al arrendatario de SVI.

```
LEAF-2-VPC(config-if)# show running-config interface loopback 100
interface loopback100
vrf member tenant-a
ip address 172.16.10.10/32
LEAF-2-VPC(config)# ip prefix-list host_subnets seq 15 permit 172.16.10.10/32
LEAF-2-VPC(config)# route-map direct_routes_tenant-a permit 10
LEAF-2-VPC(config-route-map)# match ip address prefix-list host_subnets
LEAF-2-VPC(config-route-map)# router bgp 65000
LEAF-2-VPC(config-router)# vrf tenant-a
LEAF-2-VPC(config-router)# vrf tenant-a
LEAF-2-VPC(config-router-vrf)# address-family ipv4 unicast
LEAF-2-VPC(config-router-vrf-af)# redistribute direct route-map direct_routes_tenant-a
```

Paso 7. Verifique que la dirección IP de la interfaz de loopback se anuncie en BGP L2VPN EVPN a los Spines con el comando: show bgp l2vpn evpn [loopback IP] vrf [tenant vrf].

LEAF-2-VPC(config-if)# show bgp 12vpn evpn 172.16.10.10 vrf tenant-a BGP routing table information for VRF default, address family L2VPN EVPN Route Distinguisher: 192.168.4.4:4 (L3VNI 303030) BGP routing table entry for [5]:[0]:[32]:[172.16.10.10]/224, version 49 5 Paths: (1 available, best #1) Flags: (0x000002) (high32 0000000) on xmit-list, is not in 12rib/evpn Advertised path-id 1 Path type: local, path is valid, is best path, no labeled nexthop Gateway IP: 0.0.0.0 AS-Path: NONE, path locally originated 192.168.13.2 (metric 0) from 0.0.0.0 (192.168.4.4) Origin incomplete, MED 0, localpref 100, weight 32768 Received label 303030 Extcommunity: RT:65000:303030 ENCAP:8 Router MAC:6026.aa85.9587 Path-id 1 advertised to peers: 192.168.0.11 <<<<< Spine

Paso 8. Verifique que la dirección IP de la interfaz de loopback esté insertada en BGP L2VPN EVPN donde se encuentra el servidor DHCP.



Nota: Si hay switches Nexus en vPC, verifique que ambos aprendan la dirección IP de la interfaz de loopback en BGP L2VPN EVPN.

LEAF-2-VPC(config-if)# show bgp l2vpn evpn 172.16.10.10 BGP routing table information for VRF default, address family L2VPN EVPN Route Distinguisher: 192.168.4.4:4 (L3VNI 303030) BGP routing table entry for [5]:[0]:[0]:[32]:[172.16.10.10]/224, version 49 5 Paths: (1 available, best #1) Flags: (0x000002) (high32 00000000) on xmit-list, is not in l2rib/evpn Advertised path-id 1 Path type: local, path is valid, is best path, no labeled nexthop Gateway IP: 0.0.0.0 AS-Path: NONE, path locally originated 192.168.13.2 (metric 0) from 0.0.0.0 (192.168.4.4) Origin incomplete, MED 0, localpref 100, weight 32768 Received label 303030 Extcommunity: RT:65000:303030 ENCAP:8 Router MAC:6026.aa85.9587

Path-id 1 advertised to peers:

Paso 9. Verifique que haya una ruta para el servidor DHCP en el arrendatario de origen con el comando show ip route [DHCP server IP] vrf[tenvrf].



Nota: La entrada de ruta a utilizar debe ser de VxLAN a VRF predeterminado. Si no hay ninguna ruta disponible, verifique si VTEP conoce localmente la dirección IP del servidor DHCP.

LEAF-2-VPC(config-if)# show running-config interface vlan 10
interface Vlan10
no shutdown
vrf member tenant-a
no ip redirects
ip address 10.10.10.1/24
no ipv6 redirects
fabric forwarding mode anycast-gateway
ip dhcp relay address 10.10.10.150

ip dhcp relay source-interface loopback100

Paso 10. Verifique que la IP del servidor DHCP sea accesible usando la interfaz de loopback y el VRF correspondiente como un origen VRF con el comando ping [DHCP server IP] sourceinterface loopback [x] vrf [tenant vrf].

LEAF-2-VPC(config-if)# ping 10.10.10.150 source-interface loopback 100 vrf tenant-a PING 10.10.10.150 (10.10.10.150): 56 data bytes 64 bytes from 10.10.10.150: icmp_seq=0 ttl=127 time=0.928 ms 64 bytes from 10.10.10.150: icmp_seq=1 ttl=127 time=0.475 ms 64 bytes from 10.10.10.150: icmp_seq=2 ttl=127 time=0.455 ms 64 bytes from 10.10.10.150: icmp_seq=3 ttl=127 time=0.409 ms 64 bytes from 10.10.10.150: icmp_seq=4 ttl=127 time=0.465 ms

```
--- 10.10.10.150 ping statistics ---
```

Paso 11. Verifique el estado del agente de retransmisión DHCP.

LEAF-2-VPC(config)# show ip dhcp status Current CLI Operation: show ip dhcp status Last CLI Operation: DME: ip dhcp relay information option vpn enable Last CLI Operation Status: SUCCESS

Paso 12. Verifique la opción 82, como la opción vpn y la dirección IP de retransmisión correcta bajo el agente de retransmisión.

LEAF-2-VPC(config)# show ip dhcp relay DHCP relay service is enabled <<<<<< Insertion of option 82 is enabled <<<<<< Insertion of option 82 customize circuitid is disabled TLV format in CircuitId and RemoteId suboptions is enabled Insertion of VPN suboptions is enabled <<<<<< Insertion of cisco suboptions is disabled Global smart-relay is disabled Relay Trusted functionality is disabled Relay Trusted Port is Globally disabled V4 Relay Source Address HSRP is Globally disabled Server-ID-override-disable is disabled

Smart-relay is enabled on the following interfaces:

Subnet-broadcast is enabled on the following interfaces:

Relay Trusted Port is enabled on the following interfaces:

Relay Source Address HSRP is enabled on the following interfaces:

Helper addresses are configured on the following interfaces:InterfaceRelay AddressVRF Name------------------Vlan1010.10.10.150 <<<</td>

Paso 13. Verifique las estadísticas de los paquetes procesados y reenviados.

```
LEAF-2-VPC(config)# show ip dhcp global statistics
Packets processed 103030
Packets received through cfsoe 0
Packets forwarded 103030
Packets forwarded on cfsoe 0
Total packets dropped 0
Packets dropped from untrusted ports 0
Packets dropped due to MAC address check failure 0
Packets dropped due to Option 82 insertion failure 0
Packets dropped due to o/p intf unknown 0
Packets dropped which were unknown 0
Packets dropped due to no trusted ports 0
Packets dropped due to dhcp relay not enabled 0
Packets dropped due to no binding entry O
Packets dropped due to interface error/no interface 0
Packets dropped due to max hops exceeded 0
Packets dropped due to Queue full 0
```

Paso 14. Verifique las estadísticas de los paquetes de retransmisión.

Message Type	Rx	Тх	Drops	
Discover	29312	29311	0	
Offer	300001	300001	0	
Request(*)	29324	29324	0	
Ack	1574	1574	0	
Release(*)	191493	191493	0	
Decline	0	0	0	
Inform(*)	1540	1540	0	
Nack	472890	472890	0	
Total	1026134	1026133	0	

LEAF-2-VPC# show ip dhcp relay statistics

DHCP L3 FWD:		
Total Packets Received	:	0
Total Packets Forwarded	:	0
Total Packets Dropped	:	0
Non DHCP:		
Total Packets Received	:	0
Total Packets Forwarded	:	0
Total Packets Dropped	:	0
DROP:		
DHCP Relay not enabled	:	0
Invalid DHCP message type	:	0
Interface error	:	0
Tx failure towards server	:	0
Tx failure towards client	:	0
Unknown output interface	:	0
Unknown vrf or interface for server	:	0
Max hops exceeded	:	0
Option 82 validation failed :		
Packet Malformed :		
DHCP Request dropped on MCT :		
Relay Trusted port not configured	:	0
* - These counters will show correct value whe	n switch	
receives DHCP request packet with destination ip	as broadc	ast
address. If request is unicast it will be HW swi	tched	

Configuración del servidor DHCP en Windows Server 2022

Configuración de alcance de direccionamiento IP para hosts.

Paso 1. Abra el Administrador del servidor y compruebe que no hay alarmas en el servidor DHCP en el Panel.



Panel del Administrador del servidor en Windows Server 2022



Sugerencia: la imagen se amplía al hacer doble clic.



The Attion Vise Hole Image: Control of Dic(P) Image: Contre

Servidor DHCP en Windows Server 2022

UHCP

Paso 3. Haga clic con el botón derecho del ratón en IPv4 y haga clic en Nuevo ámbito.



Paso 4. Haga clic en Next (Siguiente).



Paso 5. Escriba un nombre y una descripción. En este ejemplo, el nombre es la subred que pertenece a la VLAN 10 y la descripción es el L2VNI como L2VNI enumerado en la VLAN 10.

New Scope Wizard	
Scope Name You have to private description.	ovide an identifying scope name. You also have the option of providing
Type a name ar how the scope	nd description for this scope. This information helps you quickly identify is to be used on your network.
Name:	10.10.10/24
Description:	L2VNI 101010
	< Back Next > Cancel

Paso 6. Configure el intervalo de direcciones IP. Este es el conjunto para hosts.

New Scope Wizard			
IP Address Range You define the scope address range by identifying a set of consecutive IP addresses.			
Configuration settings for DHCP Server			
Enter the range of addresses that the scope distributes.			
Start IP address: 10 . 10 . 1			
End IP address: 10 . 10 . 254			
Configuration settings that propagate to DHCP Client			
Length: 24			
Subnet mask: 255 . 255 . 0			
< Back Next > Cancel			

Paso 6. Excluya la dirección IP compartida de la configuración de SVI en los VTEP. En este ejemplo, la interfaz VLAN 10 tiene la dirección IP.10.10.1/24.



Advertencia: si no se excluye la dirección IP de la SVI (o del gateway predeterminado), puede producirse una duplicación de las direcciones IP y afectar a la entrega del tráfico.

LEAF-1# show running-config interface vlan 10
<snip>
interface Vlan10
no shutdown
vrf member tenant-a
no ip redirects
ip address 10.10.10.1/24
no ipv6 redirects
fabric forwarding mode anycast-gateway
ip dhcp relay address 10.10.10.150
ip dhcp relay source-interface loopback100

New Scope Wizard
Add Exclusions and Delay Exclusions are addresses or a range of addresses that are not distributed by the server. A delay is the time duration by which the server will delay the transmission of a DHCPOFFER message.
Type the IP address range that you want to exclude. If you want to exclude a single address, type an address in Start IP address only.
Start IP address: End IP address: I I I I I I
Excluded address range: Address 10.10.10.1 Remove
Subnet delay in milli second:
< Back Next > Cancel

Paso 7. Configurar la duración de concesión de la dirección IP. Esto se refiere a la cantidad de tiempo que un host puede utilizar la dirección IP asignada antes de renovarla.

New Scope Wizard
Lease Duration The lease duration specifies how long a client can use an IP address from this scope.
Lease durations should typically be equal to the average time the computer is connected to the same physical network. For mobile networks that consist mainly of portable computers or dial-up clients, shorter lease durations can be useful. Likewise, for a stable network that consists mainly of desktop computers at fixed locations, longer lease durations are more appropriate.
Set the duration for scope leases when distributed by this server.
Limited to:
Days: Hours: Minutes:
< Back Next > Cancel

Paso 8. Seleccione Sí, deseo configurar estas opciones ahora.

New Scope Wizard
Configure DHCP Options You have to configure the most common DHCP options before clients can use the scope.
When clients obtain an address, they are given DHCP options such as the IP addresses of routers (default gateways), DNS servers, and WINS settings for that scope.
The settings you select here are for this scope and override settings configured in the Server Options folder for this server.
Do you want to configure the DHCP options for this scope now?
Yes. I want to configure these options now
 No, I will configure these options later
< Back Next > Cancel

Paso 9. Configure la dirección IP del gateway predeterminado.

New Scope Wizard			
Router (Default Gateway You can specify the route	 ars, or default gateways, to be distributed by this scope. 	(J)	
To add an IP address for	a router used by clients, enter the address below.		
IP address:			
	Add		
10.10.10.1	Remove		
	Up		
	Down		
	< Back Next >	Cancel	

Paso 10. Configure el nombre de dominio y el servidor DNS.

New Scope Wizard			
Domain Name and DNS Servers The Domain Name System (DNS) maps and translates domain names used by clients on your network.			
You can specify the parent domain you want the DNS name resolution. Parent domain: cisco.com To configure scope clients to use DNS servers	e client computers on your networ on your network, enter the IP add	k to use for	
Servers.	ID address:		
google.com	142 . 250 . 114 . 102	Add	
Resolve		Remove	
		Up	
		Down	
	< Back Next >	Cancel	

Paso 11. Configure el servidor WINS si corresponde. Esto se puede omitir si no se conoce la información.

New Scope Wizard WINS Servers Computers running Windows can use WINS servers to convert NetBIOS computer names to IP addresses.			
Entering server IP addresses here enables Windows clients to query WINS before they use broadcasts to register and resolve NetBIOS names.			
Server name:	IP address:		
	Add		
Resolve	Remove		
	Up		
	Down		
To change this behavior for Windows DHCP clients modify option 046, WINS/NBT Node Type, in Scope Options.			
	< Back Next > Cancel		

Paso 12. Seleccione Sí, deseo activar este ámbito ahora.

New Scope Wizard Activate Scope Clients can obtain address leases only if a scop	e is activated.		S
Do you want to activate this scope now? Yes, I want to activate this scope now No, I will activate this scope later			
	< Back	Next >	Cancel

Configuración del alcance para direcciones IP únicas de loopbacks en SVI como agente relay DHCP.

Paso 1. Haga clic con el botón derecho del ratón en IPv4 y seleccione IPv4Scope.



Nuevo ámbito en DHCP

Paso 2. Escriba un nombre y una descripción. En este ejemplo, name es la subred utilizada para la subred con dirección de loopbacks.



IPte: se utiliza un bucle invertido con una dirección IP única en todo el fabric VxLAN para arrendatarios VxLAN. Esto se debe anunciar en la redistribución de rutas BGP L2VPN EVPN en BGP dentro del VRF del arrendatario correspondiente en la dirección IPv4-famIPv4

LEAF-1# show running-config interface loopback 100
<snip>
interface loopback100
vrf member tenant-a
ip address 172.16.10.8/32

New Scope Wizard	
Scope Name You have to pro a description.	ovide an identifying scope name. You also have the option of providing
Type a name an how the scope i	nd description for this scope. This information helps you quickly identify is to be used on your network.
Name:	172.16.10.0/24
Description:	Unique IP Gateway Address (SVI)
	< Back Next > Cancel

Paso 3. Configure el rango de direcciones IPIP. Este es el conjunto para loopbacks.

New Scope Wizard
IP Address Range You define the scope address range by identifying a set of consecutive IP addresses.
Configuration settings for DHCP Server
Enter the range of addresses that the scope distributes.
Start IP address: 172 . 16 . 10 . 1
End IP address: 172 . 16 . 10 . 254
Configuration settings that propagate to DHCP Client
Length: 24
Subnet mask: 255 . 255 . 255 . 0
< Back Next > Cancel

Paso 4. Configure las exclusiones (opcional porque el servidor DHCP no concede direcciones IP que pertenezcan a esta subred).

New Scope Wizard
Add Exclusions and Delay Exclusions are addresses or a range of addresses that are not distributed by the server. A delay is the time duration by which the server will delay the transmission of a DHCPOFFER message.
Type the IP address range that you want to exclude. If you want to exclude a single address, type an address in Start IP address only.
Start IP address: End IP address: I I I I I I I I <tr< th=""></tr<>
Excluded address range: Remove
Subnet delay in mili second:
< Back Next > Cancel

Paso 5. Omita la duración de la concesión y haga clic en Next.

New Scope Wizard
Lease Duration The lease duration specifies how long a client can use an IP address from this scope.
Lease durations should typically be equal to the average time the computer is connected to the same physical network. For mobile networks that consist mainly of portable computers or dial-up clients, shorter lease durations can be useful. Likewise, for a stable network that consists mainly of desktop computers at fixed locations, longer lease durations are more appropriate.
Set the duration for scope leases when distributed by this server.
Limited to:
Days: Hours: Minutes:
< Back Next > Cancel

Paso 6. Seleccione No, configuraré estas opciones más adelante.

New Scope Wizard
Configure DHCP Options You have to configure the most common DHCP options before clients can use the scope.
When clients obtain an address, they are given DHCP options such as the IP addresses of routers (default gateways), DNS servers, and WINS settings for that scope.
The settings you select here are for this scope and override settings configured in the Server Options folder for this server.
C Yes, I want to configure these options now
No, I will configure these options later
< Back Next > Cancel

Paso 7. Haga clic en Finish (Finalizar).

New Scope Wizard	
	Completing the New Scope Wizard
	You have successfully completed the New Scope wizard.
	Before clients can receive addresses you need to do the following:
	1. Add any scope specific options (optional).
	2. Activate the scope.
	To provide high availability for this scope, configure failover for the newly added scope by right clicking on the scope and clicking on configure failover.
	To close this wizard, click Finish.
	< Back Finish Cancel

Paso 8. Haga clic con el botón derecho del ratón en el ámbito creado y seleccione activar.
File Action View I	Help	
Þ 🔿 🖄 📢	· • 🖻 📓 🖉 📷 💿	
 DHCP cxlabs-win2k22dc IPv4 Scope [172 Scope [Server Policie Filters IPv6 	.16.10.0] 172.16.10.0/24 Display Statistics Advanced Configure Failover Reconcile Activate	Contents of Scope Address Pool Address Leases Reservations Scope Options > Policies
	View Delete Refresh Export List Properties Help	>

Configuración del superámbito para el fabric VxLAN.

Paso 1. Haga clic con el botón derecho del ratón en IPv4 y seleccione Nuevo superámbito.



Paso 2. Haga clic en Next (Siguiente).

New Superscope Wizard	
	Weisere to the New Superscope superscope which expands the number of IP network addresses that you can use in a network. A superscope allows several distinct scopes to be logically grouped under a single name. To continue, click Next.
	< Back Next > Cancel

Paso 3. Escriba el nombre del superámbito.

New Supersco	ope Wizard
Superscop You hav	e Name ve to provide an identifying superscope name.
Name:	Scopes for VxLAN Fabric (with Opt 82)
	< <u>B</u> ack <u>N</u> ext > Cancel

Paso 4. Seleccione todos los ámbitos que pertenezcan a VxLAN Fabric.

New Superscope Wizard
Select Scopes You create a superscope by building a collection of scopes.
Select one or more scopes from the list to add to the superscope. Available scopes:
[10.10.10.0] 10.10.10.0/24 [172.16.10.0] 172.16.10.0/24
< <u>B</u> ack <u>N</u> ext > Cancel

Paso 5. Seleccione todos los ámbitos que pertenezcan a VxLAN Fabric.

New Superscope Wizard
Select Scopes You create a superscope by building a collection of scopes.
Select one or more scopes from the list to add to the superscope. Available scopes:
[10.10.0] 10.10.0/24 [172.16.10.0] 172.16.10.0/24
< <u>B</u> ack <u>N</u> ext > Cancel

Paso 6. Verifique que todo el superámbito del fabric VxLAN esté colocado y haga clic en Finish.

New Superscope Wizard	
	Completing the New Superscope Wizard
	You have successfully completed the New Superscope wizard.
	The following superscope will be created:
	Name: Scopes for VxLAN Fabric (with Opt 82)
	Scopes included in this superscope: [10.10.10.0] 10.10.00/24 [172.16.10.0] 172.16.10.0/24
	To close this wizard, click Finish.
	< Back Finish Cancel

Configure la opción 82 en los ámbitos de host.

Paso 1. Haga clic con el botón derecho del ratón en Directivas (última opción) dentro del alcance del host y haga clic en Nueva directiva.

OHCP							
ite Action View Help							
• 🔶 🙇 📷 🗟 🐼 🛙							
DHCP			Policy Name	Description	Processia	Level	Address Range
entates-win3k22de							
V b Pv4						and the set of the	Services to show at this sales.
🗸 🔛 Superscope Scop	pes for VicLAN Faib	ric (with Opt)	8)				
🗸 🎦 Scope (10.10	10.0]10.10.10.0/24						
🙀 Address i	Pool						
🔜 Address i	40045						
) 🛋 Reservati	075						
Scope Op	Rions						
> Scope (17	New Policy						
Server Option	Deactivate						
Policies	Vew						
> 🔓 IP-6	Reheah						
	Expert List						
	Help						

Paso 2. Escriba un nombre y una descripción y haga clic en Next.



Nota: En este ejemplo, la política se crea para seleccionar IPpIPicularly de direccionamiento IP para hosts en Leaf-1 para VNI 101010 basedVNI Remote-ID (parámetro de la opción 82).

DHCP Policy Configu	aration Wizard
Policy based IP /	Address and Option Assignment
This feature allows clients based on c	s you to distribute configurable settings (IP address, DHCP options) to ertain conditions (e.g. vendor class, user class, MAC address, etc.).
This wizard will gui Configuration Polic policy.	ide you setting up a new policy. Provide a name (e.g. VoIP Phone cy) and description (e.g. NTP Server option for VoIP Phones) for your
Policy Name:	VNI 101010
Description:	Policy to select scope for Leaf-1 using Remote-ID
	< Back Next > Cancel

Paso 3. Haga clic en Add (Agregar). En Criterios, seleccione Información del agente de retransmisión. En Operador, seleccione Igual a. A continuación, seleccione Agent Remote ID y escriba el valor. Haga clic en Aceptar y, a continuación, en Siguiente.



Nota: El ID remoto se obtiene de la dirección MAC de la SVI a la que está asociado el SVII.



Sugerencia: se puede aplicar una política a varios ID remotos (o VTEP) agregando más condiciones y seleccionando OR en lugar de AND.

LEAF-1# show interface vlan 10
Vlan10 is up, line protocol is up, autostate enabled
Hardware is EtherSVI, address is 707d.b9b8.4daf <<<<
 Internet Address is 10.10.10.1/24
<snip>

DHCP Policy Configuration Wizard			
Cor Add/Edit Condition	?	×	577
Specify a condition for the policy being configured. Select a criteria.	operator		A h
Criteria: Relay Agent Information			
Value (in hex) C Relay Agent Information: C Agent Circuit ID: Agent Remote ID: 707db9b84daf Subscriber ID: Prefix wildcard(*) Append wildcard(*)			
Ok Ca	ncel		
< Back Next >		Cano	el

Paso 4. Configure el direccionamiento IP que el IP existente puede utilizar en los VTEP seleccionados por el ID y, a continuación, haga clic en Siguiente.



Nota: En este ejemplo, sólo hay una máquina virtual conectada a Leaf-1, por lo que sólo se requiere una dirección IP. Aquí se agrega una segunda dirección IPn caso de que se conecte otro host.

DHCP Policy Configuration Wizard
Configure settings for the policy If the conditions specified in the policy match a client request, the settings will be applied.
A scope can be subdivided into multiple IP address ranges. Clients that match the conditions defined in a policy will be issued an IP Address from the specified range. Configure the start and end IP address for the range. The start and end IP addresses for the range must be within the start and end IP addresses of the scope. The current scope IP address range is 10.10.10.1 - 10.10.10.254 If an IP address range is not configured for the policy, policy clients will be issued an IP address from the scope range.
Do you want to configure an IP address range for the policy: Yes No Start IP address: 10.10.10.2 End IP address: 10.10.10.3 Percentage of IP address range: 0.8
< Back Next > Cancel

Paso 5. Seleccione la casilla a la izquierda de 003 Router en DCHP Standard Option. A continuación, escriba la dirección IP del gateway predeterminado para los hosts que pertenecen a esta política y pulse Agregar. Haga clic en Next (Siguiente).



Precaución: Puede seleccionar más de una opción, pero si no está seguro del valor que debe introducir, no lo haga. Una configuración incoherente o errónea puede provocar un comportamiento inesperado.

DHCP Policy Configura	tion Wizard		
Configure settings f If the conditions sp applied.	or the policy ecified in the policy matc	h a client request, the settings will be	Ĵ
Vendor class:	DHCP Standard Op	tions	•
Available Options		Description	^
002 Time Offset		UTC offset in seconds	
003 Router		Array of router addresses order	
 004 Time Server 		Array of time server addresses	×
Data entry Server name: IP address: 10.10.10.1	Add Remove Up Down	Resolve	
		< Back Next > Ca	ncel

Paso 6. Compruebe las condiciones de la directiva y haga clic en Finalizar.

2 DHCP								- 0	×
File Action View Help									
🗢 🌩 🚾 🛛 🗟 📓 🖬 📷									
2 DHCP	Policy Name	Description	Processin	Level	Address Range	State	Actions		
CXLabs-WIN2K22DC	WNI 101010	Policy to select scope for Leaf-1 using Remote-ID	1	Scope	10.10.10.2 - 10.10.10.3	Enabled	Policies		
✓ 10 IPv4									
 Superscope Scopes for VxLAN Fabric (with Opt 82) 							More Actions		
Scope [10.10.10.0] L2VNI 101010									
Address Pool									
Address Leases									
2 Reservations									
Scope Options									
2 Policies									
Scope [172.16.10.0] 172.16.10.0/24									
Address Pool									
Address Leases									
Reservations									
Scope Options									
Status Ontions									
Delicies									
Filter									
5 E 10-6									
							1		

Caminata de paquetes DHCP de principio a fin en VxLAN Fabric.

Detección enviada por HOST-1

```
Ethernet II, Src: 00:50:56:a5:fd:dd, Dst: ff:ff:ff:ff:ff:ff
> Internet Protocol Version 4, Src: 0.0.0.0, Dst: 255.255.255.255
> User Datagram Protocol, Src Port: 68, Dst Port: 67

    Dynamic Host Configuration Protocol (Discover)

    Message type: Boot Request (1)
    Hardware type: Ethernet (0x01)
    Hardware address length: 6
    Hops: 0
    Transaction ID: 0xe9e35087
    Seconds elapsed: 0

    Bootp flags: 0x8000, Broadcast flag (Broadcast)

      1... .... = Broadcast flag: Broadcast
      .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:a5:fd:dd
    Client hardware address padding: 0000000000000000000
    Server host name not given
    Boot file name not given
    Magic cookie: DHCP

    Option: (53) DHCP Message Type (Discover)

      Length: 1
      <Value: 01>
      DHCP: Discover (1)
  Option: (61) Client identifier
      Length: 7
      <Value: 01005056a5fddd>
      Hardware type: Ethernet (0x01)
      Client MAC address: 00:50:56:a5:fd:dd

    Option: (12) Host Name

      Length: 10
      <Value: 43584c6162732d573130>
      Host Name: CXLabs-W10
  v Option: (60) Vendor class identifier
      Length: 8
      <Value: 4d53465420352e30>
      Vendor class identifier: MSFT 5.0

    Option: (55) Parameter Request List

      Length: 14
      <Value: 0103060f1f212b2c2e2f7779f9fc>
      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: (255) End

      Option End: 255
    Padding: 000000000000000000
```

Detección en LEAF-1

Detección recibida en LEAF-1	Detección enviada por LEAF-1
	 Ethernet II, Src: 70:7d:b9:b8:4d:af, Dst: 10:b3:d6:a4:85:97 Internet Protocol Version 4, Src: 5.5.5.5, Dst: 13.13.13.254 User Datagram Protocol, Src Port: 65233, Dst: Port: 4789 Virtual - Virshib Local Area Network
	> Flags: 0x0800, VXLAN Network ID (VNI)
> Ethernet II, Src: 00:50:56:a5:fd:dd, Dst: ff:ff:ff:ff:ff:ff	VXLAN Network Identifier (VNI): 303030
> Internet Protocol Version 4, Src: 0.0.0.0, Dst: 255.255.255.255	Reserved: 0 > Ethernet II, Src: 70:7d:b9:b8:4d:af, Dst: 02:00:0d:0d:0d:fe
V Dynamic Host Configuration Protocol (Discover)	Internet Protocol Version 4, Src: 172.16.10.8, Dst: 10.10.10.150 User Datagram Protocol, Src Port: 67, Dst Port: 67
Message type: Boot Request (1)	V Dynamic Host Configuration Protocol (Discover)
Hardware type: Ethernet (0x01)	Hardware type: Ethernet (0x01)
Hardware address length: 6 Hons: 0	Hardware address length: 6 Hops: 1
Transaction ID: 0xe9e35087	Transaction ID: 0xe9e35087
Seconds elapsed: 0	> Bootp flags: 0x8000, Broadcast flag (Broadcast)
 Bootp flags: 0x8000, Broadcast flag (Broadcast) Broadcast flag: Broadcast 	Client IP address: 0.0.0.0 Your (client) IP address: 0.0.0.0
.000 0000 0000 0000 = Reserved flags: 0x0000	Next server IP address: 0.0.0.0 Relay agent TP address: 172.16.10.8
Client IP address: 0.0.0.0	Client MAC address: 00:50:56:a5:fd:dd
Your (client) IP address: 0.0.0.0	Server host name not given
Relav agent IP address: 0.0.0	Boot file name not given Magic cookie: DHCP
Client MAC address: 00:50:56:a5:fd:dd	 Option: (53) DHCP Message Type (Discover) Length: 1
Client hardware address padding: 0000000000000000000	<value: 01=""></value:>
Server nost name not given Boot file name not given	DHCP: Discover (1) ~ Option: (61) Client identifier
Magic cookie: DHCP	Length: 7 <value: 01005056a5fddd=""></value:>
 Option: (53) DHCP Message Type (Discover) 	Hardware type: Ethernet (0x01)
Length: 1	 Option: (12) Host Name
DHCP: Discover (1)	Length: 10 <value: 43584c6162732d573130=""></value:>
Option: (61) Client identifier	Host Name: CXLabs-W10
Length: 7	Length: 8
Hardware type: Ethernet (0x01)	<value: 4d53465420352630=""> Vendor class identifier: MSFT 5.0</value:>
Client MAC address: 00:50:56:a5:fd:dd	 Option: (55) Parameter Request List Length: 14
<pre>v Option: (12) Host Name length: 10</pre>	<value: 0103060f1f212b2c2e2f7779f9fc=""> Parameter Request List Item: (1) Subnet Mask</value:>
<value: 43584c6162732d573130=""></value:>	Parameter Request List Item: (3) Router
Host Name: CXLabs-W10	Parameter Request List Item: (b) Domain Name Server Parameter Request List Item: (15) Domain Name
 Option: (60) Vendor class identifier 	Parameter Request List Item: (31) Perform Router Discover Parameter Request List Item: (33) Static Route
<value: 4d53465420352e30=""></value:>	Parameter Request List Item: (43) Vendor-Specific Information
Vendor class identifier: MSFT 5.0	Parameter Request List Item: (46) NetBIOS over TCP/IP Node Type
 Option: (55) Parameter Request List 	Parameter Request List Item: (47) NetBIOS over TCP/IP Scope Parameter Request List Item: (119) Domain Search
<value: 0103060f1f212b2c2e2f7779f9fc=""></value:>	Parameter Request List Item: (121) Classless Static Route Parameter Request List Item: (249) Private/Classless Static Route (Microsoft)
Parameter Request List Item: (1) Subnet Mask	Parameter Request List Item: (252) Private/Proxy autodiscovery
Parameter Request List Item: (3) Router	Length: 47
Parameter Request List Item: (6) Domain Name Server	<value: 010e0108000600018a9200a000000000206707db9b84daf97090074656e616e742d610b040a0a0a0105040a0a0a00=""> • Option 82 Suboption: (1) Agent Circuit ID</value:>
Parameter Request List Item: (31) Perform Router Discover	Length: 14
Parameter Request List Item: (33) Static Route	Agent Circuit ID: 0108000600018a9200a00000000
Parameter Request List Item: (43) Vendor-Specific Information Parameter Request List Item: (44) NetBIOS over TCP/IP Name Server	 Option 82 Suboption: (2) Agent Remote ID Length: 6
Parameter Request List Item: (46) NetBIOS over TCP/IP Node Type	<value: 707db9b84daf=""> Agent Remote ID: 707db9b84daf</value:>
Parameter Request List Item: (47) NetBIOS over TCP/IP Scope	Option 82 Suboption: (151) VRF name/VPN ID
Parameter Request List Item: (119) Domain Search Parameter Request List Item: (121) Classless Static Route	<value: 0074656e616e742d61=""></value:>
Parameter Request List Item: (249) Private/Classless Static Route (Microsoft)	VRF name: > [Expert Info (Warning/Undecoded): Trailing stray characters]
Parameter Request List Item: (252) Private/Proxy autodiscovery	Option 82 Suboption: (11) Server ID Override (10.10.10.1) Length: 4
> Option: (255) End	<value: 0a0a0a01=""></value:>
Fautrig. coopeeeeeee	Server 10 Overrige: 10.10.10.1 V Option 82 Suboption: (5) Link selection (10.10.10.0)
	Length: 4 <value: 0a0a0a00=""></value:>
	Link selection: 10.10.10.0
	Padding: 0000000000000000



Sugerencia: la imagen se amplía al hacer doble clic.

Detección en COLUMNA VERTEBRAL

Descubrimiento recibido en COLUMNA	Detección enviada por SPINE
------------------------------------	-----------------------------

Ethernet II, Src: 70:7d:b9:b8:4d:af, Dst: 10:b3:d6:a4:85:97 Internet Protocol Version 4, Src: 5.5.5, Dst: 13.13.254 User Datagram Protocol, Src Port: 6323, Dst Port: 4789 Virtual extensible Local Area Network 5 Flags: 0x800, VXLAN Network 10 (WI) Group Policy ID: 0 VXLAN Network Identifier (WI]: 303030 Reserved: 0 Ethernet II, Src: 70:7d:b9:b8:4d:af, Dst: 02:00:0d:0d:0d:fe Internet Protocol Version 4, Src: 172.16.10.8, Dst: 10.10.159 User Datagram Protocol, Src Port: 67, Dst Port: 67 Dynamic Most Configuration Protocol (Discover) Message type: Boot Request (1) Hardware type: Ethernet (0x01) Hardware address lequest (1) Hardware address lequest (2) Fransaction ID: 0xe9e35087 Seconds elapsed: 0 Bootp flags: 0x8008, Broadcast flag (Broadcast) Client IP address: 0.0.0 Next server IP address: 0.0.0 Next server IP address: 0.0.0	Ethermet II, Src: 10:b3:d6:a4:85:97, Dst: 60:26:aa:85:98:87 Internet Protocol Version 4, Src: 5.5.5.5, Dst: 13.13.13.254 User Datagram Protocol, Src Port: 65233, Dst Port: 4789 Virtual Extensible Local Area Network Flags: 0x8000, XXLAN Network 10 (WII) Group Policy ID: 0 WLAN Network ID(WII) Group Policy ID: 0 VULAN Network ID (WII): 303030 Reserved: Reserved: Datagram Protocol, Src Port: 67, Dst Port: 67. Dymain Endos Configuration Protocol (Discover) Message type: Boot Request (1) Hardware address length: 6 Hops: Hops: Host: Scoods Elapsed: Boot Prodoct flag (Broadcast) Client ID: 0x9625087 Seconds Elapsed: Scoods Elapsed: Boot Prodoct Scole (0.6.0) Your (client) IP address: 0.6.0 Next Server IP address: 0.6.0 Next Server IP address: 0.6.0
<pre>Client MAC address: 00:50:56:a5:fd:dd Client hardware address padding: 000000000000000000000000000000000000</pre>	Relay agent IP address: 172.16.18.8 Client Mardware address padding: 000000000000000000000000000000000000
<pre>Parameter Request List Item: 105 Domain Name Server Parameter Request List Item: 131 Domain Name Server Parameter Request List Item: 131 Perform Router Discover Parameter Request List Item: (43) Vendor-Specific Information Parameter Request List Item: (44) NetBIOS over TCP/IP Nome Server Parameter Request List Item: (44) NetBIOS over TCP/IP Nome Server Parameter Request List Item: (46) NetBIOS over TCP/IP Nome Server Parameter Request List Item: (47) NetBIOS over TCP/IP Nome Server Parameter Request List Item: (19) Domain Search Parameter Request List Item: (121) Classless Static Route (Microsoft) Parameter Request List Item: (249) Private/Classless Static Route (Microsoft) Parameter Request List Item: (252) Private/Classless Static Route (Microsoft) Parameter Request List Item: (252) Private/Classless Static Route Value: 101e0180806600018a9200a000000000000000000000000000000000</pre>	Parameter Request List Item: (b) Domain Name Server Parameter Request List Item: (c) Domain Name Parameter Request List Item: (c) Domain Name Parameter Request List Item: (c) Domain Name Parameter Request List Item: (c) Static Route Parameter Request List Item: (c) NetBIOS over TCP/IP Name Server Parameter Request List Item: (c) NetBIOS over TCP/IP Name Server Parameter Request List Item: (c) NetBIOS over TCP/IP Name Server Parameter Request List Item: (c) NetBIOS over TCP/IP Name Server Parameter Request List Item: (c) NetBIOS over TCP/IP Name Server Parameter Request List Item: (c) NetBIOS over TCP/IP Name Server Parameter Request List Item: (c) NetBIOS over TCP/IP Name Server Parameter Request List Item: (c) Dassless Static Route Parameter Request List Item: (c) Dassless Static Route (Microsoft) Parameter Request List Item: (c) Privater/Classless Static Route (Microsoft) Parameter Request List Item: (c) Privater/Classless Static Route (Microsoft) Parameter Request List Item: (c) Dissless Static Route (C) Rependent Server Option: C) Rependent Server Length: 47 value: 010e01080000000206707db9b8daf9709007465566166742d610040a0a00105040a0a000000000000000000000
<pre><value: 007465660166742061=""> VFF name:</value:></pre>	<pre></pre>

Detección en LEAF-1-vPC

Detección recibida en LEAF-1-vPC	Detección enviada por LEAF-1-vPC
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Ethernet II, Src: 10:D3:06:84:85:97, Dst: 60:26:88:85:98:87	> Ethernet II, Src: 60:26:aa:85:98:87, Dst: 00:50:56:a5:dc:ca
> Internet Protocol Version 4, Src: 5.5.5.5, Dst: 13.13.13.254	Internet Protocol Version 4, Src: 172.16.10.8, Dst: 10.10.10.150
User Datagram Protocol, Src Port: 65233, Dst Port: 4789	liser Datagram Protocol Src Port: 67 Dat Port: 67
Vietnal avtancibla Local Area Naturak	user batagram Frotocot, Stc Port: 07
Virtual extensione Local AFEA NECKOFK	Uynamic Host Configuration Protocol (Discover)
> Flags: 0x0800, VXLAN Network ID (VNI)	Message type: Boot Request (1)
Group Policy ID: 0	Hardware type: Ethernet (0x01)
VXLAN Network Identifier (VNI): 303030	Ward are address leads 6
Presented A	hardware address length: 6
Reserved: 0	Hops: 1
> Ethernet II, Src: 70:7d:b9:b8:4d:af, Dst: 02:00:0d:0d:0d:fe	Transaction ID: 0xe9e35087
Internet Protocol Version 4, Src: 172, 16, 10, 8, Dst: 10, 10, 10, 150	Forende al anno 100000000
- Internet (Fordet (Fisien 4) Ster All Die Die 1 (11) (11) (11)	seconds etapsed: 0
User Datagram Protocol, Src Port: 67, Dst Port: 67	 Bootp flags: 0x8000, Broadcast flag (Broadcast)
V Dynamic Host Configuration Protocol (Discover)	1 = Broadcast flag: Broadcast
Message type: Boot Request (1)	200,0000,0000,0000 = December 1 2 and 1 2 an
	.000 0000 0000 = Reserved rtags: 0x0000
hardware type: Ethernet (0x01)	Client IP address: 0.0.0.0
Hardware address length: 6	Your (client) IP address: 0.0.0.0
Hops: 1	Next conver TD address 0.0.0.0
Transaction TD: 0ve0e3E007	Next Server 1P address: 0.0.0.0
Transaction iD: 0xe9e35067	Relay agent IP address: 172.16.10.8
Seconds elapsed: 0	Client MAC address: 00:50:56:a5:fd:dd
Booto flags: 0x8000, Broadcast flag (Broadcast)	
Client ID address, 0.0.0.0	ctient hardware address padding: 0000000000000000000
CLEAR IF ADDRESS: 0.0.0.0	Server host name not given
Your (client) IP address: 0.0.0.0	Boot file name not given
Next server IP address: 0.0.0.0	Manie cookie: DHCP
Relay agent TP address: 172 16 18 8	hagit cookie. Dhep
Client MAC address An Co. Co. C. Advad	 option; (55) DRCP Message Type (Discover)
CTTGUT NWC 900(L622: 00:20:20:90:20:20:00	Length: 1
Client hardware address padding: 00000000000000000000	<value: 01=""></value:>
Server host name not given	DUCD. Discourse (1)
Boot file some not given	UNCP: DISCOVER (1)
DOOL LILE NAME HOL GIVEN	 Option: (61) Client identifier
Magic cookie: DHCP	Length: 7
 Option: (53) DHCP Message Type (Discover) 	-151.000 0100505555fddd
Length: 1	//d/nc: araabababinngs
Long the A	Hardware type: Ethernet (0x01)
<value: 01=""></value:>	Client MAC address: 00:50:56:a5:fd:dd
DHCP: Discover (1)	Ontion: (12) Host Name
Option: (61) Client identifier	option: (12) Host Name
- vyskavni (vaz) eskent avelltilter	Length: 10
Length: 7	<value: 43584c6162732d573130=""></value:>
<value: 01005056a5fddd=""></value:>	Host Name: CVI abs-W10
Hardware type: Ethernet (0x01)	TOST Malle. CALabs-MID
	Option: (60) Vendor class identifier
Client MAC address: 00:50:56:a5:Td:dd	Length: 8
 Option: (12) Host Name 	<value: 4d53d65420352e30=""></value:>
Length: 10	
Value: 42594c6162722d573120-	Vendor class identifier: HSFI 5.0
<value: 31362<="" 3203="" 43364c0102="" td=""><td>v Option: (55) Parameter Request List</td></value:>	v Option: (55) Parameter Request List
Host Name: CXLabs-W10	length: 14
 Option: (60) Vendor class identifier 	
length: 8	<value: 010300011121202c2221="" 9191c=""></value:>
	Parameter Request List Item: (1) Subnet Mask
<value: 4053465420352e30=""></value:>	Parameter Request List Item: (3) Router
Vendor class identifier: MSFT 5.0	Parameter Pequert Lift Item: (6) Demain Name Server
Option: (55) Parameter Request List	Parameter Request List item: (6) Domain Name Server
i anatis 14	Parameter Request List Item: (15) Domain Name
Length: 14	Parameter Request List Item: (31) Perform Router Discover
<value: 0103060f1f212b2c2e2f7779f9fc=""></value:>	Parameter Request List Item (22) Static Reute
Parameter Request List Item: (1) Subnet Mask	Parameter Request List item: (33) Static Route
Descretes Descret List Them, (2) Dester	Parameter Request List Item: (43) Vendor-Specific Information
Parameter Request List Item: (3) Router	Parameter Request List Item: (44) NetBIOS over TCP/IP Name Server
Parameter Request List Item: (6) Domain Name Server	Parameter Request List Item; (46) NetBIOS over TCP/ID Node Type
Parameter Request List Item: (15) Domain Name	Parameter Request List item. (40) Netbros over iter/ir noue type
Parameter Pequest List Item: (21) Perform Pouter Discover	Parameter Request List Item: (47) NetBIOS over TCP/IP Scope
Parameter Request List Item. (51) Perform Router Discover	Parameter Request List Item: (119) Domain Search
Parameter Request List Item: (33) Static Route	Parameter Request List Item: (121) Classless Static Route
Parameter Request List Item: (43) Vendor-Specific Information	Fordineter Request List item. (122) classics static Route
Parameter Request List Item: (44) NetBIOS over TCP/IP Name Server	Parameter Request List Item: (249) Private/Classless Static Route (Microsoft)
Parameter negative Light Ltem: (44) Netblog Ver Ltr/ir Home Scive	Parameter Request List Item: (252) Private/Proxy autodiscovery
Parameter Request List Item: (46) NetBIDS over ILP/IP Node Type	Antion: (82) Agent Information Ontion
Parameter Request List Item: (47) NetBIOS over TCP/IP Scope	length at the second se
Parameter Reguest List Item: (119) Domain Search	Length: 4/
December Dequest List Team, (121) Classifier Static Poute	<value: 010e0108000600018a9200a000000000206707db9b84daf97090074656e616e742d610b040a0a0a0105040a0a0a00=""></value:>
Forameter nequest List item; (iii) tidsstess static Koute	 Option 82 Suboption: (1) Agent Circuit ID
Parameter Request List Item: (249) Private/Classless Static Route (Microsoft)	Landby 14
Parameter Request List Item: (252) Private/Proxy autodiscovery	Lengths 14
Option: (82) Agent Information Option	<value: 0108000600018a9200a00000000=""></value:>
Longhi 47	Agent Circuit ID: 0108000600018a9200a00000000
Length: 47	 Ontion 82 Subortion: (2) Agent Remote TD
<value: 010e0108000500018a9200a00000000000205707db9b84daf97090074655e616e742d610b040a0a0a0105040a0a0a00=""></value:>	Landth 6
 Option 82 Suboption: (1) Agent Circuit ID 	rendru: o
length: 14	<value: 707db9b84daf=""></value:>
Legin at	Agent Remote ID: 707db9b84daf
<a9 010200000189370090000000="" nd:=""></a9>	Option 82 Subortion: (151) VPE page/VPN TD
Agent Circuit ID: 0108000600018a9200a00000000	- opcion of Subprion: (151) VKr name/VFW 10
Option 82 Subortion: (2) Agent Remote ID	Length: 9
Longth: 6	<value: 0074656e616e742d61=""></value:>
	VRF name:
<value: d="" db9b84dat=""></value:>	[Event Toto (Warning/Undecoded): Trailing stress sharestern]
Agent Remote ID: 707db9b84da1	<pre>> [cxpert into (warning/undecoded): frailing stray characters]</pre>
Option 82 Subortion: (151) VRF name/VPN TD	[Trailing stray characters]
Least of Subjectory (151) the Hame/ the Lo	<pre><message: characters="" stray="" trailing=""></message:></pre>
Length: 9	[Severity level Marging]
<value: 0074656e616e742d61=""></value:>	(severity tevet; warning)
VRF name:	[Group: Undecoded]
[Evpert Info (Warping/Undecoded): Trailing stray characters]	Option 82 Suboption: (11) Server ID Override (10.10.10.1)
Compare and the final formation and the second seco	Length: 4
 option az suboption: (11) Server ID Override (10.10.10.1) 	
Length: 4	Synthe: popopopte
<value: 0a0a0a01=""></value:>	Server ID Override: 10.10.1
<value: 0a0a0a01=""> Server ID Override: 10 10 10 1</value:>	Server ID Override: 10.10.10.1 • Option 82 Suboption: (5) Link selection (10.10.10.0)
<value: 0a0a0a01=""> Server ID Override: 10.10.10.1</value:>	Server ID Override: 10.10.10.1 • Option 82 Suboption: (5) Link selection (10.10.10.0) i enoth 4
 <value: 0a0a0a0j=""></value:> Server 1D Override: 10.10.10.1 Option 82 Suboption: (5) Link selection (10.10.10.0) 	Server ID Override: 10.10.10.1 ∽ Option 82 Suboption: (5) Link selection (10.10.10.0) Length: 4
 <value: 00000001<="" li=""> Server ID 0verride: 10.10.10.1 > Option 82 Suboption: (5) Link selection (10.10.00) Length: 4 </value:>	Server ID Override: 10.10.10.1 ∨ Option 82 Suboption: (5) Link selection (10.10.10.0) Length: 4 <value: 0a0a0a00=""></value:>
 <value: 0a0a0a0j=""></value:> Server 10 Override: 10.10.10.1 Option 82 Suboption: (5) Link selection (10.10.10.0) Length: 4 <value: 0a0a0a0b=""></value:> 	Server ID Override: 10.10.10.1 ∽ Option 82 Suboption: (5) Link selection (10.10.10.0) Length: 4 <value: 0a0080005<br="">Link selection: 10.10.10.0</value:>
 <value: 00000001<="" li=""> Server ID Override: 10.10.10.1 > Option 82 Suboption: (5) Link selection (10.10.10.0) Length: 4 <value: 00000000-<br="">Link celection: 10.10.10.0</value:> </value:>	Server ID Override: 10.10.10.1 Option 82 Suboption: (5) Link selection (10.10.10.0) Length: 4 <value: 0a0a0a000=""> Link selection: 10.10.10.0</value:> Votion: (255) End
- <value: 0@a@a@ad<br="">Server ID Override: 10.10.10.1 Option 82 Suboption: (5) Link selection (10.10.10.0) Length: 4 - <value: 0@a@a@a@a<br="">Link selection: 10.10.10.0</value:></value:>	Server ID Override: 10.10.10.1 ~ Option 82 Suboption: (5) Link selection (10.10.10.0) Length: 4 ~ Value: 0a0080000> Link selection: 10.10.10.0 ~ Option: (255) End
<pre>Server ID Override: 10.10.10.1 > Option 02 Suboption: (5) Link selection (10.10.10.0) Length: 4 Link selection: 10.10.10.0 > Option: (255) End</pre>	Server ID Override: 10.10.10.1 ~ Option & Suboption: (5) Link selection (10.10.10.0) Length: 4 ~ value: 08003008> Link selection: 10.10.10.0 ~ Option: (255) End Option End: 255
<pre> Server ID Override: 10.10.10.1 </pre> Option 82 Suboption: (5) Link selection (10.10.10.0) Length: 4 Link selection: 10.10.10.0 Option: (255) End Padding: 0000000000000000	Server ID Override: 10.10.10.1 <pre> Option 82 Suboption: (5) Link selection (10.10.10.0) Length: 4 <value: 0a080808=""> Link selection: 10.10.10.0 </value:></pre> <pre> Option: (255) End Option End: 255 </pre> Padding: 080000000000000
<pre> Server ID Override: 10.10.10.1 > Option 02 Suboption: (5) Link selection (10.10.10.0) Length: 4 Link selection: 10.10.10.0 > Option: (255) End Padding: 000000000000000</pre>	Server ID Override: 10.10.10.1 ∽ Option 82 Suboption: (5) Link selection (10.10.10.0) Length: 4 <value: 0a808080<br="">Link selection: 10.10.10.0 ∽ Option: (255) End Option End: 255 Padding: 00000000000000</value:>



Nota: LEAF-2-vPC recibe el paquete Discovert, pero sólo se conmuta. La dirección MAC de destino pertenece al servidor DHCP.

Detección recibida en el servidor DHCP

```
Ethernet II, Src: 60:26:aa:85:98:87, Dst: 00:50:56:a5:dc:ca
Internet Protocol Version 4, Src: 172.16.10.8, Dst: 10.10.10.150
User Datagram Protocol, Src Port: 67, Dst Port: 67
Dynamic Host Configuration Protocol (Discover)
  Message type: Boot Request (1)
  Hardware type: Ethernet (0x01)
  Hardware address length: 6
  Hops: 1
  Transaction ID: 0xe9e35087
  Seconds elapsed: 0
 Bootp flags: 0x8000, Broadcast flag (Broadcast)
    1... .... = Broadcast flag: Broadcast
    .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: 172.16.10.8
  Client MAC address: 00:50:56:a5:fd:dd
  Client hardware address padding: 0000000000000000000
  Server host name not given
  Boot file name not given
  Magic cookie: DHCP
 Option: (53) DHCP Message Type (Discover)
    Length: 1
    <Value: 01>
    DHCP: Discover (1)

    Option: (61) Client identifier

    Length: 7
    <Value: 01005056a5fddd>
    Hardware type: Ethernet (0x01)
    Client MAC address: 00:50:56:a5:fd:dd

    Option: (12) Host Name

    Length: 10
    <Value: 43584c6162732d573130>
    Host Name: CXLabs-W10

    Option: (60) Vendor class identifier

    Length: 8
    <Value: 4d53465420352e30>
    Vendor class identifier: MSFT 5.0
Option: (55) Parameter Request List
    Length: 14
    <Value: 0103060f1f212b2c2e2f7779f9fc>
    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: 47
    <Value: 010e0108000600018a9200a0000000000206707db9b84daf97090074656e616e742d610b040a0a0a0105040a0a0a00>

    Option 82 Suboption: (1) Agent Circuit ID

      Length: 14
      <Value: 0108000600018a9200a00000000>
      Agent Circuit ID: 0108000600018a9200a00000000

    Option 82 Suboption: (2) Agent Remote ID

      Length: 6
      <Value: 707db9b84daf>
      Agent Remote ID: 707db9b84daf

    Option 82 Suboption: (151) VRF name/VPN ID

      Length: 9
      <Value: 0074656e616e742d61>
     VRF name:

    [Expert Info (Warning/Undecoded): Trailing stray characters]

           [Trailing stray characters]
           <Message: Trailing stray characters>
           [Severity level: Warning]
           [Group: Undecoded]

    Option 82 Suboption: (11) Server ID Override (10.10.10.1)

      Length: 4
      <Value: 0a0a0a01>
      Server ID Override: 10.10.10.1
   Option 82 Suboption: (5) Link selection (10,10,10,0)
      Length: 4
      <Value: 0a0a0a00>
      Link selection: 10.10.10.0
 Option: (255) End
    Option End: 255
  Padding: 000000000000000000
```

Oferta de DHCP enviada por servidor DHCP

```
Ethernet II, Src: 60:26:aa:85:98:87, Dst: 00:50:56:a5:dc:ca
Internet Protocol Version 4, Src: 172.16.10.8, Dst: 10.10.10.150
User Datagram Protocol, Src Port: 67, Dst Port: 67
Dynamic Host Configuration Protocol (Discover)
  Message type: Boot Request (1)
  Hardware type: Ethernet (0x01)
  Hardware address length: 6
  Hops: 1
  Transaction ID: 0xe9e35087
  Seconds elapsed: 0
  Bootp flags: 0x8000, Broadcast flag (Broadcast)
    1... .... = Broadcast flag: Broadcast
    .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: 172.16.10.8
  Client MAC address: 00:50:56:a5:fd:dd
  Client hardware address padding: 0000000000000000000
  Server host name not given
  Boot file name not given
  Magic cookie: DHCP

    Option: (53) DHCP Message Type (Discover)

    Length: 1
    <Value: 01>
    DHCP: Discover (1)

    Option: (61) Client identifier

    Length: 7
    <Value: 01005056a5fddd>
    Hardware type: Ethernet (0x01)
    Client MAC address: 00:50:56:a5:fd:dd

    Option: (12) Host Name

    Length: 10
    <Value: 43584c6162732d573130>
    Host Name: CXLabs-W10

    Option: (60) Vendor class identifier

    Length: 8
    <Value: 4d53465420352e30>
    Vendor class identifier: MSFT 5.0

    Option: (55) Parameter Request List

    Length: 14
    <Value: 0103060f1f212b2c2e2f7779f9fc>
    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: 47
    <Value: 010e0108000600018a9200a0000000000206707db9b84da197090074656e616e742d610b040a0a0a0105040a0a0a00>

    Option 82 Suboption: (1) Agent Circuit ID

      Length: 14
       <Value: 0108000600018a9200a00000000>
      Agent Circuit ID: 0108000600018a9200a00000000
  · Option 82 Suboption: (2) Agent Remote ID
      Length: 6
       <Value: 707db9b84daf>
      Agent Remote ID: 707db9b84daf

    Option 82 Suboption: (151) VRF name/VPN ID

      Length: 9
       <Value: 0074656e616e742d61>
     VRF name:

    [Expert Info (Warning/Undecoded): Trailing stray characters]

           [Trailing stray characters]
           <Message: Trailing stray characters>
           [Severity level: Warning]
           [Group: Undecoded]

    Option 82 Suboption: (11) Server ID Override (10.10.10.1)

      Length: 4
       <Value: 0a0a0a01>
      Server ID Override: 10.10.10.1

    Option 82 Suboption: (5) Link selection (10.10.10.0)

      Length: 4
       <Value: 0a0a0a00>
      Link selection: 10.10.10.0
  Option: (255) End
    Option End: 255
  Padding: 00000000000000000
```

Oferta de DHCP en LEAF-2-vPC

Oferta recibida en LEAF-2-vPC	Oferta enviada por LEAF-2-vPC
<pre>bthermet II, Src: 00:50:56:a5:dc:ca, Dst: 00:00:00:00:00:00 Intermet Protocol, Src Port: 67, Dst: 172.16.10.8 User Dustgram Protocol, Src Port: 67, Dst: 172.16.10.8 User Dustgram Protocol, Src Port: 67, Dst: 172.16.10.8 User Dustgram Protocol, Src Port: 67, Dst: 172.16.10.8 Promosetion ID: 0xe003000 Transaction ID: 0xe0030000 = Transaction ID: 0xe000 Clent IP address: 0xe0.0 Transaction ID: 0xe003000 Transaction ID: 0xe0030000 Transaction ID: 0xe0030000 Transaction ID: 0xe003000000000000000000000000000000000</pre>	<pre>Intermet Protocol Version 4, Src: 13.13.13.234, Dist: 5.5.5.5 User Datagram Protocol, Src Port: 6558, Dist Port: 4789 'Virtual extensible Local Area Network 'Flags: 60406, VCUM Network 10 (VKL) CVLM Network 10 (VKL) CVLM Network 10, Src: 10.10.10.10, Dist: 12.15.10.8 'Ethernet II, Src: 82.80.80.80.80.80.80.80.80.80.80.80.80.80.</pre>
<pre>vvr name: >[Expert Info (Warning/Undecoded): Trailing stray characters] [Trailing stray characters] edessame: Trailing stray characters></pre>	Agent Kenote 10: /07/05/9504/047 (Option & 2 Suboption: (151) VRF name/VPN ID Length: 9 //51/04: 027/05/665156/22/0675
Severity level: Warning [Severity level: Warning) [Group: Undecoded] • Option & Suboption: (11) Server ID Override (10.10.10.1) Length: 4 • Option & Suboption: (5) Link selection (10.10.00) Length: 4 • CValue: 0a0040000 Link selection: 10.10.10.0 • Option End: 255	<pre>\Value: 04/03060106/40012 \Viscource: Viscource: Viscource:</pre>

Oferta DHCP vPC SPINE

Oferta recibida en SPINE Oferta enviada por SPINE

> Ethernet II. Src: 60:26:aa:85:95:87. Dst: 10:b3:d6:a4:85:97	
Internet Protocol Version 4, Src: 13.13.13.254, Dst: 5.5.5.5	
> User Datagram Protocol, Src Port: 65518, Dst Port: 4789	
Virtual extensible Local Area Network	
Flage: 8v8888. UVI AN Network TD (UNT)	
Frags. Booder 70.	
Group Policy ID: 0	Ethernat TT Cro. 10:b2:d6:ad:95:07 Dct. 70:7d:b0:b0:dd:af
VXLAN Network Identifier (VNI): 303030	2 Etilemet 11, Srct 10:05:00:44:05:97, 05:1: 70:70:09:00:40:41
Reserved: 0	Internet Protocol Version 4, Src: 13.13.13.254, Dst: 5.5.5.5
Ethernet II Src. 02-00-0d-0d-0d-fe Drt. 70-7d-b0-b0-dd-of	> User Datagram Protocol, Src Port: 65518, Dst Port: 4789
	Virtual extensible Local Area Network
Internet Protocol Version 4, Src: 10.10.10.150, Dst: 172.16.10.8	Virtual extension be book and network
> User Datagram Protocol, Src Port: 67, Dst Port: 67	> Flags: 0x0800, VXLAN Network ID (VNI)
- Dynamic Host Configuration Protocol (Offer)	Group Policy ID: 0
Message these Best Dealth (2)	VXLAN Network Identifier (VNI): 303030
Hessage type: boot kepty (2)	Peraruat: A
Hardware type: Ethernet (0x01)	
Hardware address length: 6	> Ethernet 11, Src: 02:00:0d:0d:0d:Te, DSt: 70:7d:D9:D8:4d:AT
Hone: 0	Internet Protocol Version 4, Src: 10.10.100, Dst: 172.16.10.8
nops. e	User Datagram Protocol, Src Port; 67, Dst Port; 67
Transaction ID: 0xe9e35087	
Seconds elapsed: 0	Dynamic Host Configuration Protocol (Offer)
Booto flags: 0x8000, Broadcast flag (Broadcast)	Message type: Boot Reply (2)
book had been been been been been been been bee	Hardware type: Ethernet (0x01)
1 = Broadcast rtag: Broadcast	Hardware address length: 6
.000 0000 0000 = Reserved flags: 0x0000	hardware address tength. o
Client IP address: 0.0.0.0	Hops: 0
Your (client) TP address: 10.10.10.3	Transaction ID: 0xe9e35087
Next county in defense, 30 10 10 10	Seconds elapsed: 0
Next Server 1P address: 10.10.100	Rooto flags: 0x8000 Broadcast flag (Broadcast)
Relay agent IP address: 172.16.10.8	bootp rtags. bootp ploadast rtag (bloadcast)
Client MAC address: 00:50:56:a5:fd:dd	Client in address: 0.0.0.0
Client bardware address padding: 000000000000000000	Your (client) IP address: 10.10.10.3
Comer best name and allow	Next server IP address: 10.10.10.150
server nost name not given	Relay agent TP address: 172 16 10 8
Boot file name not given	Netwy upon Ar OUDICSS 174-10-10-0
Magic cookie: DHCP	LLIENT MAL address: 00:50:56:a5:Td:dd
Ontion: (53) DHCP Message Type (Offer)	Client hardware address padding: 00000000000000000000
weather that aller hessage type (utien)	Server host name not given
Length: 1	Root file name not given
<value: 02=""></value:>	poor is to home pior disen
DHCP: Offer (2)	Magic cookie: DHCP
Oction: (1) Subnet Mack (255 255 25 0)	 Option: (53) DHCP Message Type (Offer)
- vyravni (ar subnet nosk (233-233-23-0)	Length: 1
Length: 4	
<value: ffffff00=""></value:>	<value: 02=""></value:>
Subnet Mask: 255,255,255,0	DHCP: Offer (2)
Options (EQ) Descent Time Nolue	v Option: (1) Subnet Mask (255,255,26)
· Option: (58) Renewal lime value	Length: 4
Length: 4	Length. 4
<value: 0000a8c0=""></value:>	<value: ffffff00=""></value:>
Renewal Time Value: 12 hours (43200)	Subnet Mask: 255.255.255.0
Release Factor 12 Hours (42200)	 Option: (58) Renewal Time Value
 Option: (59) Rebinding Time Value 	Length A
Length: 4	Length: 4
<value: 00012750=""></value:>	<value: 0000a8c0=""></value:>
Pebloding Time Value: 21 hours (75600)	Renewal Time Value: 12 hours (43200)
Reditiding the value. 21 hours (75000)	Ontion: (59) Rebinding Time Value
 Option: (51) IP Address Lease Time 	Length: 1
Length: 4	Length: 4
<value: 00015180=""></value:>	<value: 00012750=""></value:>
The defense views in the 106400	Rebinding Time Value: 21 hours (75600)
IP Address Lease Time: I day (86400)	Option: (51) TP Address Lesse Time
 Option: (54) DHCP Server Identifier (10.10.10.1) 	option. (31) IF Address Lease Time
Length: 4	Length: 4
	<value: 00015180=""></value:>
(Value, babababi)	TP Address Lease Time: 1 day (86499)
DHCP Server Identifier: 10.10.10.1	antipatient (Ed.) DUCD Control Transitions (J.) 10, 10, 10, 10, 10
 Option: (3) Router 	option: (54) bhtp Server Identifier (16.10.10.1)
Length: 4	Length: 4
	<value: 0a0a0a01=""></value:>
<value: 0a0a0a01=""></value:>	DHCP Server Identifier: 10 10 10 1
Router: 10.10.10.1	Dice Server Adentifier. 10.10.10.1
 Option: (15) Domain Name 	Option: (15) Domain Name
Length: 10	Length: 10
Senser av	
<value: 0309="" 363612003616000=""></value:>	
Domain Name: cisco.com	Domain Name: Cisco.com
Antion: (92) Agent Information Antion	 Option: (82) Agent Information Option
 Option: (82) Agent Information Option 	 Option: (82) Agent Information Option Length: 47
 Option: (82) Agent Information Option Length: 47 	 Option: (82) Agent Information Option Length: 47 cvalue: 310e0188080650918:a2208.00080808080706787/hph84diaf97808074655661567427/d5104040404040404040404040404040404040404
 Option: (82) Agent Information Option Length: 47 <value: 01ce0108000500018a9200a000000000266787db9b84daf9709007465566516c742d610b040a0a0a0105040a0a00b=""></value:> 	<pre> Option: (82) Agent Information Option Length: 4</pre>
 Option: (82) Agent Information Option Length: 47 value: 01e0188000000013200800000000000000000000000	 ○ Option: (82) Agent Information Option Length: 47 <a href="https://www.align.com/states/al</td>
Option: (82) Agent Information Option Length: 47 <value: 01ce0188000600018a9200a00000000206707db9b84daf97090074656e616e742d610b040a0a0105040a0a000=""> Option 82 Suboption: (1) Agent Circuit ID Length: 14</value:>	 ○ Option: (82) Agent Information Option Length: 47 - value: 010e0108000600018a9200a0000000000206707db9b84daf97090074655e616e742d610b040a0a0a0105040a0a0000 > Option 82 Suboption: (1) Agent Circuit ID Length: 14
 Option: (2) Agent Information Option Length: 47 -Value: 01ee0188006000180320030000000000206707db9b84daf97090074656e616e742d618b840a0a0105040a0a000> - Option 82 Suboption: (1) Agent Circuit ID Length: 14 	 ○ Option: (82) Agent Information Option Length: 47 < < < < < < <
<pre>> Option: (82) Agent Information Option Length: 47 <value: 010e0108000600018a9200a000000000206707db9b84daf97090074656e616e742d610b040a0a0a0105040a0a000=""> > Option 82 Suboption: (1) Agent Circuit ID Length: 14 <value: 0108000600018a9200a0000000=""></value:></value:></pre>	 Option: (82) Agent Information Option Length: 47 Value: 010e0108000600018a9200a000000000206707db9b84daf970900746556e616e742d610b040a0a0a0105040a0a0000 Option 82 Suboption: (1) Agent Circuit ID Length: 14 Value: 0108000500018a9200a00000000- Value: 0108000500018a9200a0000000- Value: 0108000500018a9200a0000000-
 Option: (2) Agent Information Option Length: 47 <value: 010e0108000600018a9200a00000000000206707db9b84daf97090074656e616e742d610b040a0a0a0105040a0a0a00=""> > Option 82 Suboption: (1) Agent Circuit ID Length: 14 <value: 0100000000000000000000000000000000000<="" td=""><td><pre> Option: (82) Agent Information Option Length: 47 </pre> <pre></pre></td></value:></value:>	<pre> Option: (82) Agent Information Option Length: 47 </pre> <pre></pre>
<pre> Option: (2) Agent Information Option Length: 47 </pre> <pre></pre>	 Option: (82) Agent Information Option Length: 47 value: 810e0108000600018a9200a00000000206707db9b84daf970900746556e616e742d610b040a0a0a0105040a0a00000 Option 82 Suboption: (1) Agent Circuit ID
 Option: (82) Agent Information Option Length: 47 -value: 010e0188000600018a9200a00000000000206707db9b84daf97090074656e616e742d610b040a0a0a0105040aa0a00> Option 82 Suboption: (1) Agent Circuit ID Length: 14 -value: 0180000600018a92000000000> Agent Circuit ID: 018000060018a9200000000000 > Option 82 Suboption: (2) Agent Remote ID Length: 46 	 Option: (22) Agent Information Option Length: 4 - Value: 01e00108000600018a9200a000000000206707db9b84daf97090074656e616e742d610b040aaba0105040aaba0a00e> - Option 82 Suboption: (1) Agent Circuit ID Length: 14 - value: 018000600018a9200a00000e> Agent Circuit ID Identities: 018000600018a9200a000000e> Agent Circuit ID: 018000600018a9200a00000e> Agent Circuit ID: 018000600018a9200a00000e> Option 82 Suboption: (2) Agent Remote ID Length: 6 Length: 6 Contemport Length: 6 - Value: 018000600018a9200a00000000 - Value: 01800060018a9200a0000000 - Value: 01800060018a9200a0000000 - Value: 01800060018a9200a0000000 - Value: 018000600018a9200a00000000 - Value: 018000600018a9200a000000000 - Value: 018000600018a92000000000 - Value: 0180006000018a92000000000 - Value: 018000600000000 - Value: 018000600000000000000000000000000000000
 Option: (2) Agent Information Option Length: 47 value: 01ee10800060001383200000000000000000000000000000000	<pre>> Option: (82) Agent Information Option Length: 47 <value: 01e018000060013a2200a00000000206707db9b84daf97090074656e616e742d610b040a0a0a0105040a0a0000<br="">> Option 82 Suboption: (1) Agent Circuit ID Length: 14 <value: 010800600013a9200a00000000<br="">Agent Circuit ID: 010800060001a9200a000000 > Option 82 Suboption: (2) Agent Remote ID Length: 6 <value: 707db984daf=""></value:></value:></value:></pre>
 Option: (82) Agent Information Option Length: 47 value: 010e010800060001809200000000000000000000000000000000	 Option: (82) Agent Information Option Length: 47 value: 01ee0108000600018a9200a0000000000206707db9b84daf97090074656e616e742d610b040a0a0a018040a0a0a00e Option 82 Suboption: (1) Agent Circuit ID Length: 14 -value: 018000600018a9200a0000000e Agent Circuit ID Option 82 Suboption: (2) Agent Remote ID Length: 6 -value: 707db9b8daf Agent Circuit ID
 Option: (2) Agent Information Option Length: 47 value: 01ee018800060001832000000000000000000000000000000000	<pre> Option: (2) Agent Information Option Length: 47 </pre> <pre></pre>
<pre> Option: (2) Agent Information Option Length: 47</pre>	<pre>> Option: (82) Agent Information Option Length: 47 - <value: 01e00108000600018a9200a000000000000000000000000000000000<="" td=""></value:></pre>
 Option: (2) Agent Information Option Length: 47 -Value: 010e0108000600018a9200a000000000000000000000000000000000	 Option: (82) Agent Information Option Length: 47 -Value: 01e010800060001832080.0000000206707db9b84daf970900746556e616e742d610b040a8a0a0105040a8a080e0 Option 82 Suboption: (1) Agent Circuit ID Length: 14 -Value: 01e0800600018a9200a00000080 -Qvalue: 01e0800600018a9200a00000080 -Qvalue: 01e0800600018a9200a00000080 Option 82 Suboption: (2) Agent Remote ID Length: 6 -Value: 707db9b84daf> Agent Circuit ID: 707db9b84daf> Option 82 Suboption: (151) VRF name/VPN ID Length: 9 Option 82 Suboption: (151) VRF name/VPN ID Length: 9 Option 82 Suboption: (151) VRF name/VPN ID Length: 9 Option 82 Suboption: (151) VRF name/VPN ID Length: 9 Option 82 Suboption: (151) VRF name/VPN ID Length: 9 Option 82 Suboption: (151) VRF name/VPN ID Length: 9 Option 82 Suboption: (151) VRF name/VPN ID Length: 9 Option 82 Suboption: (151) VRF name/VPN ID Length: 9 Option 82 Suboption: (151) VRF name/VPN ID Length: 9 Determine the suboption of the suboptic of the suboption of the suboption o
 Option: (82) Agent Information Option Length: 47 <pre></pre> <pre><td><pre> Option: (82) Agent Information Option Length: 47 </pre></td></pre>	<pre> Option: (82) Agent Information Option Length: 47 </pre>
<pre>v Option: (2) Agent Information Option Length: 47 <value: 010e0108000600018a9200a000000000000000007465666166742d610b040a0a0a0105040a0a0a00=""> v Option 82 Suboption: (1) Agent Circuit ID Length: 14 <value: 0108000600018a9200a0000000=""> <question 010000000018a92000000000="" <use="" end="" of="" of<="" td="" the=""><td> Option: (2) Agent Information Option Length: 47 - value: 01e00108000600018a9200a0000000000206707db9b84daf97090074656e616e742d610b040aaba0105040aaba0a008> Option 82 Suboption: (1) Agent Circuit ID Length: 14 - value: 018000500018a9200a0000008> Agent Circuit ID 018000500018a9200a0000008> - value: 018000500018a9200a0000008> - dyntum: 018000500018a9200a000008> - dyntum: 018000500018a9200a0000008> - dyntum: 018000500018a9200a0000008> - dyntum: 018000500018a9200a0000008> - dyntum: 018000500018a9200a0000008> - dyntum: 018000500018a9200a0000008 - dyntum: 018000500018a9200a0000008 - dyntum: 077db9584daf> - dyntum: 077db9584daf> - dyntum: 0177db9584daf - dyntum: 01510 VRF name/VPN ID Length: 9 - value: 8746556516e742d61> - VEF name: -</td></question></value:></value:></pre>	 Option: (2) Agent Information Option Length: 47 - value: 01e00108000600018a9200a0000000000206707db9b84daf97090074656e616e742d610b040aaba0105040aaba0a008> Option 82 Suboption: (1) Agent Circuit ID Length: 14 - value: 018000500018a9200a0000008> Agent Circuit ID 018000500018a9200a0000008> - value: 018000500018a9200a0000008> - dyntum: 018000500018a9200a000008> - dyntum: 018000500018a9200a0000008> - dyntum: 018000500018a9200a0000008> - dyntum: 018000500018a9200a0000008> - dyntum: 018000500018a9200a0000008> - dyntum: 018000500018a9200a0000008 - dyntum: 018000500018a9200a0000008 - dyntum: 077db9584daf> - dyntum: 077db9584daf> - dyntum: 0177db9584daf - dyntum: 01510 VRF name/VPN ID Length: 9 - value: 8746556516e742d61> - VEF name: -
Option: (2) Agent Information Option Length: 47 <value: 01e0108000500013832000.00000000000000000000000000000000<="" td=""><td><pre> Option: (82) Agent Information Option Length: 47 </pre> <pre></pre></td></value:>	<pre> Option: (82) Agent Information Option Length: 47 </pre> <pre></pre>
<pre> Option: (82) Agent Information Option Length: 47</pre>	 Option: (22) Agent Information Option Length: 4 value: 010e0108000600018a9200a0000000000206707db9b84daf97090074656e616e742d610b040aa0a0018040aa0a0000 option: 82 Suboption: (1) Agent Circuit ID
<pre>v Option: (2) Agent Information Option Length: 47 <value: 01ee0188000600018320000000000000000007005084daf97090074656e616e742d6180b04000000105040000000=""> option 82 Suboption: (1) Agent Circuit ID Length: 14 <value: 010000000183220000000000<br="">Option 82 Suboption: (2) Agent Remote ID Length: 6 <value: 707db9b8ddaf=""> Agent Remote ID: 707db9b8ddaf Option 82 Suboption: (151) VRF name/VPN ID Length: 9 <value: 007db56e616e742d61=""> vVRF name: < [Expert Info (Warning/Undecoded): Trailing stray characters]</value:></value:></value:></value:></pre>	 Option: (82) Agent Information Option Length: 47 <
<pre>v Option: (82) Agent Information Option Length: 47 value: 01e0108000000011 (1) Agent Circuit ID Length: 14 value: 01080006000183020000000000 Degrad Circuit ID: 010800060001830200000000 Option 82 Suboption: (2) Agent Remote ID Length: 6 value: 7070b984dafs Agent Circuit ID: 7070b984daf (Dption 82 Suboption: (151) VMF name/VM ID Length: 9 value: 80405600016024015 (Expert Info (Warning/Undecoded): Trailing stray characters] (Trailing stray characters]</pre>	<pre> Option: (82) Agent Information Option Length: 47 value: 01e010800006001332000.000000000000000000000000000000</pre>
<pre>v Option: (82) Agent Information Option Length: 47 <value: 01e010800006001382000.000000000000000000000000000000000<="" td=""><td><pre> Option: (2) Agent Information Option Length: 47 </pre></td></value:></pre>	<pre> Option: (2) Agent Information Option Length: 47 </pre>
<pre>v Option: (2) Agent Information Option Length: 47 value: 01e0108000000013822000000000000000000000000</pre>	<pre>Option: (82) Agent Information Option Length: 47 <value: 01e01800006001382000.000000000206707db9b84daf97090074656e616e742d610b040a0a00105840a0a0a000<br="">Option 82 Suboption: (1) Agent Circuit ID Length: 14 <value: 10300060001839200a0000000<br="">Option 82 Suboption: (2) Agent Remote ID Length: 6 <value: 707db9b84daf=""> Agent Circuit ID: 707db9b84daf Option 82 Suboption: (13) VMF name/VPN ID Length: 9 <value: 804565e616e742d61=""> VMF name: Option 82 Suboption: (11) Server ID Override (10.10.10.1) Length: 4 <value: 8043604=""> Server ID Override: 10.10.10.1</value:></value:></value:></value:></value:></pre>
<pre>v Option: (82) Agent Information Option Length: 47 value: 01e00108000000011320200.000000000000000000000000</pre>	<pre> Option: (2) Agent Information Option Length: 4</pre>
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<pre>v Option: (82) Agent Information Option Length: 47 value: 0100000000000000000000000000000000000</pre>	<pre> Option: (82) Agent Information Option Length: 47 <value: 01e01080000600132000.0000000000000000000000000000000<="" td=""></value:></pre>
<pre>v Option: (2) Agent Information Option Length: 47 value: 01e008000000011 (1) Agent Linformation Option Length: 47 value: 01e000000001 (1) Agent Circuit ID Length: 14 value: 010000000001 (2) Agent Artoret ID Length: 14 value: 0100000000000000000000000000000000000</pre>	Option: (2) Agent Information Option Length: 47 v(alue: 01e010800060018a9200a00000000000007/db9b84daf97090074656e616e742d610b040aaba00165040aaba0a0080 (ption 82 Suboption: (1) Agent Circuit ID Length: 14
<pre>v Option: (82) Agent Information Option Length: 47 <value: 01e0108000500018392000000000000000000000000000000000000<="" td=""><td><pre>> Option: (82) Agent Information Option Length: 47 <value: 01e010800060001332000.0000000000000707db9b84daf97090074656e616e742d610b040a0a00105040a0a0a0000<br="">> Option 82 Suboption: (1) Agent Circuit ID Length: 14 <value: 10300060001839200a0000000<br="">> Option 82 Suboption: (2) Agent Remote ID Length: 6 <value: 707db9b84daf=""> Agent Circuit ID: 707db9b84daf > Option 82 Suboption: (13) VMF name/VPN ID Length: 9 <value: 804565e616e742d61=""> > VMF name: > Option 82 Suboption: (11) Server ID Override (10.10.10.1) Length: 4 <value: 804565e616e742d61=""> > VMF name: > Option 82 Suboption: (15) Link selection (10.10.10.0) Length: 4 <value: 8048a0a0=""> Server ID Override: 10.10.10.0) Length: 4 <value: 8048a0a0=""> Link selection: 10.10.10.0</value:></value:></value:></value:></value:></value:></value:></pre></td></value:></pre>	<pre>> Option: (82) Agent Information Option Length: 47 <value: 01e010800060001332000.0000000000000707db9b84daf97090074656e616e742d610b040a0a00105040a0a0a0000<br="">> Option 82 Suboption: (1) Agent Circuit ID Length: 14 <value: 10300060001839200a0000000<br="">> Option 82 Suboption: (2) Agent Remote ID Length: 6 <value: 707db9b84daf=""> Agent Circuit ID: 707db9b84daf > Option 82 Suboption: (13) VMF name/VPN ID Length: 9 <value: 804565e616e742d61=""> > VMF name: > Option 82 Suboption: (11) Server ID Override (10.10.10.1) Length: 4 <value: 804565e616e742d61=""> > VMF name: > Option 82 Suboption: (15) Link selection (10.10.10.0) Length: 4 <value: 8048a0a0=""> Server ID Override: 10.10.10.0) Length: 4 <value: 8048a0a0=""> Link selection: 10.10.10.0</value:></value:></value:></value:></value:></value:></value:></pre>
<pre> Option: (82) Agent Information Option Length: 47 value: 0100000000000000000000000000000000000</pre>	<pre> Option: (82) Agent Information Option Length: 47 value: 81e818888668018832083808808080206787db9b84daf9799807465666166742d610b848a8a808080 Option 82 Suboption: (1) Agent Circuit ID Length: 14</pre>
<pre> Option: (82) Agent Information Option Length: 47</pre>	<pre>> Option: (82) Agent Information Option Length: 47 <value: 01e010800060001032000.00000000000000000000000000000<="" td=""></value:></pre>
<pre>v Option: (82) Agent Information Option Length: 47 value: 0100000000000000000000000000000000000</pre>	<pre> Option: (82) Agent Information Option Length: 47 <value: 01e01080000600132000.0000000000000000000000000000000<="" td=""></value:></pre>
<pre>v Option: (2) Agent Information Option Length: 47 value: 0100000000000000000000000000000000000</pre>	<pre>> Option: (2) Agent Information Option Length: 4 > Option 82 Suboption: (1) Agent Circuit ID Length: 14 Agent Circuit ID: 0160800600018a3208a90000000 > Option 82 Suboption: (2) Agent Remote ID Length: 6 Agent Remote ID: 707db9b84daf > Option 82 Suboption: (151) VKF name/VPN ID Length: 9 > VKF name: > Option 82 Suboption: (11) Server ID Override (10.10.10.1) Length: 4 Server ID Override: 10.10.10.1 > Option 82 Suboption: (5) Link selection (10.10.10.0) Length: 4 Link selection: 10.10.10.0 > Option (255) Ed</pre>
<pre>v Option: (82) Agent Information Option Length: 47 value: 01e0108000500018392000000000000000000000000000000000000</pre>	<pre>> Option: (82) Agent Information Option Length: 47 <value: 01e010800006001382000.0000000000007070="" b9b84daf97090074656e616e742d610b040a0a00105040a0a0a0000<br="">> Option 82 Suboption: (1) Agent Circuit ID Length: 14 <value: 10800060001830200a0000000<br="">> Option 82 Suboption: (2) Agent Remote ID Length: 6 <value: 2070b9b8daf=""> Agent Circuit ID: 070b9b8daf> Option 82 Suboption: (13) VMF name/VPN ID Length: 9 <value: 204565e616e742d61=""> > VMF name: > Option 82 Suboption: (1) Server ID Override (10.10.10.1) Length: 4 <value: 804565616e742d61=""> > UMF name: > Option 82 Suboption: (5) Link selection (10.10.10.0) Length: 4 <value: 8048040=""> Server ID Override: 10.10.10.1 > Option 82 Suboption: (5) Link selection (10.10.10.0) Length: 4 <value: 8048040=""> Link selection: 10.10.10.0 > Option (255) End Option Ed 255</value:></value:></value:></value:></value:></value:></value:></pre>
<pre> Option: (82) Agent Information Option Length: 47 value: 0100000000000000000000000000000000000</pre>	<pre> Option: (82) Agent Information Option Length: 47 <value: 01e01080000600130200000000000000000000000000000<="" td=""></value:></pre>
<pre>v Option: (82) Agent Information Option Length: 47 value: 01e010800050001830200000000000000000000000000000000</pre>	 Option: (82) Agent Information Option Length: 47 value: 01e01080006001332000.000000000000077db9b84daf97090074656e616e742d610b040a0a0a0105040a0a0a0000 Option 82 Suboption: (1) Agent Circuit ID Length: 14 value: 0108006001389200a0000000 Option 82 Suboption: (2) Agent Remote ID Length: 6 value: 707db9b84daf> Agent Circuit ID: 707db9b84daf Option 82 Suboption: (12) Agent Remote ID Length: 6 value: 707db9b84daf> Agent Remote ID: 707db9b84daf Option 82 Suboption: (13) VMF name/VMN ID Length: 9 value: 80456566166742d61> VMF name: Option 82 Suboption: (11) Server ID Override (10.10.10.1) Length: 4 value: 80456566166742d61> VMF name: Option 82 Suboption: (11) Server ID Override (10.10.10.1) Length: 4 value: 80480a00 Server ID Override: 10.10.1 Option 82 Suboption: (5) Link selection (10.10.10.0) Length: 4 value: 80480a00 Option 10.1 (20.10.10.0) Length: 4 value: 80480a00 Use 80480a00 Option 22 Suboption: (5) Link selection (10.10.10.0) Length: 4 value: 80480a00 Option 10.12.10.100 Option 10.12.50 End Option End: 255
<pre>v Option: (82) Agent Information Option Length: 47 value: 01e0018000000001 (1) Agent Circuit ID Length: 14 value: 010000600015020000000000 Option 02 Suboption: (1) Agent Circuit ID Length: 14 value: 0100006000150200000000 Option 02 Suboption: (2) Agent Remote ID Length: 6 value: 707000804daf> Agent Circuit ID: 010000000000 Option 02 Suboption: (15) VKF name/VFM ID Length: 6 value: 00406000000000000000000000000000000000</pre>	<pre> Option: (2) Agent Information Option Length: 47 <value: 01e01080000600132000.0000000000000000000000000000000<="" td=""></value:></pre>
<pre> Option: (82) Agent Information Option Length: 47 value: 810e8080600818a92000.000000000000000000000000000000000</pre>	 Option: (82) Agent Information Option Length: 47 value: 01e0108000600012073db9b84daf970900746556c616c742d610b040a0a00105040a0a0a000 Option 82 Suboption: (1) Agent Circuit ID
<pre>> Option: (82) Agent Information Option Length: 47</pre>	<pre>> Option: (22) Agent Information Option Length: 47 <value: 01e018000060001832200a000000000000707db9b84daf97090074656e616e742d610b040a0a0a0105040a0a0a0000<br="">> Option 82 Suboption: (1) Agent Circuit ID Length: 14 <value: 01080060001830200a000000<br="">> Option 82 Suboption: (2) Agent Remote ID Length: 6 <value: 707db98dafs=""> Agent Circuit ID: 010800600018daf > Option 82 Suboption: (1) Server ID Length: 9 <value: 707db98dafs=""> > Option 82 Suboption: (1) Server ID Override (10.10.10.1) Length: 4 <value: 0074656e616e742d61=""> > Option 82 Suboption: (1) Server ID Override (10.10.10.1) Length: 4 <value: 0074656e616e742d61=""> > Option 82 Suboption: (1) Lenver ID Override (10.10.10.1) Length: 4 <value: (1)="" (10.10.10.1)<br="" 0074050e510;="" id="" lenver="" override="">Length: 4 <value: (1)="" (10.10.10.1)<br="" 0074050;="" id="" lenver="" override="">Length: 4 <value: (1)="" (10.10.1)<br="" 0074050;="" id="" lenver="" override="">Length: 4 <value: (1)="" 0074050;="" len<="" td=""></value:></value:></value:></value:></value:></value:></value:></value:></value:></value:></value:></value:></value:></value:></value:></value:></value:></value:></value:></value:></value:></value:></value:></value:></value:></value:></value:></value:></pre>

Oferta de DHCP en LEAF-1

Oferta recibida en LEAF-1	Envío de oferta en LEAF-1
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	> Ethernet II, Src: 70:7d:b9:b8:4d:af, Dst: ff:ff:ff:ff:ff:ff
February TT Con. 10,69,40,01,07,07, Date 70,74,60,60,44,04	> Internet Protocol Version 4, Src: 10.10.10.1, Dst: 255.255.255.255
> Enernet 11, Src: 10:03:00:04:85:97, Dst: 70:70:09:08:40:07	> User Datagram Protocol, Src Port: 67, Dst Port: 68
User Datagram Protocol, Src Port: 65518, Dst Port: 4789	 Dynamic Host Configuration Protocol (Offer)
> Flags: 0x0800, VXLAN Network ID (VNI)	Message type: Boot Reply (2)
Group Policy ID: 0	Hardware type: Ethernet (0x01)
Reserved: 0	Hardware address length: 6
Ethernet II, Src: 02:00:0d:0d:0d:fe, Dst: 70:7d:b9:b8:4d:af	Hons: 0
> Internet Protocol Version 4, Src: 10.10.10.150, Dst: 1/2.16.10.8 > User Datagram Protocol. Src Port: 67. Dst Port: 67	Transaction ID: 0xe0e35087
Dynamic Host Configuration Protocol (Offer)	Seconds elansed: 0
Message type: Boot Repty (2) Hardware type: Ethernet (0x01)	Beets flags: 0x2000 Breadcast flag (Breadcast)
Hardware address length: 6	Client TD addresses 0.0.0.0
Hops: 0 Transaction ID: 0xe9e35087	Client IP address: 0.0.0
Seconds elapsed: 0	Your (client) IP address: 10.10.10.3
> Bootp Flags: 0x8000, Broadcast flag (Broadcast) Client IP address: 0.0.0.0	Next server IP address: 10.10.10.150
Your (client) IP address: 10.10.10.3	Relay agent IP address: 10.10.10.1
Next server IP address: 10.10.10.100 Relay agent IP address: 172.16.10.8	Client MAC address: 00:50:56:a5:fd:dd
Client MAC address: 00:50:56:a5:fd:dd	Client hardware address padding: 0000000000000000000
Server host name not given	Server host name not given
Boot file name not given	Boot file name not given
<pre>> Option: (53) DHCP Message Type (Offer)</pre>	Magic cookie: DHCP
Length: 1	Option: (53) DHCP Message Type (Offer)
CValue: 02> DHCP: Offer (2)	Length: 1
<pre>> Option: (1) Subnet Mask (255.255.25.0) </pre>	<value: 02=""></value:>
<value: ffffff00=""></value:>	DHCP: Offer (2)
Subnet Mask: 255.255.255.0	<pre>v Ontion: (1) Subnet Mask (255,255,255,0)</pre>
Length: 4	length: 4
<value: 0000a8c0=""> Renewal Time Value: 12 hours (43200)</value:>	Alalue: ffffff00
· Option: (59) Rebinding Time Value	Subpot Mocky 255 255 0
Length: 4	Sublet Mask; 255,255,255,0
Rebinding Time Value: 21 hours (75600)	v option: (56) Kenewal Time value
 Option: (51) IP Address Lease Time Length: 4 	Length: 4
<value: 00015180=""></value:>	<value: 0000a8c0=""></value:>
IP Address Lease Time: 1 day (86400) v Option: (54) DHCP Server Identifier (10.10.10.1)	Renewal Time Value: 12 hours (43200)
Length: 4	v Option: (59) Rebinding Time Value
<value: 0a0a0a01=""> DHCP Server Identifier: 10.10.10.1</value:>	Length: 4
Option: (15) Domain Name	<value: 00012750=""></value:>
Length: 10 <value: 636973636f2e636f6d00=""></value:>	Rebinding Time Value: 21 hours (75600)
Domain Name: cisco.com	v Option: (51) IP Address Lease Time
Option: (82) Agent Information Option Length: 47	Length: 4
<pre><value: 010e0108000600018a9200a000000000206707db9b84daf97090074656e616e742d610b040a0a0a0105040a0a0a00=""></value:></pre>	<value: 00015180=""></value:>
<pre>v uption oz suboption: (1) Agent Circuit 10 Length: 14</pre>	IP Address Lease Time: 1 day (86400)
<value: 0108000600018a9200a000000000=""></value:>	Option: (54) DHCP Server Identifier (10.10.10.1)
 Option 82 Suboption: (2) Agent Remote ID 	Length: 4
Length: 6	<value: 0a0a0a01=""></value:>
Agent Remote ID: 707db9b84daf	DHCP Server Identifier: 10.10.10.1
Option 82 Suboption: (151) VRF name/VPN ID Length: 9	<pre>v Ontion: (3) Router</pre>
<value: 0074656e616e742d61=""></value:>	length: 4
VRF name: v Option 82 Suboption: (11) Server TD Override (10 10 10 1)	
Length: 4	Poutor: 10 10 10 1
<value: 0a0a0a01=""> Server ID Override: 10.10.10.1</value:>	Ontion: (15) Domain Name
Option 82 Suboption: (5) Link selection (10.10.10.0)	v option: (15) Domain Name
Length: 4 <value: 0a0a0a00=""></value:>	
Link selection: 10.10.10.0	<value: 3b3bt2eb3btbd00="" b3b9=""></value:>
Option: (255) End Option End: 255	Domain Name: cisco.com
	<pre>v Uption: (255) End</pre>
	Option End: 255

Oferta DHCP recibida en HOST-1

```
> Ethernet II, Src: 70:7d:b9:b8:4d:af, Dst: ff:ff:ff:ff:ff:ff
> Internet Protocol Version 4, Src: 10.10.10.1, Dst: 255.255.255.255
> User Datagram Protocol, Src Port: 67, Dst Port: 68

    Dynamic Host Configuration Protocol (Offer)

   Message type: Boot Reply (2)
   Hardware type: Ethernet (0x01)
   Hardware address length: 6
   Hops: 0
   Transaction ID: 0xe9e35087
    Seconds elapsed: 0
  > Bootp flags: 0x8000, Broadcast flag (Broadcast)
    Client IP address: 0.0.0.0
    Your (client) IP address: 10.10.10.3
   Next server IP address: 10.10.10.150
   Relay agent IP address: 10.10.10.1
    Client MAC address: 00:50:56:a5:fd:dd
    Client hardware address padding: 0000000000000000000
    Server host name not given
    Boot file name not given
   Magic cookie: DHCP

    Option: (53) DHCP Message Type (Offer)

      Length: 1
      <Value: 02>
      DHCP: Offer (2)

    Option: (1) Subnet Mask (255.255.255.0)

      Length: 4
      <Value: ffffff00>
      Subnet Mask: 255.255.255.0

    Option: (58) Renewal Time Value

      Length: 4
      <Value: 0000a8c0>
      Renewal Time Value: 12 hours (43200)
 Option: (59) Rebinding Time Value
      Length: 4
      <Value: 00012750>
      Rebinding Time Value: 21 hours (75600)
 v Option: (51) IP Address Lease Time
      Length: 4
      <Value: 00015180>
      IP Address Lease Time: 1 day (86400)
 v Option: (54) DHCP Server Identifier (10.10.10.1)
      Length: 4
      <Value: 0a0a0a01>
      DHCP Server Identifier: 10.10.10.1
 Option: (3) Router
      Length: 4
      <Value: 0a0a0a01>
      Router: 10.10.10.1

    Option: (15) Domain Name

      Length: 10
      <Value: 636973636f2e636f6d00>
      Domain Name: cisco.com

    Option: (255) End

      Option End: 255
```

Solicitud enviada por HOST-1

```
Ethernet II, Src: 00:50:56:a5:fd:dd, Dst: ff:ff:ff:ff:ff:ff
 Internet Protocol Version 4, Src: 0.0.0.0, Dst: 255.255.255.255
 User Datagram Protocol, Src Port: 68, Dst Port: 67

    Dynamic Host Configuration Protocol (Request)

   Message type: Boot Request (1)
   Hardware type: Ethernet (0x01)
   Hardware address length: 6
   Hops: 0
   Transaction ID: 0xe9e35087
   Seconds elapsed: 0

    Bootp flags: 0x8000, Broadcast flag (Broadcast)

     1... .... = Broadcast flag: Broadcast
      .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:a5:fd:dd
   Client hardware address padding: 0000000000000000000
   Server host name not given
   Boot file name not given
   Magic cookie: DHCP

    Option: (53) DHCP Message Type (Request)

     Length: 1
     <Value: 03>
     DHCP: Request (3)
 Option: (61) Client identifier
     Length: 7
     <Value: 01005056a5fddd>
     Hardware type: Ethernet (0x01)
     Client MAC address: 00:50:56:a5:fd:dd
 Option: (50) Requested IP Address (10.10.10.3)
     Length: 4
     <Value: 0a0a0a03>
     Requested IP Address: 10.10.10.3

    Option: (54) DHCP Server Identifier (10.10.10.1)

     Length: 4
     <Value: 0a0a0a01>
     DHCP Server Identifier: 10.10.10.1

    Option: (12) Host Name

     Length: 10
     <Value: 43584c6162732d573130>
     Host Name: CXLabs-W10
 Option: (81) Client Fully Qualified Domain Name
     Length: 13
     <Value: 00000043584c6162732d573130>

    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: CXLabs-W10
  Option: (60) Vendor class identifier
      Length: 8
      <Value: 4d53465420352e30>
      Vendor class identifier: MSFT 5.0

    Option: (55) Parameter Request List

      Length: 14
      <Value: 0103060f1f212b2c2e2f7779f9fc>
      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: (255) End

      Option End: 255
```

Solicitud en LEAF-1

Solicitud recibida en LEAF-1	Solicitud enviada por LEAF-1
Ethernet II, Src: 00:50:56:a5:fd:dd, Dst: ff:ff:ff:ff:ff:ff Internet Protocol Version 4, Src: 0.0.0.0, Dst: 255.255.255.255 User Datagram Protocol, Src Port: 68, Dst Port: 67	Ethernet II, Src: 78:7d:09:08:4d:af, Dst: 10:03:06:a4:85:97 Internet Protocol Version 4, Src: 5.5.5, Dst: 13.13.13.254 User Datagram Protocol, Src Port: 31730, Dst Port: 4789 Virtual eXtensible Local Area Network
 Dynamic Host Configuration Protocol (Request) 	Flags: BX0800, VXLAN Network ID (VNL) Group Policy ID: 0
Message type: boot Request (1) Hardware type: Ethernet (0x01)	VXLAN Network Identifier (VNI): 303030 Reserved: 0
Hardware address length: 6	 Ethernet II, Src: 70:70:09:08:40:ar, Dst: 02:00:00:00:06:re Internet Protocol Version 4, Src: 172.16.10.8, Dst: 10.10.10.150
Hops: 0 Transaction ID: 0xe9e35087	 User Datagram Protocol, Src Port: 67, Dst Port: 67 Dynamic Host Configuration Protocol (Request)
Seconds elapsed: 0	Message type: Boot Request (1) Hardware type: Ethernet (0x01)
Bootp flags: 0x8000, Broadcast flag (Broadcast) Interpret and the second sec	Hardware address length: 6 Hops: 1
.000 0000 0000 = Reserved flags: 0x0000	Transaction ID: 0xe9e35087 Seconds elapsed: 0
Client IP address: 0.0.0	Bootp flags: 0x8000, Broadcast flag (Broadcast) Client TP address: 0.0.0.0
Next server IP address: 0.0.0	Your (client) IP address: 0.0.0.0
Relay agent IP address: 0.0.0.0	Relay agent IP address: 172.16.10.8
Client Mac address: 00:50:56:a5:Td:dd Client hardware address padding: 000000000000000000000	Client Mac address: de:50:50:30:10:00 Client hardware address padding: 00000000000000000000
Server host name not given	Server host name not given Boot file name not given
Boot file name not given Magic cookie: DHCP	Magic cookie: DHCP -> Option: (53) DHCP Message Type (Request)
Option: (53) DHCP Message Type (Request)	Length: 1 <value: 03=""></value:>
Length: 1	DHCP: Request (3) ~ Option: (61) Client identifier
DHCP: Request (3)	Length: 7 cValue: 01005056a5fddda
Option: (61) Client identifier	Hardware type: Ethernet (0x01)
<pre>Lengtn: / <value: 01005056a5fddd=""></value:></pre>	 Option: (50) Requested IP Address (10.10.10.3)
Hardware type: Ethernet (0x01)	Length: 4 <value: 0a0a0a03=""></value:>
Client MAC address: 00:50:56:a5:fd:dd	Requested IP Address: 10.10.10.3 - Option: (54) DHCP Server Identifier (10.10.10.150)
Length: 4	Length: 4 <value: 0a0a0a96=""></value:>
<value: 0a0a0a03=""></value:>	DHCP Server Identifier: 10.10.10.150
 Option: (54) DHCP Server Identifier (10.10.10.1) 	Length: 10
Length: 4	Host Name: CXLabs-W10
<value: 0a0a0a01=""> DHCP Server Identifier: 10.10.10.1</value:>	 Option: (81) Client Fully Qualified Domain Name Length: 13
Option: (12) Host Name	<value: 00000043584c6162732d573130=""> > Flags: 0x00</value:>
Length: 10	A-RR result: 0 PTR-RR result: 0
<value: 43584061627320573130=""> Host Name: CXLabs-W10</value:>	Client name: CXLabs-W10
Option: (81) Client Fully Qualified Domain Name	Length: 8
Length: 13 <value: 00000043584c6162732d573130=""></value:>	Vendor class identifier: MSFT 5.0
<pre>> Flags: 0x00</pre>	 Option: (55) Parameter Request List Length: 14
0000 = Reserved flags: 0x0	<value: 0103060f1f212b2c2e2f7779f9fc=""> Parameter Request List Item: (1) Subnet Mask</value:>
O = Encoding: ASCII encoding	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
A-RR result: 0	Parameter Request List Item: (33) Static Route
PTR-RR result: 0	Parameter Request List Item: (43) Vendor-specific information Parameter Request List Item: (44) NetBIOS over TCP/IP Name Server
Client name: CXLabs-W10	Parameter Request List Item: (40) NetBIOS over TCP/IP Node Type Parameter Request List Item: (47) NetBIOS over TCP/IP Scope
Length: 8	Parameter Request List Item: (119) Domain Search Parameter Request List Item: (121) Classless Static Route
<value: 4d53465420352e30=""></value:>	Parameter Request List Item: (249) Private/Classless Static Route (Microsoft) Parameter Request List Item: (252) Private/Proxy autodiscovery
vendor class identifier: MSFF 5.0 v Option: (55) Parameter Request List	 Option: (82) Agent Information Option Length: 47
Length: 14	
<value: 0103060f1f212b2c2e2f7779f9fc=""> Parameter Request List Item: (1) Subpet Mask</value:>	Length: 14
Parameter Request List Item: (3) Router	<value: 010500000001839200300000000000<br="">Agent Circuit ID: 010800060001839200300000000</value:>
Parameter Request List Item: (6) Domain Name Server	 Option 82 Suboption: (2) Agent Remote ID Length: 6
Parameter Request List Item: (15) Domain Name Parameter Request List Item: (31) Perform Router Discover	<value: 707db9b84daf=""> Agent Remote ID: 707db9b84daf</value:>
Parameter Request List Item: (33) Static Route	 Option 82 Suboption: (151) VRF name/VPN ID Length: 9
Parameter Request List Item: (43) Vendor-Specific Information Parameter Request List Item: (44) NetRIDS over TCP/IP Name Server	<value: 0074656e616e742d61=""></value:>
Parameter Request List Item: (46) NetBIOS over TCP/IP Node Type	Expert Info (Warning/Undecoded): Trailing stray characters] [0.01010 82 Subortion: (11) Server ID Overcide (18 18 18 1)
Parameter Request List Item: (47) NetBIOS over TCP/IP Scope	Length: 4
Parameter Request List Item: (121) Classless Static Route	<value: 00000001=""> Server ID Override: 10.10.10.1</value:>
Parameter Request List Item: (249) Private/Classless Static Route (Microsoft)	 Option 82 Suboption: (5) Link selection (10.10.10.0) Length: 4
 Parameter Request List Item: (252) Private/Proxy autodiscovery Option: (255) End 	<value: 0a0a0a00=""> Link selection: 10.10.00</value:>
Option End: 255	Option: (255) End Option End: 255

Solicitud en COLUMNA

Solicitud recibida en SPINE

Solicitud de envío por SPINE

Ethernet II, Src: 70:7d:D9:b8:4d:af, Dst: 10:b3:d6:a4:85:97 Internet Protocol Version 4, Src: 5.5.5, Dst: 13.13.13.254 User Datagram Protocol, Src Port: 51730, Dst Port: 4789 Virtual eXtensible Local Area Network - Flags: 0x0000, VXLNN Network ID (WI) Group Policy ID: 0 VXLNN Network Identifier (WI): 303030 Reserved: 0 VALWW RETWOR A USERVATURE 1111 AND A CONSTRUCTION OF A CONSTRUCTIO Hops: 1 Seconds elapsed: 0 Bootp flags: 0x8800, Broadcast flag (Broadcast) Client IP address: 0.0.0.0 Next server IP address: 0.0.0.0 Relay agent IP address: 0.0.0.0 Relay agent IP address: 102.16.10.8 Client Mc address: 005:05:163:16;1dd Seconds elapsed: 0 Client MAC address: 00:50:56:65:67:61:dd Client hardware address padding: 0000000000000000000 Server host name not given Boot file name not given Magic cookie: DHKP Option: (53) DHCP Message Type (Request) Length: 1 <Value: 03-> DHCP: Remust (3) DHCP: Request (3) Option: (61) Client identifier Length: 7 <Value: 010050056a5fddd> Hardware type: Ethernet (0x01) Client M& address: 00:50:56:a5:fd:dd Option: (50) Requested IP Address (10.10.10.3) ption: (50) Requested IP Address (10.10.10.3) Length: 4 <Value: 0000003> Requested IP Address: 10.10.10.3 ption: (54) DHCP Server Identifier (10.10.10.150) Length: 4 <Value: 0000005> DHCP Server Identifier: 10.10.10.150 Option: (12) Host Name Value: 43584c6162732d573138> Host Name: CXLabs-W10 Option: (81) Client Fully Qualified Domain Name Length: 13 <Value: 00000043584c6162732d573130> <Value: 00000043584c6162732d573130>
Flags: 0x00
A-RR result: 0
PTR-RR result: 0
Client name: CXLabs-W10
Option: (60) Vendor class identifier
Length: 8
<Value: 4d53465420352438>
Vendor Usi desident profiles Vendor class identifier: MSFT 5.0 Option: (55) Parameter Request List Tomor Coss Jackson Cossenses List Length: 14 «Value: 803860f1f212b2c2e2f7779f9fc> «Value: 803860f1f212b2c2e2f7779f9fc> Parameter Request List Item: (3) Bouter Parameter Request List Item: (3) Bouter Parameter Request List Item: (3) Bouter Parameter Request List Item: (3) Derform Router Discover Parameter Request List Item: (3) Derform Router Discover Parameter Request List Item: (3) Perform Router Discover Parameter Request List Item: (3) Perform Router Discover Parameter Request List Item: (3) Vendor-Specific Information Parameter Request List Item: (4) NetBIOS over TCP/IP Name Server Parameter Request List Item: (4) NetBIOS over TCP/IP Name Server Parameter Request List Item: (4) NetBIOS over TCP/IP Name Server Parameter Request List Item: (12) Itensless Static Route Parameter Request List Item: (12) Itensless Static Route (Microsoft) Parameter Request List Item: (22) Private/Classless Static Route (Microsoft) Parameter Request List Item: (22) Private/Classless Static Route (Microsoft) Parameter Request List Item: (22) Private/Proxy autodiscovery point: 47 «Value: 816e0188080660818a9208a8080000080286707db9b84daf97090074656e616e742d61 Lengtm: 47 <Value: 010e01080006600018a9200a000000000206707db9b84daf97090074656e616e742d610b640a0a0a0105040a0a0a00 Option 82 Suboption: (1) Agent Circuit ID uption &2 Suboption: (1) Agent Circuit II Length: 1080006000183220000000000 Agent Circuit ID: 0180006000183220000 Option &2 Suboption: (2) Agent Remote ID Length: 6 <Value: 707db9b04daf> Agent Remote ID: 707db9b84daf Option 82 Suboption: (151) VRF name/VPN ID Length: 9 <Value: 0074656e616e742d61> VRF name: > [Expert Info (Warning/Undecoded): Trailing stray characters] Option 82 Suboption: (11) Server ID Override (10.10.10.1)
 ption 82 Suboption: (11) Server ID Override (10.10. Length: 4 <Value: 000000> Server ID Override: 10.10.10.1 ption 82 Suboption: (5) Link selection (10.10.10.0) Length: 4 <Value: 0000000> Length: 4 <Value: 0a0a0a01> Link selection: 10.10.10.0 Optio Option: (255) End Option End: 255

Ethernet II, Src: 10:b3:d6:a4:85:97, Dst: 60:26:aa:85:95:87 Internet Protocol Version 4, Src: 5.5.5.5, Dst: 13.13.13.254 User Datagram Protocol, Src Port: 13/30, Dst Port: 4789 Virual eXtensible Local Area Network - Flags: 0x0806, VXLAN Network ID (VMI) Group Policy ID: 0 VXLAN Network Identifier (VMI): 303030 Reserved: 0 VXLAN Network Identifier (VMI): 303030 Reserved: 0 Ethernet II, Src: 70:7d:b0:06:4d:ar, Dst: 02:00:0d:0d:0d:dd:fd Internet Protocol Version 4, Src: 172.16.10.8, Dst: 10.10.150 User Datagram Protocol, Src: Port: 67, Dst Port: 67 Dymaic Host Configuration Protocol (Request) Message type: Boo Request (1) Hardware type: Ethernet (0x01) Hardware address length: 6 Hoos: 1 Transaction ID: 0xe9e35087 Transaction ID: 0x9953087 Seconds elapsed: 0 Bootp flags: 0x8080, Broadcast flag (Broadcast) Client IP address: 0.0.0 Next server IP address: 0.0.0 Next server IP address: 0.0.0 Relay agent IP address: 00:0056:a5fdrdd Client MAC address: 00:0056:a5fdrdd Client MAC address: 00:50:50:50:10:00 Client hardware address padding: 00000000 Server host name not given Boot file name not given Magic cookie: DHCP Option: (53) DHCP Message Type (Request) Length: 1 <Value: 03> DHCP. Remoter (3) <Value: 03>
DHCP: Request (3)
Option: (61) Client identifier
Length: 7
<Value: 01005056a5fddd>
Hardware type: Ethernet (0x01)
Client MAC address: 00185563a5fddd
Option: (50) Requested IP Address (10.10.10.3)
Length: 4 Option: (50) Requested IP Address (10.10.10.3) Length: 4 <Value: 0800808>> Requested IP Address: 10.10.10.3 Option: (54) DHCP Server Identifier (10.10.10.150) Length: 4 <Value: 08008096> DHCP Server Identifier: 10.10.10.150 Option: (12) Host Name Length: 0 Uption: 147 Length: 14 <Value: 43584c6162732d573130> Host Name: CXLabs=W10 Option: (81) Client Fully Qualified Domain Name Length: 13 <Value: 00000043584c6162732d573130> «Value: U0000043584cb102/32d3/31300 Flags: 00/00 A-RR result: 0 PTR-RR result: 0 Client name: CKLabs-W10 ption: (60) Vendor class identifier Length: 8 <Value: 4d53465420352e30> Vendor class identifier MEET 5 0 Vendor class identifier: MSFT 5.0 Option: (55) Parameter Request List Agent Remote ID: 707db9b84daf Option 82 Suboption: (151) VRF name/VPN ID Length: 9 <Value: 0074656e616e742d61> VRF name: Option 82 Suboption: (11) Server ID Override (10.10.10.1) <Value: 0a0a0a01: Server ID Override: 10.10.10.1 Option 82 Suboption: (5) Link selection (10.10.10.0) Length: 4 <Value: 0a0a0a000-Link selection: 10.10.10.0 ption: (255) End

Solicitud en LEAF-2-vPC

Solicitar recevPCd en LEAF-2-vPC	Solicitud de envío por vPCAF-2-vPC
Ethernet II, Src: 10:b3:d6:a4:85:97, Dst: 60:26:aa:85:95:87 Internet Protocol Version 4, Src: 5.5.5, Dst: 13.13.13.24 User Datacare Protocol, Src Part: 51:33.0, Dst Port: 4780	
 Virtual extensible Local Area Network Flags: 0x0000, VXLAN Network ID (VNI) 	> Ethernet II, Src: 60:26:aa:85:95:87, Dst: 00:50:56:a5:dc:ca
Group Policy ID: 0 VXLAN Network Identifier (VNI): 303030	Internet Protocol Version 4, Src: 172.16.10.8, Dst: 10.10.10.150 User Datagram Protocol, Src Port: 67, Dst Port: 67
Reserved: 0	 Dynamic Host Configuration Protocol (Request)
Ethernet II, Src: 70:7d:b9:b8:4d:af, Dst: 02:00:0d:0d:0d:fe	Message type: Boot Request (1)
Internet Protocol Version 4, Src: 172.16.18.8, Dst: 10.10.10.150	Hardware type: Ethernet (0x01)
User Datagram Protocol, Src Port: 67, Dst Port: 67	Hardware address length: 6
Bynamic Host Configuration Protocol (Request) Message type: Boot Request (1) Hostory December 2010	Hops: 1 Transaction ID: 0xe9e35087
Hardware type: Ethernet (6001) Hardware address length: 6	> Bootp flags: 0x8000, Broadcast flag (Broadcast)
Transaction ID: 0xe9e35087 Seconds elansed: 0	Your (client) IP address: 0.0.0.0
Bootp flags: 0x8000, Broadcast flag (Broadcast)	Relay agent IP address: 172.16.10.8
Client IP address: 0.0.0.0	Client MAC address: 00:50:56:a5:fd:dd
Your (client) IP address: 0.0.0.0 Next server IP address: 0.0.0.0	Client hardware address padding: 000000000000000000000000000000000000
Relay agent IP address: 172.16.10.8	Boot file name not given
Client MAC address: 00:50:56:a5:fd:dd	Magic cookie: DHCP
Client hardware address padding: 000000000000000000000 Server host name not given	 Option: (53) DHCP Message Type (Request) Length: 1
Boot file name not given	<value: 03=""></value:>
Magic cookie: DHCP	DHCP: Request (3)
<pre>v uption: (33) untr message lype (kequest) Length: 1 v(h)une 02.</pre>	Uption: (b) (lief identifier Length: 7
DHCP: Request (3)	Hardware type: Ethernet (0x01) Clinet MAA address: 00:50:56:35:1d:dd
Length: 7	<pre>Option: (50) Requested IP Address (10.10.10.3)</pre>
<value: 01005056a5fddd=""></value:>	Length: 4
Hardware type: Ethernet (0x01)	<value: 0a0a0a03=""></value:>
Client MAC address: 00:50:56:a5:fd:dd	Requested IP Address: 10.10.10.3
 Option: (50) Requested IP Address (10.10.10.3)	Option: (54) DMCP Server Identifier (10.10.10.150)
Length: 4	Length: 4
<value: 0a0a0a03=""></value:>	<value: 0a0a0a96=""></value:>
Requested IP Address: 10.10.10.3	DHCP Server Identifier: 10.10.10.150
<pre>v Option: (54) DHCP Server Identifier (10.10.10.150)</pre>	Option: (12) Host Name
Length: 4	Length: 10
<pre><value: 00000090=""></value:></pre>	<value: 3130="" 320="" 43584(6162=""></value:>
DHCP Server Identifier: 10.10.10.150	Host Name: CXLabs-W10
	Ontion: (13) Cilcas Evily: Cuplified Densis Name
<pre>> Option: 112/ nost wame</pre>	<pre>> Option: (81) Client Fully Qualified Domain Name</pre>
Length: 10	Length: 13
<value: 43584r6162732d573130-<="" pre=""></value:>	<value: 00000043504="" 6162722="" 672120=""></value:>
Host Name: CXLabs-W10 • Option: (81) Client Fully Qualified Domain Name	> Flags: 0x00
Length: 13	PTR-RR result: 0
<value: 00000043584c6162732d573130=""></value:>	Client name: CXLabs-W10
> Flags: 0x00	Option: (60) Vendor class identifier
A-RR result: 0	Length: 8
PTR-RR result: 0	<value: 4d53465420352e30≻<="" td=""></value:>
Client name: CXLabs-W10	Vendor class identifier: MSFT 5.0
 Option: (60) Vendor class identifier	 Option: (55) Parameter Request List
Length: 8	Length: 14
<value: 403.405420322030-<="" td=""><td><volue: 0103000t121202c2217="" 79tc=""></volue:></td></value:>	<volue: 0103000t121202c2217="" 79tc=""></volue:>
Vendor class identifier: MSFT 5.0	Parameter Request List Item: (1) Subnet Mask
<pre>control: 135 Parameter Request List Length: 14 <value: 103066f1f212b2c2e2f7779f9fc=""></value:></pre>	Parameter Request List Item: (5) Nomein Name Server Parameter Request List Item: (5) Domain Name
Parameter Request List Item: (1) Subnet Mask	Parameter Request List Item: (31) Perform Router Discover
Parameter Request List Item: (3) Router	Parameter Request List Item: (33) Static Route
Parameter Request List Item: (6) Domain Name Server	Parameter Request List Item: (43) Vendor-Specific Information
Parameter Request List Item: (15) Domain Name	Parameter Request List Item: (44) NetBIOS over TCP/IP Name Server
Parameter Request List Item: (31) Perform Router Discover	Parameter Request List Item: (46) NetBIOS over TCP/IP Node Type
Parameter Request List Item: (33) Static Route	Parameter Request List Item: (47) NetBIOS over TCP/IP Scope
Parameter Request List Item: (43) Vendor-Specific Information	Parameter Request List Item: (119) Domain Search
Parameter Request List Item: (44) NetBIOS over TCP/IP Name Server	Parameter Request List Item: (121) Classless Static Route
Parameter Request List Item: (46) NetBIOS over TCP/IP Node Type	Parameter Request List Item: (249) Private/Classless Static Route (Microsoft)
Parameter Request List Item: (47) NetBIOS over TCP/IP Scope	Parameter Request List Item: (252) Private/Proxy autodiscovery
Parameter Request List Item: (12) Domain Search Parameter Request List Item: (121) Classless Static Route	 Option: (82) Agent Information Option Length: 47 <pre>Length: 47</pre>
Parameter Request List Item: (249) Private/Classiess Static Route (nicrosoft) Parameter Request List Item: (229) Private/Proxy autodiscovery Option: (82) Apapt Information Option	<pre><volue: blocblobedededeblobs200a0000000000000000000000000000000000<="" td=""></volue:></pre>
Length: 47 <value: 010e0108000600018a9200a000000000000000000000000000000000<="" td=""><td></td></value:>	
Option 82 Suboption: (1) Agent Circuit ID	 Option 82 Suboption: (2) Agent Remote ID
Length: 14	Length: 6
<value: 0108000600018a9200a00000000=""></value:>	<value: 707db9b84daf=""></value:>
Agent Circuit ID: 0108000600018a9200a00000000	Agent Remote ID: 707db9b84daf
 Option 82 Suboption: (2) Agent Remote ID	Option 82 Suboption: (151) VRF name/VPN ID
Length: 6	Length: 9
<value: 07db9b84daf=""></value:>	<value: 00746566616e742d61=""></value:>
Agent Remote ID: 707db9b84daf	VRF name:
<pre>> uption of suboption: (151) VVP name/VVN 10</pre>	<pre>v uption sz suboption: (11) Server ID Override (10.10.10.1)</pre>
Length: 9	Length: 4
	c/ts/ust 0040000>
VRF name: VRF name: v Ontion 82 Subootion: (11) Server ID Override (10.10.10.1)	Server ID Override: 10.10.10.1 9 Option 82 Subnotion: (5) Link selection (10.10.10.0)
Length: 4	Length: 4
<value: 0a0a0a01=""></value:>	<value: 0a0a0a00=""></value:>
Server ID Override: 10.10.10.1	Link selection: 10.10.10.0
• Option 82 Suboption: (5) Link selection (10.10.10.0)	• Option: (255) End
Length: 4 <value: 0a0a0a00=""></value:>	Option End: 255
Link selection: 10.10.10.0. • Option: (255) End	
Option End: 255	

Solicitud recibida en el servidor DHCP

Ethernet II, Src: 60:26:aa:85:95:87, Dst: 00:50:56:a5:dc:ca Internet Protocol Version 4, Src: 172.16.10.8, Dst: 10.10.10.150 User Datagram Protocol, Src Port: 67, Dst Port: 67 Dynamic Host Configuration Protocol (Request) Message type: Boot Request (1) Hardware type: Ethernet (0x01) Hardware address length: 6 Hons: 1 Transaction ID: 0xe9e35087 Seconds elapsed: 0 Bootp flags: 0x8000, Broadcast flag (Broadcast) 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: 172.16.10.8 Client MAC address: 00:50:56:a5:fd:dd 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 <Value: 03> DHCP: Request (3) Option: (61) Client identifier Length: 7 <Value: 01005056a5fddd> Hardware type: Ethernet (0x01) Client MAC address: 00:50:56:a5:fd:dd - Option: (50) Requested IP Address (10.10.10.3) Length: 4 <Value: 0a0a0a03> Requested IP Address: 10.10.10.3 · Option: (54) DHCP Server Identifier (10.10.10.150) Length: 4 <Value: 0a0a0a96> DHCP Server Identifier: 10.10.10.150 Option: (12) Host Name Length: 10 <Value: 43584c6162732d573130> Host Name: CXLabs-W10 Option: (81) Client Fully Qualified Domain Name Length: 13 <Value: 00000043584c6162732d573130> > Flags: 0x00 A-RR result: 0 PTR-RR result: 0 Client name: CXLabs-W10 Option: (60) Vendor class identifier Length: 8 <Value: 4d53465420352e30> Vendor class identifier: MSFT 5.0 Option: (55) Parameter Request List Length: 14 <Value: 0103060f1f212b2c2e2f7779f9fc> 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: 47 <Value: 010e0108000600018a9200a000000000206707db9b84daf97090074656e616e742d610b040a0a0a0105040a0a0a00> Option 82 Suboption: (1) Agent Circuit ID Length: 14 <Value: 0108000600018a9200a00000000> Agent Circuit ID: 0108000600018a9200a00000000 Option 82 Suboption: (2) Agent Remote ID Length: 6 <Value: 707db9b84daf> Agent Remote ID: 707db9b84daf Option 82 Suboption: (151) VRF name/VPN ID Length: 9 <Value: 0074656e616e742d61> VRF name: Option 82 Suboption: (11) Server ID Override (10.10.10.1) Length: 4 <Value: 0a0a0a01> Server ID Override: 10.10.10.1 Option 82 Suboption: (5) Link selection (10.10.10.0) Length: 4 <Value: 0a0a0a00> Link selection: 10.10.10.0 Option: (255) End Option End: 255

ACK enviado por servidor DHCP
```
Ethernet II, Src: 00:50:56:a5:dc:ca, Dst: 00:00:0a:0a:0a:0a
Internet Protocol Version 4, Src: 10.10.10.150, Dst: 172.16.10.8
User Datagram Protocol, Src Port: 67, Dst Port: 67
Dynamic Host Configuration Protocol (ACK)
  Message type: Boot Reply (2)
  Hardware type: Ethernet (0x01)
  Hardware address length: 6
  Hops: 0
  Transaction ID: 0xe9e35087
  Seconds elapsed: 0

    Bootp flags: 0x8000, Broadcast flag (Broadcast)

    1... .... = Broadcast flag: Broadcast
    .000 0000 0000 0000 = Reserved flags: 0x0000
  Client IP address: 0.0.0.0
  Your (client) IP address: 10.10.10.3
  Next server IP address: 0.0.0.0
  Relay agent IP address: 172.16.10.8
  Client MAC address: 00:50:56:a5:fd:dd
  Client hardware address padding: 00000000000000000000
  Server host name not given
  Boot file name not given
  Magic cookie: DHCP
  Option: (53) DHCP Message Type (ACK)
    Length: 1
    <Value: 05>
    DHCP: ACK (5)

    Option: (58) Renewal Time Value

    Length: 4
    <Value: 0000a8c0>
    Renewal Time Value: 12 hours (43200)

    Option: (59) Rebinding Time Value

    Length: 4
    <Value: 00012750>
    Rebinding Time Value: 21 hours (75600)
· Option: (51) IP Address Lease Time
    Length: 4
    <Value: 00015180>
    IP Address Lease Time: 1 day (86400)

    Option: (54) DHCP Server Identifier (10.10.10.1)

    Length: 4
    <Value: 0a0a0a01>
    DHCP Server Identifier: 10.10.10.1

    Option: (1) Subnet Mask (255.255.255.0)

    Length: 4
    <Value: ffffff00>
    Subnet Mask: 255.255.255.0
  Option: (81) Client Fully Qualified Domain Name
    Length: 3
    <Value: 00ffff>
    Flags: 0x00
    A-RR result: 255
    PTR-RR result: 255

    Option: (3) Router

    Length: 4
    <Value: 0a0a0a01>
    Router: 10.10.10.1

    Option: (15) Domain Name

    Length: 10
    <Value: 636973636f2e636f6d00>
    Domain Name: cisco.com

    Option: (82) Agent Information Option

    Length: 47
    <Value: 010e0108000600018a9200a00000000000206707db9b84daf97090074656e616e742d610b040a0a0a0105040a0a0a00>

    Option 82 Suboption: (1) Agent Circuit ID

      Length: 14
       <Value: 0108000600018a9200a00000000>
      Agent Circuit ID: 0108000600018a9200a00000000

    Option 82 Suboption: (2) Agent Remote ID

      Length: 6
       <Value: 707db9b84daf>
      Agent Remote ID: 707db9b84daf

    Option 82 Suboption: (151) VRF name/VPN ID

      Length: 9
       <Value: 0074656e616e742d61>
     VRF name:
        [Expert Info (Warning/Undecoded): Trailing stray characters]
           [Trailing stray characters]
<Message: Trailing stray characters>
           [Severity level: Warning]
           [Group: Undecoded]

    Option 82 Suboption: (11) Server ID Override (10.10.10.1)

      Length: 4
       <Value: 0a0a0a01>
      Server ID Override: 10.10.10.1
   Option 82 Suboption: (5) Link selection (10.10.10.0)
      Length: 4
       <Value: 0a0a0a00>
      Link selection: 10.10.10.0
  Option: (255) End
    Option End: 255
```

ACK en LEAF-2-vPC

ACK recibido en LEAF-2-vPC	ACK enviado por LEAF-2-vPC
<pre>Ethermet 11, Src: 00:55:56:45:46:40:00 Dif: 00:00:40:40:40:40 Ethermet Transcal Version 4, Src: 30.20:10; 00:00:10:10:10:10:10:10:10:10:10:10:10:1</pre>	<pre>Elbernet II, Src: 00:20100000000000000000000000000000000</pre>
Client naroware agoress paging: 000000000000000000000000000000000000	Client MAC address: 00:50:56:a5:fd:dd Client hardware address padding: 000000000000000000000 Server host name not given Boot file name not given Magic cookie: DHCP • Option: (53) DHCP Message Type (ACK)
DHCF: ACK (S) © Option: (58) Renewal Time Value Length: 4 «Value: 0000acdb» Renewal Time Value: 12 hours (43200) © Option: (59) Rebinding Time Value Length: 4	Length: 1 <value: 05=""> DHCP: ACK (5) © Option: (58) Renewal Time Value Length: 4 <value: 0000a8c0=""> Renewal Time Value: 12 hours (43200)</value:></value:>
<pre>congut: <ali> Rebinding Time Value: 21 hours (75600) O potion: (51) IP Address Lease Time Length: 4 IP Address Lease Time: 1 day (86400) Option: (54) DD(P Server Identifier (10.10.1))</ali></pre>	<pre>Option: (59) Rebinding Time Value Length: 4 <value: 0001275a=""> Rebinding Time Value: 21 hours (75600) Option: (51) IP Address Lease Time Length: 4 <value: 00015180=""></value:></value:></pre>
Length: 4 DBCF Server Identifier: 10.10.10 0 ption: (1) Subnet Mask (255.255.258.0) Length: 4 Subnet Mask: 255.255.255.0	IP Address Lease Time: 1 day (86400) Option: (54) DHP Server Identifier (10.10.10.1) Length: 4 <value: 00000001=""> DHCP Server Identifier: 10.10.10.1 Option: (1) Submet Mask (255.255.20) Length: 4</value:>
 ○ Option: (81) Client Fully Qualified Domain Name Lenght3 <value: 00fff=""></value:> Flags: 0x00 A-RR result: 255 PTR-RR result: 255 Option: (3) Router 	<pre><value: ffffff00=""> Subnet Hask: 255.255.255.0 Option: (81) Client Fully Qualified Domain Name Length: 3 <value: 00ffff=""> Flags: 0x00 0000 = Reserved flags: 0x0 0000 = Reserved flags: 0x0</value:></value:></pre>
Length: 4 <value: 00000001=""> Router: 10.10.10.1 Option: (15) Domain Name Length: 10 <value: 63697836f2e636f6000=""> Domain Name: c1sco.com</value:></value:>	
 Option: (82) Agent Information Option Length: 47 -value: 01e010800050013a9200.000000000206707db9b84daf97090074656e616e742d610b040a0a0a0105040a0a000> •Option 82 Suboption: (1) Agent Circuit ID Length: 14 -value: 01e0800600018a9200a00000000 -value: 01c0018a9200a0000000000 Agent Circuit ID: 010000000018a9200a000000000 	<pre></pre> <value: 0a00a001=""> <pre>Router: 0a10a.01</pre> <pre>Option: (15) Domain Name Length: 10 <pre></pre> <pre></pre> <pre>Length: 10 <pre></pre> <pre></pre> <pre></pre> <pre>/</pre> <pre>/ <pre>/ <pre>/ <pre>/ <pre>/ <pre>/ <pre>/ <pre>/ <pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></value:>
<pre>> Option 82 Suboption: (2) Agent Remote ID Length: 6</pre>	Length: 47 <value: 010e0100000600018s9200a0000000206707db9b84daf9709007465666166742d610b040a0a0a0105040a0a0a0<br="">> Option 82 Suboption: (1) Agent Circuit ID Length: 14 <value: 0108000600018s9200a00000000<br="">Agent Circuit ID: 010800600018s9200aa00000000 Agent Circuit ID: 010800600018s9200aa00000000 > Option 82 Suboption: (2) Agent Remote ID</value:></value:>
<pre>vwr name: [Expert Info (Warning/Undecoded): Trailing stray characters] [Trailing stray characters] «Message: Trailing stray characters> [Severity level: Warning] [foroup: Undecoded] voption 82 Suboption: (11) Server ID Override (10.10.10) leverity A</pre>	Length: 6 <value: 707d9084daf=""> Agent Remote ID: 707d9085daf Option 82 Suboption: (151) VRF name/VFN ID Length: 9 <value: 00746566616e742d61=""> VRF name:</value:></value:>
<pre>~vValue: 0a0a0a01> Server ID Override: 10.10.10.1 • Option 82 Suboption: (5) Link selection (10.10.10.0) Length: 4 ~vValue: 0a0a0a0a0> Link selection: 10.10.10.0 • Option: (255) End</pre>	<pre>> [Expert Info (Warning/Undecoded): Trailing stray characters] [Trailing stray characters] dessage: Trailing stray characters> [Severity Level: Warning] [Group: Undecoded] option 82 Subpotion: (11) Server ID Override (10.10.10.1) Length: 4 destage: accelerate accel</pre>
Option End: 255	Server 10 Override: 10.10.10.1 • Option 82 Suboption: (5) Link selection (10.10.10.0) Length: 4 • <value: 000000000<br="">Link selection: 10.10.10.0 • Option: (255) End Dotion End: 255</value:>
	uge same sites sala

ACK en COLUMNA VERTEBRAL

ACK recibido en COLUMNA VERTEBRAL	ACK enviado por SPINE
Ethernet II, Src: 60:26:aa:85:95:87, Dst: 10:b3:d6:a4:85:97 Internet Protocol Version 4, Src: 13.13.13.254, Dst: 5.5.5.5	 Ethernet II, Src: 10:b3:d6:a4:85:97, Dst: 70:7d:b9:b8:4d:af Internet Protocol Version 4, Src: 13:13:13:254, Dst: 5:5:5:5
 User Datagram Protocol, Src Port: 65518, Dst Port: 4789 Virtual extensible Local Area Network 	User Datagram Protocol, Src Port: 65518, Dst Port: 4789
Flags: 0x0800, VXLAN Network ID (WNI)	> Flags: 0x800, VXLAW Network ID (WI)
VXLAN Network Identifier (VNI): 303030	Group Policy ID: 0 VXLAN Network Identifier (VNI): 303030
Reserved: 0 Ethernet II, Src: 02:00:0d:0d:0d:fe, Dst: 70:7d:b9:b8:4d:af	Reserved: 0 > Ethernet II, Src: 02:00:0d:0d:0d:fe, Dst: 70:7d:b9:b8:4d:af
Internet Protocol Version 4, Src: 10.10.10.150, Dst: 172.16.10.8	> Internet Protocol Version 4, Src: 10.10.100, Dst: 172.16.10.8
 Dynamic Host Configuration Protocol (ACK) 	 User Datagram Protocol, Src Port: 67, DSt Port: 67 Dynamic Host Configuration Protocol (ACK)
Message type: Boot Reply (2) Hardware type: Ethernet (0x01)	Message type: Boot Reply (2) Hardware type: Ethernet (0x01)
Hardware address length: 6	Hardware address length: 6
Transaction ID: 0xe9e35087	Transaction ID: 0xe9e35087
seconds elapsed: 0 ∨ Bootp flags: 0x8000, Broadcast flag (Broadcast)	Seconds elapsed: 0 -> Bootp flags: 0x8000, Broadcast flag (Broadcast)
1 = Broadcast flag: Broadcast .000 0000 0000 = Reserved flags: 0x0000	1 = Broadcast flag: Broadcast .000 0000 0000 = Reserved flags: 0x0000
Client IP address: 0.0.0	Client IP address: 0.0.0.0
Next server IP address: 0.0.0.0	Next server IP address: 0.0.0.0
Relay agent IP address: 172.16.10.8 Client MAC address: 00:50:56:a5:fd:dd	Relay agent IP address: 172.16.10.8 Client MAC address: 00:50:56:a5:fd:dd
Client hardware address padding: 000000000000000000000000000000000000	Client hardware address padding: 000000000000000000000000000000000000
Boot file name not given	Boot file name not given
 Option: (53) DHCP Message Type (ACK) 	 Option: (53) DHCP Message Type (ACK)
Length: 1 <value: 05=""></value:>	Length: 1 <value: 05=""></value:>
DHCP: ACK (5)	DHCP: ACK (5)
Length: 4	Length: 4
<value: 0000a8c0=""> Renewal Time Value: 12 hours (43200)</value:>	<value: 0000a8c0=""> Renewal Time Value: 12 hours (43200)</value:>
 Option: (59) Rebinding Time Value Length: 4 	 Option: (59) Rebinding Time Value Length: 4
<value: 00012750=""></value:>	<value: 00012750=""></value:>
v Option: (51) IP Address Lease Time	<pre>Rebinding Time Value: 21 hours (75000) > Option: (51) IP Address Lease Time</pre>
Length: 4 <value: 00015180=""></value:>	Length: 4 <value: 00015180=""></value:>
IP Address Lease Time: 1 day (86400)	IP Address Lease Time: 1 day (86400)
Length: 4	Length: 4
<value: 0a0a0a0l=""> DHCP Server Identifier: 10.10.10.1</value:>	<value: 0a0a0a01=""> DHCP Server Identifier: 10.10.10.1</value:>
Option: (1) Subnet Mask (255.255.0) Length: 4	 Option: (1) Subnet Mask (255.255.255.0) Length: 4
<value: fffff00=""> Submat Mark: 255 255 0</value:>	<value: fffff00=""> Submat Mack: 255 255 0</value:>
 Option: (81) Client Fully Qualified Domain Name 	 Option: (81) Client Fully Qualified Domain Name
Length: 3 <value: 00ffff=""></value:>	<pre>Length: 3 </pre>
Flags: 0x00 0000 = Reserved flags: 0x0	Flags: 0x00 0000 = Reserved flags: 0x0
0 = Server DDNS: Some server updates	0 = Server DDNS: Some server updates
A-RR result: 255	A-RR result: 255
PTR-RR result: 255	PTR-RR result: 255
Length: 4	Length: 4
<value: 0a0a0a01=""> Router: 10.10.10.1</value:>	<value: 0a0a0a01=""> Router: 10.10.10.1</value:>
 Option: (15) Domain Name Length: 10 	Option: (15) Domain Name Length: 10
<value: 636973636f2e636f6d00=""></value:>	<value: 636973636f2e636f600=""></value:>
Option: 420 Agent Information Option	Option: (82) Agent Information Option
Lengtn: 47 <value: 010e0108000600018a9200a000000000000206707db9b84da197090074656e616e742d610b040a0a0a0105040a0a0a00=""></value:>	Construct 910 e10e0108000600018a9200a00000000000206707db9b84daf97090074656e516e742d610b040a0a0a0105040a0a0a00> Construct 92 Constructions (a) toront 6 Construction (b)
 Option 82 Suboption: (1) Agent Circuit ID Length: 14 	Option 82 Suboption: (1) Agent Circuit 1D Length: 14
<value: 0108000600018a9200a00000000=""></value:>	<value: 0108000600018a9200a00000000=""> Agent Circuit ID: 0108000600018a9200a00000000</value:>
• Option 82 Suboption: (2) Agent Remote ID	 Option 82 Suboption: (2) Agent Remote ID Length: 6
<pre>Length: 6 <pre></pre> <pre><td><value: 707db9b84daf=""></value:></td></pre></pre>	<value: 707db9b84daf=""></value:>
Agent Remote ID: 707db9b84daf - Option 82 Suboption: (151) VRF name/VPN ID	Agent Remote ID: 787db9b84dat V Option 82 Suboption: (151) VRF name/VPN ID
Length: 9	Length: 9 <value: 0074656e616e742d61=""></value:>
VRF name:	VRF name: [Expert Info (Warning/Indecoded): Trailing stray characters]
 [Expert Info (Warning/Undecoded): Trailing stray characters] [Trailing stray characters] 	[Trailing stray characters]
<pre><message: characters="" stray="" trailing=""> [Severity level: Warning]</message:></pre>	<pre>sage: frailing stray characters> [Severity level: Warning]</pre>
[Group: Undecoded]	[Group: Undecoded] ~ Option 82 Suboption: (11) Server ID Override (10.10.10.1)
Length: 4	Length: 4
<value: 0a0a0a01=""> Server ID Override: 10.10.10.1</value:>	Server ID Override: 10.10.10.1
 Option 82 Suboption: (5) Link selection (10.10.10.0) Length: 4 	 Uption 82 Suboption: (5) Link selection (10.10.10.0) Length: 4
<value: 0a0a0a00=""></value:>	<value: 0a000000=""> Link selection: 10.10.0</value:>
 Option: (255) End 	Option: (255) End Detion End: 255
Option End: 255	option that 233

ACK en LEAF-1

ACK recibido en LEAF-1	ACK enviado por LEAF-1
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	> Ethernet II, Src: 70:7d:b9:b8:4d:af, Dst: ff:ff:ff:ff:ff:ff
> Ethernet II, Src: 10:b3:d6:a4:85:97, Dst: 70:7d:b9:b8:4d:af	> Internet Protocol Version 4, Src: 10.10.10.1, Dst: 255.255.255.255
Internet Protocol Version 4, Src: 13.13.13.254, Dst: 5.5.5.5 Hear Datagram Protocol Src Part: 65518 Dst Part: 4780	> User Datagram Protocol, Src Port: 67, Dst Port: 68
 Virtual eXtensible Local Area Network 	> Dynamic Host Configuration Protocol (ACK)
Flags: 0x0800, VXLAN Network ID (VNI)	Message type: Boot Reply (2)
VXLAN Network Identifier (WII): 303030	Hardware type: Ethernet (0x01)
Reserved: 0	Hardware address length: 6
Internet Protocol Version 4, Src: 10.10.10.150, Dst: 172.16.10.8	Hops: 0
User Datagram Protocol, Src Port: 67, Dst Port: 67	Transaction ID: 0xe9e35087
Message type: Boot Reply (2)	Seconds elansed: 0
Hardware type: Ethernet (0x01)	Resta flags: 0x2000 Preadcast flag (Preadcast)
Hardware address length: 6 Hops: 0	> bootp flags: 0x0000, broadcast flag, broadcast)
Transaction ID: 0xe9e35087	1 = Broadcast flag: Broadcast
Seconds elapsed; 0 - Booto flads: 0x8000. Broadcast flad (Broadcast)	.000 0000 0000 0000 = Reserved flags: 0x0000
1 = Broadcast flag: Broadcast	Client IP address: 0.0.0.0
.000 0000 0000 = Reserved flags: 0x0000 Client IP address: 0.0.0.0	Your (client) IP address: 10.10.10.3
Your (client) IP address: 10.10.10.3	Next server IP address: 0.0.0.0
Next server IP address: 0.0.0.0 Relay agent IP address: 172.16.10.8	Relay agent IP address: 10.10.10.1
Client MAC address: 00:50:56:a5:fd:dd	Client MAC address: 00:50:56:a5:fd:dd
Client hardware address padding: 000000000000000000000000000000000000	Client hardware address padding: 00000000000000000000
Boot file name not given	Server host name not given
Magic cookie: DHCP - Option: (53) DHCP Message Type (ACK)	Boot file name not given
Length: 1	Magic cookie: DHCP
<value: 05=""></value:>	Pagic COOKIE, DHCP Message Tune (ACK)
 Option: (58) Renewal Time Value 	- option, (55) DHCP Hessage Type (ACK)
Length: 4	Length: 1
Renewal Time Value: 12 hours (43200)	<value: 05=""></value:>
 Option: (59) Rebinding Time Value Length: 4 	DHCP: ACK (5)
<value: 00012750=""></value:>	Option: (58) Renewal Time Value
Rebinding Time Value: 21 hours (75600)	Length: 4
Length: 4	<value: 0000a8c0=""></value:>
<value: 00015180=""> IP Address Lease Time: 1 day (86480)</value:>	Renewal Time Value: 12 hours (43200)
· Option: (54) DHCP Server Identifier (10.10.10.1)	Option: (59) Rebinding Time Value
Length: 4	Length: 4
DHCP Server Identifier: 10.10.10.1	<value: 00012750=""></value:>
 Option: (1) Subnet Mask (255.255.255.0) Length: 4 	Rebinding Time Value: 21 hours (75600)
<value: ffffff00=""></value:>	Option: (51) IP Address Lease Time
Subnet Mask: 255.255.255.0 • Option: (81) Client Fully Qualified Domain Name	Length: 4
Length: 3	
<value: 00ffff=""></value:>	TP Address Lesse Time: 1 day (96400)
0000 = Reserved flags: 0x0	Option: (E4) DHCD Server Identifier (10 10 10 1)
0 = Server DDNS: Some server updates 0 = Encoding: ASCII encoding	v uption: (54) DHCP Server Identifier (10.10.10.1)
	Length: 4
A-RR result: 255	<value: 0a0a0a01=""></value:>
PTR-RR result: 255	DHCP Server Identifier: 10.10.10.1
<pre>> Option: (3) Router Length: 4</pre>	 Option: (1) Subnet Mask (255.255.255.0)
<value: 0a0a0a01=""></value:>	Length: 4
Router: 10.10.10.1 • Option: (15) Domain Name	<value: fffff00=""></value:>
Length: 10	Subnet Mask: 255.255.255.0
<pre>>value: 0309/303012003070000> Domain Name: cisco.com</pre>	Option: (81) Client Fully Qualified Domain Name
Option: (82) Agent Information Option Length: 47	Length: 3
 	<value: 00ffff=""></value:>
 Option 82 Suboption: (1) Agent Circuit ID 	Flags: 0x00
<value: 0108000500018a9200a00000000=""></value:>	0000 = Reserved flags: 0x0
Agent Circuit ID: 0108000600018a9200a00000000	0 = Server DDNS: Some server undates
Length: 6	0 = Encoding: ASCII encoding
<value: 707db9b84daf=""></value:>	A = Server overrides: No override
Option 82 Suboption: (151) VRF name/VPN ID	A = Server Client
Length: 9 <value: 0074656e616e742d61=""></value:>	A DD result. 255
VRF name:	A-RK result: 255
 [Expert Info (Warning/Undecoded): Trailing stray characters] [Trailing stray characters] 	PIR-RK result: 255
<pre><message: characters="" stray="" trailing=""></message:></pre>	v uption: (3) Router
[Severity level: Warning] [Group: Undecoded]	Length: 4
 Option 82 Suboption: (11) Server ID Override (10.10.10.1) 	<value: 0a0a0a01=""></value:>
<pre>Lengtn: 4 <value: 0a0a0a01=""></value:></pre>	Router: 10.10.10.1
Server ID Override: 10.10.10.1	v Option: (15) Domain Name
v uption 82 suboption: (5) Link selection (10.10.10.0) Length: 4	Length: 10
	<value: 636973636f2e636f6d00=""></value:>
v Option: (255) End	Domain Name: cisco.com
Option End: 255	Option: (255) End
	Option End: 255

ACK en HOST-1

Ethernet II, Src: 70:7d:b9:b8:4d:af, Dst: ff:ff:ff:ff:ff:ff Internet Protocol Version 4, Src: 10.10.10.1, Dst: 255.255.255.255 > User Datagram Protocol, Src Port: 67, Dst Port: 68 Dynamic Host Configuration Protocol (ACK) Message type: Boot Reply (2) Hardware type: Ethernet (0x01) Hardware address length: 6 Hops: 0 Transaction ID: 0xe9e35087 Seconds elapsed: 0 Bootp flags: 0x8000, Broadcast flag (Broadcast) 1... = Broadcast flag: Broadcast .000 0000 0000 0000 = Reserved flags: 0x0000 Client IP address: 0.0.0.0 Your (client) IP address: 10.10.10.3 Next server IP address: 0.0.0.0 Relay agent IP address: 10.10.10.1 Client MAC address: 00:50:56:a5:fd:dd Client hardware address padding: 0000000000000000000 Server host name not given Boot file name not given Magic cookie: DHCP Option: (53) DHCP Message Type (ACK) Length: 1 <Value: 05> DHCP: ACK (5) Option: (58) Renewal Time Value Length: 4 <Value: 0000a8c0> Renewal Time Value: 12 hours (43200) Option: (59) Rebinding Time Value Length: 4 <Value: 00012750> Rebinding Time Value: 21 hours (75600) Option: (51) IP Address Lease Time Length: 4 <Value: 00015180> IP Address Lease Time: 1 day (86400) Option: (54) DHCP Server Identifier (10.10.10.1) Length: 4 <Value: 0a0a0a01> DHCP Server Identifier: 10.10.10.1 Option: (1) Subnet Mask (255.255.255.0) Length: 4 <Value: ffffff00> Subnet Mask: 255.255.255.0 Option: (81) Client Fully Qualified Domain Name Length: 3 <Value: 00ffff> Flags: 0x00 0000 = Reserved flags: 0x0 0... = Server DDNS: Some server updates0.. = Encoding: ASCII encoding0. = Server overrides: No override0 = Server: Client A-RR result: 255 PTR-RR result: 255 Option: (3) Router Length: 4 <Value: 0a0a0a01> Router: 10.10.10.1 Option: (15) Domain Name Length: 10 <Value: 636973636f2e636f6d00> Domain Name: cisco.com Option: (255) End Option End: 255

Información Relacionada

Configuración de VXLAN BGP EVPN

Configuración de VXLAN

Solución de problemas relacionados con DHCP en Nexus 9000

Guía de configuración de VXLAN NX-OS para Cisco Nexus serie 9000, versión 10.4(x)

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