Konfigurieren und Überprüfen von DHCP in einer VxLAN-Struktur für Nexus 9000 mit NX-OS und Windows Server 2022

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Einleitung

In diesem Dokument wird die Konfiguration und Fehlerbehebung von DHCP in einer VxLAN-Struktur mit Nexus 9000-Switches beschrieben.

Voraussetzungen

Anforderungen

Cisco empfiehlt, dass Sie über Kenntnisse in folgenden Bereichen verfügen:

- Nexus NX-OS-Software
- Virtual Port Channel (vPC)
- VxLAN BGP L2VPN EVPN
- BGP-Adressfamilie: IPv4
- OSPF
- Multicast-PIM (Sparse-Mode)
- DHCP

Verwendete Komponenten

Die Informationen in diesem Dokument basierend auf folgenden Software- und Hardware-Versionen:

- Cisco Nexus 9000 mit Cisco NX-OS
 - N9K-C93180YC-EX
 - N9K-C93180YC-FX
 - NX-OS 10.3(4a)
- Windows Server 2022 Rechenzentrum

Die Informationen in diesem Dokument beziehen sich auf Geräte in einer speziell eingerichteten Testumgebung. Alle Geräte, die in diesem Dokument benutzt wurden, begannen mit einer gelöschten (Nichterfüllungs) Konfiguration. Wenn Ihr Netzwerk in Betrieb ist, stellen Sie sicher, dass Sie die möglichen Auswirkungen aller Befehle kennen.



Hinweis: Fragen zur Konfiguration und Integrationsfähigkeit von Software oder Hardware von Drittanbietern liegen außerhalb des Cisco Supports. Die Verwendung von Tools von Drittanbietern ist eine gute Möglichkeit, dem Kunden Ihre Konfiguration und Ihren Betrieb mit Cisco Produkten vorzuführen.

Hintergrundinformationen

Underlay- und Overlay-Konfiguration für VxLAN im Labor



VxLAN Fabric-Diagramm im Labor

- · Wirbelsäule:
 - Dieser Nexus-Switch sendet DHCP-Pakete (Discover, Offer, Request, Ack), ohne dass diese in diesem Szenario entkapselt werden. Es wird nur der äußere Header verwendet.
 - Fungiert als zentraler Routing-Punkt in der Netzwerk-Fabric.
 - Verantwortlich f
 ür die Verbindung aller LEAF-Switches untereinander und die Vereinfachung des Datenflusses zwischen diesen Switches.
 - Ist am BGP zur Verteilung von EVPN-Routen an die LEAF-Switches beteiligt
 - Führt IP-Routing durch und kann Datenverkehr zwischen verschiedenen Subnetzen oder VxLAN-Segmenten routen, indem die äußeren IP-Header betrachtet werden.
 - Trennt das Overlay-Netzwerk (VxLAN) vom zugrunde liegenden physischen Netzwerk.
 - Verwaltet das Underlay mit herkömmlichen IP-Routing-Protokollen, während das Overlay von VxLAN mit BGP EVPN verwaltet wird und eine skalierbare und flexible Netzwerkarchitektur bietet.
- BLATT-1:
 - LEAF-Switches bieten physische Konnektivität f
 ür Endger
 äte wie Server, Speicherger
 äte und andere Netzwerkger
 äte.
 - LEAF-Switches fungieren als VTEPs, d. h. sie kapseln und entkapseln die VxLAN-Pakete.
 - In diesem Szenario sendet HOST#1 die IP-Adressanforderung.
 - LEAF-1 ist für die Kapselung der DCHP-Pakete im VxLAN-Header zuständig.
 - HOST#1 empfängt DHCP-Pakete transparent als klassisches Ethernet.
- LEAF-1-vPC und LEAF-2-vPC:
 - Die LEAF-Switches nehmen an der EVPN-Kontrollebene teil, indem sie BGP ausführen und Routeninformationen austauschen. Auf diese Weise können MAC- und

IP-Adressinformationen verteilt werden, sodass der Datenverkehr effizient über die VxLAN-Struktur geleitet werden kann.

- In diesem Szenario ist der DHCP-Server mit VLAN 10 mit VNI 101010 verknüpft, wie dies bei HOST 1 der Fall ist. Dies bedeutet, dass es sich nur um VxLAN-Bridging handelt.
- Wenn der DHCP-Server einem anderen VNI als HOST#1 zugeordnet wurde, ist f
 ür das Routing unbedingt ein L3VNI erforderlich. Der Quell- und Ziel-VNI muss erstellt werden.
- Der DCHP-Server empfängt DCHP-Pakete transparent als klassisches Ethernet.
- Der BUM-Datenverkehr wird von beiden Nexus Switches in vPC empfangen, der Datenverkehr wird jedoch nur vom betriebsbereiten primären Nexus Switch in vPC gesendet. Der Datenverkehr wird vom sekundären Nexus-Switch verworfen. In diesem Szenario ist LEAF-1-vPC betrieblich primär.
- Die Verwendung von Infra-VLANs ist obligatorisch, da bei einem Ausfall der Schnittstelle von LEAF-2-vPC zu SPINE keine DHCP-Pakete gesendet werden konnten. Um VxLAN-gekapselten Datenverkehr an LEAF-1-vPC zu senden, ist dieses Backup-VLAN erforderlich. Auf diese Weise kann LEAF-1-vPC DCHP-Pakete an SPINE senden.
- N9K-ZUGRIFF:
 - Dieser Nexus-Switch bietet nur Konnektivität zu beiden Leafs über einen vPC-Port-Channel für Redundanzzwecke in Richtung HOST 2.

WIRBELSÄULE

```
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
```

BLATT-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 232.0.0/8
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 232.0.0.0/8 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-ZUGRIFF

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

DHCP-Konfiguration auf Nexus Switches

BLATT-1

Schritt 1: Aktivieren Sie die Funktion DHCP.

LEAF-1(config)# feature dhcp



Hinweis: Der DHCP-Server und der Relay Agent-Befehl services dhcp, ip dhcp relay und ipv6 dhcp relay sind seit NX-OS 7.x standardmäßig aktiviert.

Schritt 2: Wenden Sie den Befehl ip dhcp relay information an.

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



Hinweis: Mit diesem Befehl kann der DHCP-Relay-Agent Option 82-Informationen zu den weitergeleiteten Paketen einfügen und entfernen.

Schritt 3: Wenden Sie den Befehl ip dhcp relay information option vpn an.

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



Hinweis: Mit diesem Befehl werden DHCP-Relay-Anfragen aktiviert, die auf einer anderen VRF-Instanz eingehen, zu der der DHCP-Server gehört.

Schritt 4: Verwenden Sie den Befehl "ip dhcp relay address [ip address of DCHP server]".



Hinweis: In diesem Beispiel lautet die IP-Adresse für den DHCP-Server 10.10.10.150.

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

Schritt 5: Verwenden Sie den Befehl "ip dhcp relay source-interface [unique loopback]".



Hinweis: Mit diesem Befehl wird die Quell-IP-Adresse für den DHCP-Relay-Agent konfiguriert, um Discover, Offer, Request und ACK für die Unicast-Kommunikation zu verarbeiten, wobei der DHCP-Relay-Agent die IP-Adresse von SVI als Quell-IP-Adresse für den DHCP-Relay-Agent verwendet. Dies ist nicht erwünscht, da diese IP-Adresse von mehreren VTEPs gemeinsam genutzt wird und DHCP-Pakete schwarz bleiben können. Um dies zu vermeiden, ist eine eindeutige IP-Adresse (über eine Loopback-Schnittstelle) erforderlich, die jede VTEP differenziert.

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

Schritt 6: Direkte Routen-Neuverteilung im VRF des entsprechenden Tenants innerhalb des BGP mit einer Präfix-Liste und einer Route-Map, die die IP-Adresse der Loopback-Schnittstelle enthält.



Hinweis: Diese Loopback-Schnittstelle gehört zum Tenant von 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
```

Schritt 7. Vergewissern Sie sich, dass die IP-Adresse der Loopback-Schnittstelle in BGP L2VPN EVPN an die Spines gemeldet wird. Verwenden Sie hierzu den Befehl 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 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 192.168.5.5 (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

Schritt 8: Überprüfen Sie, ob die IP-Adresse der Loopback-Schnittstelle in BGP L2VPN EVPN mit dem DHCP-Server eingespeist wird.



Hinweis: Wenn Nexus-Switches in vPC vorhanden sind, stellen Sie sicher, dass beide die IP-Adresse der Loopback-Schnittstelle in BGP L2VPN EVPN ermitteln.

```
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

Schritt 9. Stellen Sie sicher, dass auf dem Quell-Tenant eine Route für den DHCP-Server vorhanden ist. Verwenden Sie hierzu den Befehl show ip route [DHCP server IP] vrf [tenant vrf].



Hinweis: Der zu verwendende Routeneintrag muss vom VxLAN zum Standard-VRF reichen. Wenn keine Route verfügbar ist, überprüfen Sie, ob die VTEP lokal die IP-Adresse des DHCP-Servers kennt.

```
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>
```

Schritt 10. Stellen Sie sicher, dass die IP-Adresse des DHCP-Servers über die Loopback-Schnittstelle und die entsprechende VRF-Instanz als VRF-Quelle erreichbar ist. Verwenden Sie hierzu den Befehl ping [DHCP Server IP] source-interface 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

Schritt 11. Überprüfen Sie den Status des DHCP-Relay-Agenten.

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

Schritt 12: Überprüfen Sie Option82, z. B. die VPN-Option und die richtige Relay-IP-Adresse unter dem Relay-Agenten.

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>

Schritt 13: Überprüfen Sie die Statistiken der verarbeiteten und weitergeleiteten Pakete.

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

Schritt 14: Überprüfen Sie die Statistiken der Relay-Pakete.

Message Type	Rx	Tx		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	
<pre>Inform(*)</pre>	0	0		0	
Nack	289280	289280		0	
Total	1295737	1295735		0	
Total Packets	Received			0	
Total Packets	Forwarded			0	
Total Packets	Dronned			ů 0	
Non DHCP	Dropped		•	Ũ	
Total Packets	Received		•	0	
Total Packets	Forwarded			ů 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

LEAF-1-vPC DHCP

Schritt 1: Aktivieren Sie die Funktion DHCP.

LEAF-1-VPC(config)#feature dhcp



Hinweis: Der DHCP-Server und der Relay Agent-Befehl services dhcp, ip dhcp relay und ipv6 dhcp relay sind seit NX-OS 7.x standardmäßig aktiviert.

Schritt 2: Wenden Sie den Befehl ip dhcp relay information an.

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



Hinweis: Mit diesem Befehl kann der DHCP-Relay-Agent Option 82-Informationen zu den weitergeleiteten Paketen einfügen und entfernen.

Schritt 3: Verwenden Sie den Befehl "ip dhcp relay information option vpn".

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



Hinweis: Mit diesem Befehl werden DHCP-Relay-Anfragen aktiviert, die auf einer anderen VRF-Instanz eingehen, zu der der DHCP-Server gehört.

Schritt 4: Wenden Sie den Befehl ip dhcp relay address [IP-Adresse des DHCP-Servers] an.



Hinweis: In diesem Beispiel lautet die IP-Adresse für den DHCP-Server 10.10.10.150.

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

Schritt 5: Verwenden Sie den Befehl "ip dhcp relay source-interface [unique loopback]".



Hinweis: Mit diesem Befehl wird die Quell-IP-Adresse für den DHCP-Relay-Agent konfiguriert, um Discover, Offer, Request und ACK für die Unicast-Kommunikation zu verarbeiten, wobei der DHCP-Relay-Agent die IP-Adresse von SVI als Quell-IP-Adresse für den DHCP-Relay-Agent verwendet. Dies ist nicht erwünscht, da diese IP-Adresse von mehreren VTEPs gemeinsam genutzt wird und DHCP-Pakete schwarz bleiben können. Um dies zu vermeiden, ist eine eindeutige IP-Adresse (über eine Loopback-Schnittstelle) erforderlich, die jede VTEP differenziert.

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

Schritt 6: Direkte Routen-Neuverteilung im VRF des entsprechenden Tenants innerhalb des BGP mit einer Präfix-Liste und einer Route-Map, die die IP-Adresse der Loopback-Schnittstelle enthält.



Hinweis: Diese Loopback-Schnittstelle gehört zum Tenant von 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
```

Schritt 7. Vergewissern Sie sich, dass die IP-Adresse der Loopback-Schnittstelle in BGP L2VPN EVPN an die Spines gemeldet wird. Verwenden Sie hierzu den Befehl 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 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

Schritt 8: Überprüfen Sie, ob die IP-Adresse der Loopback-Schnittstelle in BGP L2VPN EVPN mit dem DHCP-Server eingespeist wird.



Hinweis: Wenn Nexus-Switches in vPC vorhanden sind, stellen Sie sicher, dass beide die IP-Adresse der Loopback-Schnittstelle in BGP L2VPN EVPN ermitteln.

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

Schritt 9. Stellen Sie sicher, dass auf dem Quell-Tenant eine Route für den DHCP-Server vorhanden ist. Verwenden Sie hierzu den Befehl show ip route [DHCP server IP] vrf[tenant vrf].



Hinweis: Der zu verwendende Routeneintrag muss vom VxLAN zum Standard-VRF reichen. Wenn keine Route verfügbar ist, überprüfen Sie, ob die VTEP lokal die IP-Adresse des DHCP-Servers kennt.

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

Schritt 10. Überprüfen Sie, ob die IP-Adresse des DHCP-Servers über die Loopback-Schnittstelle und die entsprechende VRF-Instanz als VRF-Quelle erreichbar ist. Verwenden Sie hierzu den Befehl ping [DHCP-Server-IP]Loopback der Quellschnittstelle [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 ---

Schritt 11. Überprüfen Sie den Status des DHCP-Relay-Agenten.

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

Schritt 12: Überprüfen Sie Option82, z. B. die VPN-Option und die richtige Relay-IP-Adresse unter dem Relay-Agenten.

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>

Schritt 13: Überprüfen Sie die Statistiken der verarbeiteten und weitergeleiteten Pakete.

```
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
```

Schritt 14: Überprüfen Sie die Statistiken der Relay-Pakete.

Message Type	Rx	Тх	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	:	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 whe	n switch	
receives DHCP request packet with destination ip	as broade	cast
address. If request is unicast it will be HW swi	tched	

LEAF-2-vPC DHCP

Schritt 1: Aktivieren Sie die Funktion DHCP.

LEAF-2-VPC(config)# feature dhcp



Hinweis: Der DHCP-Server und der Relay Agent-Befehl services dhcp, ip dhcp relay und ipv6 dhcp relay sind seit NX-OS 7.x standardmäßig aktiviert.

Schritt 2: Verwenden Sie den Befehl "ip dhcp relay information option".

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



Hinweis: Mit diesem Befehl kann der DHCP-Relay-Agent Option 82-Informationen zu den weitergeleiteten Paketen einfügen und entfernen.

Schritt 3: Verwenden Sie den Befehl "ip dhcp relay information option vpn".

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



Hinweis: Mit diesem Befehl werden DHCP-Relay-Anfragen aktiviert, die auf einer anderen VRF-Instanz eingehen, zu der der DHCP-Server gehört.

Schritt 4: Verwenden Sie den Befehl "ip dhcp relay address [ip address of DCHP server]".



Hinweis: In diesem Beispiel lautet die IP-Adresse für den DHCP-Server 10.10.10.150.

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

Schritt 5: Verwenden Sie den Befehl "ip dhcp relay source-interface [unique loopback]".



Hinweis: Mit diesem Befehl wird die Quell-IP-Adresse für den DHCP-Relay-Agent konfiguriert, um Discover, Offer, Request und ACK für die Unicast-Kommunikation zu verarbeiten, wobei der DHCP-Relay-Agent die IP-Adresse von SVI als Quell-IP-Adresse für den DHCP-Relay-Agent verwendet. Dies ist nicht erwünscht, da diese IP-Adresse von mehreren VTEPs gemeinsam genutzt wird und DHCP-Pakete schwarz bleiben können. Um dies zu vermeiden, ist eine eindeutige IP-Adresse (über eine Loopback-Schnittstelle) erforderlich, die jede VTEP differenziert.

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

Schritt 6: Direkte Routen-Neuverteilung im VRF des entsprechenden Tenants innerhalb des BGP mit einer Präfix-Liste und einer Route-Map, die die IP-Adresse der Loopback-Schnittstelle enthält.



Hinweis: Diese Loopback-Schnittstelle gehört zum Tenant von 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
```

Schritt 7. Vergewissern Sie sich, dass die IP-Adresse der Loopback-Schnittstelle in BGP L2VPN EVPN an die Spines gemeldet wird. Verwenden Sie hierzu den Befehl 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

Schritt 8: Überprüfen Sie, ob die IP-Adresse der Loopback-Schnittstelle in BGP L2VPN EVPN mit dem DHCP-Server eingespeist wird.



Hinweis: Wenn Nexus-Switches in vPC vorhanden sind, stellen Sie sicher, dass beide die IP-Adresse der Loopback-Schnittstelle in BGP L2VPN EVPN ermitteln.

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:

Schritt 9. Stellen Sie sicher, dass auf dem Quell-Tenant eine Route für den DHCP-Server vorhanden ist. Verwenden Sie hierzu den Befehl show ip route [DHCP server IP] vrf[tenvrf].



Hinweis: Der zu verwendende Routeneintrag muss vom VxLAN zum Standard-VRF reichen. Wenn keine Route verfügbar ist, überprüfen Sie, ob die VTEP lokal die IP-Adresse des DHCP-Servers kennt.

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

Schritt 10. Stellen Sie sicher, dass die IP-Adresse des DHCP-Servers über die Loopback-Schnittstelle und die entsprechende VRF-Instanz als VRF-Quelle erreichbar ist. Verwenden Sie hierzu den Befehl ping [DHCP Server IP] source-interface 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 ---
```

Schritt 11. Überprüfen Sie den Status des DHCP-Relay-Agenten.

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

Schritt 12: Überprüfen Sie Option82, z. B. die VPN-Option und die richtige Relay-IP-Adresse unter dem Relay-Agenten.

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>

Schritt 13: Überprüfen Sie die Statistiken der verarbeiteten und weitergeleiteten Pakete.

```
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
```

Schritt 14: Überprüfen Sie die Statistiken der Relay-Pakete.

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	:	0
Packet Malformed	:	0
DHCP Request dropped on MCT	:	0
Relay Trusted port not configured	:	0
* - These counters will show correct value when	n switch	
receives DHCP request packet with destination ip	as broadca	ast
address. If request is unicast it will be HW swit	tched	

DHCP-Serverkonfiguration unter Windows Server 2022

Konfiguration des IP-Adressierungsbereichs für Hosts.

Schritt 1: Öffnen Sie den Server Manager, und stellen Sie sicher, dass im Dashboard auf dem DHCP-Server keine Alarme vorhanden sind.



Dashboard vom Server Manager unter Windows Server 2022



Tipp: Das Bild vergrößert sich beim Doppelklick.

Schritt 2: Öffnen Sie die DHCP-Serveranwendung.

Tea Attion Vise Hole Image: Second Second

DHCP-Server unter Windows Server 2022

UHCP

Schritt 3: Klicken Sie mit der rechten Maustaste auf IPv4, und klicken Sie auf Neuer Bereich.



Schritt 4: Klicken Sie auf Next (Weiter).



Schritt 5: Schreiben Sie einen Namen und eine Beschreibung. In diesem Beispiel ist der Name das Subnetz, das zu VLAN 10 gehört, und die Beschreibung ist L2VNI, da L2VNI in VLAN 10 aufgeführt ist.

New Scope Wizard	
Scope Name You have to prive a 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

Schritt 6: Konfigurieren des IP-Adressbereichs Dies ist der Pool für 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

Schritt 6: Schließen Sie die freigegebene IP-Adresse aus der SVI-Konfiguration in den VTEPs aus. In diesem Beispiel hat die Schnittstelle VLAN 10 die Adresse IP.10.10.1/24.



Warnung: Wenn die IP-Adresse nicht aus der SVI (oder dem Standard-Gateway) ausgeschlossen wird, kann es zu doppelten IP-Adressen kommen, was sich auf die Übermittlung des Datenverkehrs auswirkt.

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: Image: I
Excluded address range: Address 10.10.10.1 Remove
Subnet delay in milli second:
< Back Next > Cancel

Schritt 7. Konfigurieren Sie die Lease-Dauer der IP-Adresse. Dies bezieht sich auf die Zeit, die ein Host die zugewiesene IP-Adresse vor der Verlängerung verwenden kann.

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.
Days: Hours: Minutes:
< Back Next > Cancel

Schritt 8: Wählen Sie Ja, ich möchte diese Optionen jetzt konfigurieren.

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

Schritt 9. Konfigurieren Sie die IP-Adresse des Standardgateways.

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

Schritt 10. Konfigurieren des Domänennamens und des DNS-Servers

New Scope Wizard			
Domain Name and DNS Servers The Domain Name System (DNS) maps ar on your network.	nd translates domain names used b	y clients	
You can specify the parent domain you want the DNS name resolution. Parent domain: cisco.com	he client computers on your networ	k to use for	
servers.	on you network, enter the in dua	lesses for a lose	
Server name:	IP address:		
google.com	142 . 250 . 114 . 102	Add	
Resolve		Remove	
		Up	
		Down	
	< Back Next >	Cancel	

Schritt 11. Konfigurieren Sie ggf. den WINS-Server. Dies kann übersprungen werden, wenn die Informationen nicht bekannt sind.

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

Schritt 12: Wählen Sie Ja, ich möchte diesen Bereich jetzt aktivieren.

New Scope Wizard			
Activate Scope Clients can obtain address leases only if a scope	is activated.		(J)
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

Konfigurieren des Bereichs für eindeutige IP-Adressen von Loopbacks in SVI als DHCP-Relay-Agent

Schritt 1: Klicken Sie mit der rechten Maustaste auf IPv4, und wählen Sie IPv4Scope aus.



Neuer Umfang in DCHP

Schritt 2: Schreiben Sie einen Namen und eine Beschreibung. In diesem Beispiel ist name das Subnetz, das für ein Subnetz mit Loopback-Adresse verwendet wird.



IPte: Ein Loopback wird als eindeutige Loopback-IP-Adresse in der gesamten VxLAN-Struktur für den VxLAN-Tenant verwendet. Dies muss bei der Neuverteilung der BGP-L2VPN-EVPN-Route im BGP innerhalb der VRF des entsprechenden Tenants in der IPv4-Adresse-FamIPv4 angekündigt werden.

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 private to private the scription.	ovide an identifying scope name. You also have the option of providing	J.
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:	172.16.10.0/24	
Description:	Unique IP Gateway Address (SVI)	
	< Back Next > Cancel	

Schritt 3: Konfigurieren Sie den IP-AdressbereichIP. Dies ist der Pool für 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 . 0
< Back Next > Cancel

Schritt 4: Konfigurieren Sie Ausschlüsse (optional, da der DHCP-Server IP-Adressen verleasst, die zu diesem Subnetz gehören).

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:
Excluded address range: Remove
Subnet delay in milli second:
< Back Next > Cancel

Schritt 5: Überspringen Sie die Leasedauer, und klicken Sie auf Weiter.

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

Schritt 6: Wählen Sie Nein, diese Optionen werden zu einem späteren Zeitpunkt konfiguriert.

New Scope Wizard			
Configure DHCP Options You have to configure the most common DHCP options before clients can use the scope.	D		
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?			
C Yes, I want to configure these options now			
No, I will configure these options later			
	_		
< Back Next > Cancel			

Schritt 7. Klicken Sie auf Beenden.

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

Schritt 8: Klicken Sie mit der rechten Maustaste auf den erstellten Bereich, und wählen Sie Aktivieren aus.
Y DHCP		
File Action View	Help	
🗢 🌩 🖄 🕅 🕻	🕻 🗊 🧟 🔒 🗊 💿	
 DHCP cxlabs-win2k2 lPv4 Scope Scope Server Policies Filters IPv6 	2dc 172.16.10.0] 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	

Konfigurieren der Bereichsgruppierung für die VxLAN-Struktur

Schritt 1: Klicken Sie mit der rechten Maustaste auf IPv4, und wählen Sie Neue Bereichsgruppierung aus.



Schritt 2: Klicken Sie auf Next (Weiter).

New Superscope Wizard	
	Welcome to the New Superscope by the superscope of the superscope, which expands the number of the 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

Schritt 3: Schreiben Sie den Namen des Bereichsbereichs.

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

Schritt 4: Wählen Sie alle Bereiche aus, die zu VxLAN Fabric gehören.

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

Schritt 5: Wählen Sie alle Bereiche aus, die zu VxLAN Fabric gehören.

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. Agailable 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

Schritt 6: Überprüfen Sie, ob alle VxLAN-Fabric-Superskope vorhanden sind, und klicken Sie auf Fertig stellen.

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] 10.10.10.0/24 [172.16.10.0] 172.16.10.0/24
	To close this wizard, click Finish.
	< Back Finish Cancel

Konfigurieren von Option 82 in Hostbereichen

Schritt 1: Klicken Sie mit der rechten Maustaste auf Policies (letzte Option) im Bereich für den Host, und klicken Sie auf New Policy.

CHOP							
le Action View Help							
• 🔶 🙇 📷 🗟 😂 🛛							
DHCP			Policy Name	Description	Processie	Level	Address Range
crists-win322dc							And the state of t
v brit						Dates and the	dams to show at this value.
🗸 🔛 Superscope Scop	ies for VicLAN Fab	ric (with Opt	(2)				
V Scope (10.10)	10.0] 10.10.10.0/24						
🙀 Address i	heat						
Address I	40045						
) 💰 Reservati	076						
📑 Scope Op	Rights.						
Polici		_					
> 5 Scope (17	New Policy						
Server Option	Deactivate						
Policies	Ver						
5 B P46	Referab						
	for a line						
	reboarer.						
	Help						

Schritt 2: Schreiben Sie einen Namen und eine Beschreibung, und klicken Sie auf Weiter.



Hinweis: In diesem Beispiel wird die Richtlinie erstellt, um IP-Adressierung palPicularly für Hosts in Leaf-1 für VNI 101010-basierte VNI Remote-ID (Parameter von Option 82) auszuwählen.

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

Schritt 3: Klicken Sie auf Hinzufügen. Wählen Sie unter Criteria (Kriterien) die Option Relay Agent Information (Agenteninformationen weiterleiten). Wählen Sie in Operator die Option Equals aus. Wählen Sie dann Agent Remote ID aus, und geben Sie den Wert ein. Klicken Sie auf OK und dann auf Weiter.



Hinweis: Die Remote-ID wird aus der MAC-Adresse der SVI abgerufen, der der SVII zugeordnet ist.



Tipp: Eine Richtlinie kann auf mehrere Remote-IDs (oder VTEPs) angewendet werden, indem weitere Bedingungen hinzugefügt und OR anstelle von AND ausgewählt werden.

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

Schritt 4: Konfigurieren Sie die IP-Adressierung, die vorhandene IP-Adressen auf den durch die ID ausgewählten VTEPs verwenden können, und klicken Sie dann auf Weiter.



Hinweis: In diesem Beispiel ist nur ein virtuelles System mit Leaf-1 verbunden, sodass nur eine IP-Adresse IPd erfordert. Hier wird eine zweite IP-Adresse hinzugefügtIPn falls ein anderer Host eine Verbindung herstellt.

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 C 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

Schritt 5: Aktivieren Sie das Kontrollkästchen links neben 003 Router unter DCHP Standard Option. Schreiben Sie dann die IP-Adresse des Standard-Gateways für die Hosts, die zu dieser Richtlinie gehören, und drücken Sie Add. Klicken Sie auf Next (Weiter).



Vorsicht: Sie können mehrere Optionen auswählen. Wenn Sie sich jedoch nicht sicher sind, welchen Wert Sie eingeben sollen, sollten Sie dies nicht tun. Inkonsistente oder fehlerhafte Konfigurationen können zu unerwartetem Verhalten führen.

DHCP Policy Configurat	ion Wizard		
Configure settings for If the conditions spe applied.	or the policy ecified in the policy mate	ch a client request, the settings will be	Ţ
Vendor class:	DHCP Standard Op	otions	•
Available Options		Description	^
002 Time Offset		UTC offset in seconds	
☑ 003 Router		Array of router addresses order	
C 004 Time Server		Array of time server addresses, `	~
Data entry			
Server name:			
		Resolve	
IP address:			
	Add		
10.10.10.1	Remove		
	Up		
	Down		
		< Back Next > Can	cel

Schritt 6: Überprüfen Sie die Richtlinienbedingungen, und klicken Sie auf Fertig stellen.

3 DUCD								 • ×
2 DHCP								 · ^
File Action View Help								
🖛 🏟 📶 🖻 🔒 📓 📷								
C DHCP	Policy Name	Description	Processin	Level	Address Ranne	State	Actions	
CXLabs-WIN2K22DC	The solo	Palinute calent second and and 1 using Demote ID		6	10.10.10.2	fashlad	D.F.C.	
✓ ■ IPv4		Policy to select scope for Leaf-1 using Remote-ID		scope	10.10.10.2 - 10.10.10.5	Enabled	Policies	-
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								
Policies								
Server Options								
2 Policies								
> 😰 Filters								
> 🐻 IPv6								

DCHP-Paket-Walk von Anfang bis Ende in VxLAN Fabric.

Erkennung gesendet von 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
```

Erkennung auf LEAF-1

Erkennung empfangen auf LEAF-1	Erkennung gesendet von LEAF-1
	Ethernet II, Src: 70:7d109180441af, Dct: 10:034061a4135197 Internet Protocol Version 4. Src: 35.5.5. Dst: 13:13.13.254 User Datagram Protocol, Src Port: 65233, Dst Port: 4789 Virtual adversible Local Acas Network
	> Flags: 0x800, 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
✓ 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) Mercano tuno, Root Request (1)
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 elansed: 0
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	Client hardware address padding: 000000000000000000000000000000000000
Next server IP address: 0.0.0.0 Belay agent IP address: 0.0.0.0	Boot file name not given Magic cookie: DHCP
Client MAC address: 00:50:56:a5:fd:dd	 Option: (53) DHCP Message Type (Discover)
Client hardware address padding: 00000000000000000000	Length: 1 <value: 01=""></value:>
Server host name not given	DHCP: Discover (1)
Magic cookie: DHCP	Length: 7
 Option: (53) DHCP Message Type (Discover) 	<value: 0100505ba51ddd=""> Hardware type: Ethernet (0x01)</value:>
Length: 1	Client MAC address: 00:50:56:a5:fd:dd
<value: 01=""></value:>	Length: 10
 Option: (61) Client identifier 	Host Name: CXLabs-W10
Length: 7	 Option: (60) Vendor class identifier Length: 8
<value: 01005056a5fddd=""></value:>	<value: 4d53465420352e30=""></value:>
Hardware type: Ethernet (0x01) Client MAC address: 00:50:56:a5:fd:dd	vendor class identifier: MSFI 5.0 v Option: (55) Parameter Request List
Option: (12) Host Name	Length: 14 <value: 0103060f1f212b2c2e2f7779f9fc=""></value:>
Length: 10	Parameter Request List Item: (1) Subnet Mask
<value: 43584c6162732d573130=""></value:>	Parameter Request List Item: (5) Router
 Option: (60) Vendor class identifier 	Parameter Request List Item: (15) Domain Name Parameter Request List Item: (31) Perform Router Discover
Length: 8	Parameter Request List Item: (33) Static Route
<value: 4d53465420352e30=""></value:>	Parameter Request List Item: (44) NetBIOS over TCP/IP Name Server
vendor class identifier: MSFI 5.0	Parameter Request List Item: (46) NetBIOS over TCP/IP Node Type Parameter Request List Item: (47) NetBIOS over TCP/IP Scope
Length: 14	Parameter Request List Item: (119) Domain Search
<value: 0103060f1f212b2c2e2f7779f9fc=""></value:>	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 Option: (82) Agent Information Option
Parameter Request List Item: (6) Domain Name Server	Length: 47
Parameter Request List Item: (15) Domain Name	 Option 82 Suboption: (1) Agent Circuit ID
Parameter Request List Item: (31) Perform Router Discover	Length: 14 <value: 0108000600018a9200a00000000=""></value:>
Parameter Request List Item: (33) Static Koute Parameter Request List Item: (43) Vendor-Specific Information	Agent Circuit ID: 0108000600018a9200a00000000 ~ Option 82 Suboption: (2) Agent Remote ID
Parameter Request List Item: (44) NetBIOS over TCP/IP Name Server	Length: 6
Parameter Request List Item: (46) NetBIOS over TCP/IP Node Type	<value: 707db9084daf=""> Agent Remote ID: 707db9b84daf</value:>
Parameter Request List Item: (47) NetBIOS over TCP/IP Scope	Option 82 Suboption: (151) VRF name/VPN ID Length: 9
Parameter Request List Item: (11) Domain Search	<value: 007465666166742d61=""></value:>
Parameter Request List Item: (249) Private/Classless Static Route (Microsoft)	<pre>> [Expert Info (Warning/Undecoded): Trailing stray characters]</pre>
Parameter Request List Item: (252) Private/Proxy autodiscovery	 Option 82 Suboption: (11) Server ID Override (10.10.10.1) Length: 4
Padding: 0000000000000000	<value: 0a0a0a01=""></value:>
· · · · · · · · · · · · · · · · · · ·	 Option 82 Suboption: (5) Link selection (10.10.10.0)
	Lengtn: 4 <value: 0a0a0a00=""></value:>
	Link selection: 10.10.10.0
	Padding: 0000000000000000



Tipp: Das Bild vergrößert sich beim Doppelklick.

Erkennung auf SPINE

Erkennung empfangen auf SPINE	Erkennung gesendet von 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: 13.13.13.254 User Datagram Protocol, Src Port: 62233, DSt Port: 4789 Virtual extensible Local Area Network - Flags: 0x0000, VXLAV Network ID (VMI) Group Policy ID: 0 VXLAV Network Identifier (VMI): 303030 Reserved: 0 Ethernet II, Src: 70:7d:b9:b8:4d:af, Dst: 02:00:0d:0d:0d:dff Internet Protocol Version 4, Src: 172.16:10.8, Dst: 10.10.10 User Datagram Protocol, Src Port: 67, Dst Port: 67 Dynamic Mest Configuration Protocol Dis Port: 67 Message type: Boot Request (1) Hardware type: Ethernet (0x01) Hardware address length: 6 Hops: 1	Ethernet II, Src: 10:b3:d6:a4:85:97, Dst: 60:26:aa:85:98:87 Internet Protocol Version 4, Src: 5.5.5, Sp. Dst: 13.13.13,254 User Datagram Protocol, Src Port: 65233, Dst Port: 4789 Virtual extensible Local Area Network Flags: 8x0800, VXLAN Network ID (VNI) Group Policy ID: 0 VXLAN Network Identifier (VNI): 303030 Reserved: 0 Ethernet II, Src: 70:70:19:b9:b8:4d:af, Dst: 02:00:0d:0d:0d:fe 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: Bot Request (1) Hardware type: Ethernet (0x01) Hardware type: Ethernet (0x01)
Bootp flags: 0x8000, Broadcast flag (Broadcast)	Seconds elapsed: 0
Client IP address: 0.0.0.0	Bootp flags: 0x8000, Broadcast flag (Broadcast)
Your (client) IP address: 0.0.0.0	Client IP address: 0.0.0.0
Next server IP address: 0.0.0.0	Your (client) IP address: 0.0.0.0
Relay agent IP address: 102.16.10.8	Next server IP address: 0.0.0.0
Client MAC address: 0050556ra3:fd:dd	Relay agent IP address: 172.16.10.8
Client Hardware address paddinu: 000000000000000000000000000000000000	Client McC address: 00:51565:63:fd:dd
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)</value:>	Client hardware address padding: 000000000000000000000000000000000000
<pre>v Option: (61) Client identifier Length: 7</pre>	DHCP: Discover (1) Option: (6) Client identifier Length: 7 <value: 01005056a5fddd=""> Hardware type: Ethernet (0x01) Client MAC address: 00:50:56:a5:fd:dd Option: (12) HoSt Name</value:>
<value: 43584c6162732d573130=""></value:>	Length: 10
Host Name: CXLabs=W10	<value: 43584c6162732d573130=""></value:>
Option: (60) Vendor Class identifier	Host Name: CXLabs-M10
Length: 8	· Option: (60) Vendor class identifier
<value: 4d53465420352e30=""></value:>	Length: 8
Vendor class identifier: MSFT 5.0	<value: 4653465420352e30=""></value:>
Option: (5E) Psrzender Benuet isit	Vendor class identifier: M5F 5.0
Length: 14	<pre>> Option: (55) Parameter Request List</pre>
<value: 01030601="" fr212b2c2e2f77999fc=""></value:>	Length: 14
Parameter Request List Item: (1) Subnet Mask	<value: 0103060f1f212b2c2c2f7779ffc=""></value:>
Parameter Request List Item: (3) Router	Parameter Request List Item: (1) Subnet Mask
Parameter Request List Item: (6) Domain Name Server	Parameter Request List Item: (3) Router
Parameter Request List Item: (15) Domain Name	Parameter Request List Item: (6) Domain Name Server
Parameter Request List Item: (13) Darform Review Discover	Parameter Request List Item: (15) Domain Name
Parameter Request List Item: (33) Static Route	Parameter Request List Item: (31) Perform Router Discover
Parameter Request List Item: (43) Vendor-Specific Information	Parameter Request List Item: (33) Static Route
Parameter Request List Item: (44) NetBIOS over TCP/IP Name Server	Parameter Request List Item: (43) Vendor-Specific Information
Parameter Request List Item: (46) NetBIOS over TCP/IP Name Server	Parameter Request List Item: (44) NetBIOS over TCP/IP Node Type
Parameter Request List Item: (46) NetBIOS over TCP/IP Node Type	Parameter Request List Item: (46) NetBIOS over TCP/IP Node Type
Parameter Request List Item: (19) NotBIOS over TCP/IP Scope	Parameter Request List Item: (47) NetBIOS over TCP/IP Scope
Parameter Request List Item: (13) Charlence Etatic Route	Parameter Request List Item: (19) Domain Search
Parameter Request List Item: (Z49) Private/Picklassless Static Route (Microsoft)	Parameter Request List Item: (121) Classless Static Route
Parameter Request List Item: (Z52) Private/Picklassless Static Route (Microsoft)	Parameter Request List Item: (240) Private/Classless Static Route (Microsoft)
Portaneter Request List Item: (Z52) Private/Picklassless Static Route (Microsoft)	Parameter Request List Item: (252) Private/Proxy autodiscovery
(option: (82) Agent Information Option	• Option: (82) Agent Information Option
Length: 47	Length: 47
	<value: 010e0108000600018a9200a00000000206707db9b84daf970900746556e615e742d610b040a0a0105040a0a0000=""></value:>
Option 82 Suboption: (1) Agent Circuit ID	• Option 22 Subnotion: (1) Agent Circuit ID
Length: 14 <value: 0180800600018a9200a000000000<br="">Agent Circuit ID: 0108000600018a9200a0000000 Option 82 Suboption: (2) Agent Remote ID Length: 6 <value: 707db984daf=""> Agent Remote ID: 707db984daf</value:></value:>	Length: 14 Agent Circuit ID: 010800600018a9200a00000000> Agent Circuit ID: 0108000600018a9200a00000000 Option 82 Suboption: (2) Agent Remote ID Length: 6 Agent Remote ID: 207d0b08ddaf
 Option 82 Suboption: (151) VRF name/VPN ID Length: 9 <value: 007465566166742d61=""></value:> VRF name: (Expert Info (Warning/Undecoded): Trailing stray characters] Option 82 Suboption: (11) Server ID Override (10.10.10.1) 	<pre>> Option 82 Suboption: (151) VRF name/VPN ID Length: 9 <value: 00746566616e742d61=""> > VRF name: > [Expert Info (Warning/Undecoded): Trailing stray characters] > 0ption 82 Suboption: (11) Server ID Override (10.10.10.1)</value:></pre>
Length: 4	Length: 4
<value: 0000001=""></value:>	<value: 0000001=""></value:>
Server ID Override: 10.10.10.1	Server ID Override: 10.10.10
• Option 82 Suboption: (5) Link selection (10.10.00)	0 ption 32 Suboption: (5) Link selection (10.10.10.0)
Length: 4	Length: 4
<value: 00000000=""></value:>	<value: 00000000=""></value:>
Link selection: 10.10.10.0	Link selection: 10.10.10.0
• Option: (255) End	Control Selection: 10.10.10.0
Option End: 255	- uptauni (253) End
Padding: 000000000000000	Padding: 00000000000000

Erkennung auf LEAF-1-vPC

Erkennung empfangen auf LEAF-1-vPC	Erkennung gesendet von 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 anotation a
- 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 cookle. Dhep
Client MAC address An Co. Co. C. Advad	 option; (55) DRCP Message Type (Discover)
CTTGUT NWC 900(L622: 00:20:20:30:40:00	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) Deuter	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 ICP/IP Node Type	Antion: (82) Agent Information Ontion
Parameter Request List Item: (47) NetBIOS over TCP/IP Scope	length a
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: 4/	 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 Jave] + 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</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=""> 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:>



Hinweis: LEAF-2-vPC empfängt das Discovert-Paket, dieses wird jedoch nur geswitcht. Die Ziel-MAC-Adresse gehört zum DHCP-Server.

Erkennung empfangen auf DHCP-Server

```
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
```

DCHP-Angebot von DCHP-Server gesendet

```
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
```

DHCP-Angebot für LEAF-2-vPC

Angebot erhalten bei LEAF-2-vPC	Angebot gesendet von LEAF-2-vPC
<pre>> Ethernet II, Src: 00:50:56:a5:dc:ca, Dst: 00:00:0a:0a:0a Internet Protocol Version 4, Src: 10.10.10.150, Dst: 172.16.10.8 User Datagma Protocol, Src Pert: 67, Dat Port: 67 Pymail: Most Configuration Protocol (Uffer) Message type: Boot Reply (2) Hardware type: Ethernet (0x01) Hardware type: Boot Reply (2) Hardware type: Hardware type: Hardware type: Hardware Hardware</pre>	<pre>Intermet Protocol version 4, Src: 15.15.15.0 St For: 4.789 User Datagram Protocol, Src Port: 65.16, Dist For: 4.789 * Flag: 80800, VLAW Network 10 (W1) Ora, Policy DD: 0 Westword: 1 dentifier (W1): 303830 Reserved: 1 dentifier (W1): 303830 Reserved: 1 dentifier (W1): 303830 Reserved: 1 dentifier (W1): 303830 Netword: 1 dentifier (W1): 303830 WestPote 1 dentifier (W1): 303830 User Datagram Protocol, Src Port: 67, Dist Port: 47. * Privat: Configuration Protocol (Offer) Message type: Board of A, Src: 10.18.10.19.05, Dist: 172.16.10.8 User Datagram Protocol, Src Port: 67, Dist Port: 67 Dynamic Most Configuration Protocol (Offer) Message type: Board Protocol (Offer) Message type: Board Protocol, Src Port: 67 Dynamic Most Configuration Protocol (Offer) Message type: Board (000) Hardware address length: 6 Hops: 0 Transaction ID: %xe9e35887 Seconds elapsed: 8 Boatp flags: %x8080, Broadcast flag: Broadcast</pre>
<pre>value: ofcorecorected associated accorected of a social system as social accorected accorected as a social system as a soc</pre>	Domain Name: cisco.com
<pre>- cvalue 010000060012a9200a00000000> Agent Circuit ID: 0108000600012a9200a00000000 0 ption 02 Suboption: (2) Agent Remote ID Length: 6</pre>	• yelvin: 02/ yelin: 47 Length: 47 <value: 01c01080006001303200a000000000000000000000000000000<="" td=""></value:>
[Trailing stray characters] dessage: Trailing stray characters>	<pre>vprim oc_addoption: (151) VKF name/VFN 10 Length: 9 <value: 007465566156742d61=""></value:></pre>
[Severity level: Warning] [Group: Undecoded]	<pre>VRF name: [Expert Info (Warning/Undecoded): Trailing stray characters]</pre>
<pre>> Option 82 Suboption: (11) Server ID Override (10.10.10.1) Length: 4 <value: 0a0a0a01=""> Server ID Override: 10.10.10.1</value:></pre>	[Trailing stray characters] <message: characters="" stray="" trailing=""> [Severity level: Warning] [Group: Undecoded]</message:>
 Uption 82 Suboption: (5) Link selection (10.10.10.0) Length: 4 	 Option 82 Suboption: (11) Server ID Override (10.10.10.1) Length: 4 doi:10.10.000000010
<pre>Link selection: 10.10.00 Option: 1255 End Option End: 255</pre>	<pre><value: soaaaau=""> Server ID Override: 10.10.10.1 < Option 82 Suboption: (5) Link selection (10.10.00) Length: 4 <value: 808080800<br="">Link selection: 10.10.10.0 < Option: (255) End Option End: 255</value:></value:></pre>

DHCP-Angebot vPC SPINE

Angebot erhalten auf SPINE Angebot gesendet von 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	
Elane: 0x0800, UXIAN Network TD (WT)	
Frags: 6x6666, VALAN NEWORK ID (VNI)	
Group Policy ID: 0	Ethernet TT Src: 10:52:d6:54:95:07 Drt: 70:7d:50:50:4d:5f
VXLAN Network Identifier (VNI): 303030	Thermot Distance is a construction of the second se
Reserved: 0	5 Internet Protocol Version 4, Src: 13.13.13.234, DSt: 5.5.5.5
Ethernet II. Src: 02:00:0d:0d:0d:fe. Dst: 70:7d:b9:b8:4d:af	> User Datagram Protocol, Src Port: 65518, Dst Port: 4789
Internet Protocol Version 4, Src: 10.10.10.150, Dst: 172.16.10.8	Virtual eXtensible Local Area Network
licer Datagener Dectored Size Dart 67 Det Dart 67	Flags: 0x0800, VXLAN Network ID (VNI)
User Datagram Protocol, Src Port: 67	Group Policy ID: A
 Dynamic Host Configuration Protocol (Offer) 	Will Miller and Tables (1817), 202020
Message type: Boot Reply (2)	VALAN NECKOTK IDENCITE (VNI): 505050
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
Hone+ 0	> Internet Protocol Version 4, Src: 10.10.10.150, Dst: 172.16.10.8
Tescartian The Busha25007	> User Datagram Protocol, Src Port: 67. Dst Port: 67
Transaction 10: 0x89655087	 Dynamic Host Configuration Protocol (Offer)
Seconds elapsed: 0	Marce net their Both (2)
Bootp flags: 0x8000, Broadcast flag (Broadcast)	hessage type: boot hepty (2)
1 = Broadcast flag: Broadcast	Hardware type: Ethernet (0x01)
.000 0000 0000 = Reserved flags; 0x0000	Hardware address length: 6
Client IP address: 0.0.0.0	Hops: 0
Vaux (client) TD address 10 10 10 2	Transaction ID: 0xe9e35087
Tour (claent) if duriess. 10.10.10.5	Seconds elapsed: 0
Next server IP address: 10.10.10.150	Roots flage: 0x0000 Broadcast flag (Broadcast)
Relay agent IP address: 172.16.10.8	Dich Tags. 0.0000 0.0
Client MAC address: 00:50:56:a5:fd:dd	culent if audress: 0.0.0.0
Client hardware address padding: 0000000000000000000	Your (client) IP address: 10.10.10.3
Server host name not given	Next server IP address: 10.10.10.150
Boot file name not given	Relay agent IP address: 172.16.10.8
Mode rate name not gatel	Client MAC address: 00:50:56:a5:fd:dd
nagic course; price	Client bardware address padding: 000000000000000000
v uption: (53) UHCP Message Type (Offer)	Server best size of alves
Length: 1	Server nost name not given
<value: 02=""></value:>	Boot file name not given
DHCP: Offer (2)	Magic cookie: DHCP
Option: (1) Submet Mark (255 255 2)	 Option: (53) DHCP Message Type (Offer)
 option: (1) subject hask (255.255.25). 	Length: 1
Length: 4	
<value: ffffff00=""></value:>	
Subnet Mask: 255.255.255.0	DRCP: OTTER (2)
 Option: (58) Renewal Time Value 	<pre>> Option: (1) Subnet Mask (255.255.26)</pre>
Length: 4	Length: 4
	<value: ffffff00=""></value:>
	Subnet Mask: 255.255.25.0
Renewal Time Value: 12 hours (43200)	Ontion: (S2) Renewal Time Value
Option: (59) Rebinding Time Value	option. (b) Kenewa (Time value
Length: 4	Length: 4
<value: 00012750=""></value:>	<value: 0000a8c0=""></value:>
Rehinding Time Value: 21 hours (75600)	Renewal Time Value: 12 hours (43200)
Options (E1) TD Address Losso Time	 Option: (59) Rebinding Time Value
 Option: (51) IP Address Lease Time 	length: 4
Length: 4	
<value: 00015180=""></value:>	<value: 00012="" 30=""></value:>
IP Address Lease Time: 1 day (86400)	Rebinding Time Value: 21 hours (75600)
Option: (54) DMCP Server Identifier (10.10.10.1)	 Option: (51) IP Address Lease Time
· option: (34) oner server identifier (10.10.10.1)	Length: 4
Length: 4	<value: 00015180=""></value:>
<value: 0a0a0a01=""></value:>	TD Address Lassa Time: 1 day (96499)
DHCP Server Identifier: 10.10.10.1	IF Address Lease Thie, I day (order)
 Option: (3) Router 	 Option: (54) DHCP Server identifier (10.10.10.1)
Length: 4	Length: 4
-Value: 0.0000015	<value: 0a0a0a01=""></value:>
Postor, 10 10 10 1	DHCP Server Identifier: 10.10.10.1
Router: 10.10.10.1	Option: (15) Domain Name
 Option: (15) Domain Name 	· Option (15) Oblight Name
Length: 10	Length: 10
<value: 636973636f2e636f6d00=""></value:>	<value: 63697363612e63616d00=""></value:>
Domain Name: cisco.com	Domain Name: cisco.com
	Option: (82) Agent Information Option
v uption to zy Agent information uption	Length: 47
Length: 47	
<value: 010e0108000600018a9200a0000000000206707db9b84daf97090074656e616e742d610b040a0a0a0105040a0a0a00=""></value:>	Ontion 82 Subortion: (1) Agent Circuit TD
 Option 82 Suboption: (1) Agent Circuit ID 	Landth 14
Length: 14	Length, 14
<value: 0108000600018a9200a0000000a=""></value:>	<va(nc: 01020000001293700900000000=""></va(nc:>
Anont fircuit Th- 010000000015-02000000000	Agent Circuit ID: 0108000600018a9200a00000000
Agent Lituit 10. dloondooddalday200000000	Option 82 Suboption: (2) Agent Remote ID
v uption oz suboption: (2) Agent Kemote ID	Length: 6
Length: b	<value: 707db9b84daf=""></value:>
<value: 707db9b84daf=""></value:>	Agent Remote TD: 7871b9h84daf
Agent Remote ID: 707db9b84daf	Agent Remote 10. 7070000000
 Option 82 Suboption: (151) VRF name/VPN ID 	v uprion of Sonohright, (121) AKL ugges in the
landt a	Length: 9
	<value: 0074656e616e742d61=""></value:>
\Va(uc: 00/4030c01d2/42001>	> VRF name:
VKP name:	 Option 82 Suboption: (11) Server ID Override (10,10.10.1)
 [Expert Info (Warning/Undecoded): Trailing stray characters] 	Langh: A
[Trailing stray characters]	Longen, 4
Message: Trailing stray characters	<asing: asagasat=""></asing:>
Converte Louis Marsian	Server ID Override: 10.10.10.1
(Severity Level: Warning)	 Option 82 Suboption: (5) Link selection (10.10.10.0)
[Group: Undecoded]	Length: 4
 Option 82 Suboption: (11) Server ID Override (10.10.10.1) 	Value, 02020200
Length: 4	
<value: babababl=""></value:>	LINK Selection: 10.10.10.0
Server TD Override: 10.10.10.1	Option: (255) End
Jerver av overrade. 10.10.10.10.1	Option End: 255
 upitum oz suboption; (5) Link selection (10.10.10.0) 	
Length: 4	
<value: 0a0a0a00=""></value:>	
Link selection: 10.10.10.0	
Link selection: 10.10.10.0 · Option: (255) End	
Link selection: 10.10.10.0 Option: (255) End Option End: 255	
Link selection: 10.10.10.0 • Option: (255) End Option End: 255	

DHCP-Angebot auf LEAF-1

Auf LEAF-1 empfangenes Angebot	Senden auf LEAF-1

	<pre>> Ethernet II, Src: 70:7d:b9:b8:4d:af, Dst: ff:ff:ff:ff:ff:ff</pre>
	> Internet Protocol Version 4, Src: 10.10.10.1, Dst: 255.255.255.255
> 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: 67, Dst Port: 68
User Datagram Protocol, Src Port: 65518, Dst Port: 4789	 Dvnamic Host Configuration Protocol (Offer)
Virtual eXtensible Local Area Network	Message type: Boot Reply (2)
Group Policy ID: 0	Hardware type: Ethernet (0x01)
VXLAN Network Identifier (VNI): 303030	Hardware cype. Etherhet (0.01)
Reserved: 0 Ethernet II, Src: 02:00:0d:0d:0d:0d:fe, Dst: 70:7d:b9:b8:4d:af	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 elapsed: 0
Hardware type: Ethernet (0x01)	> Bootp flags: 0x8000, Broadcast flag (Broadcast)
Hardware address length: 6 Hops: 0	Client IP address: 0.0.0.0
Transaction ID: 0xe9e35087	Your (client) IP address: 10 10 10 3
Seconds elapsed: 0 > Booto flaos: 0x8000, Broadcast flao (Broadcast)	Next center TP address: 10.10.10.5
Client IP address: 0.0.0.0	Next Server 1P address. 10.10.10.10
Your (client) IP address: 10.10.10.3	Relay agent IP address: 10.10.1
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
Magic cookie: DHCP v Option: (53) DHCP Message Type (Offer)	Magic cookie: DHCP
Length: 1	<pre>v Ontion: (53) DHCP Message Type (Offer)</pre>
<value: 02=""> DHCP: Offer (2)</value:>	Length: 1
<pre>> Option: (1) Subnet Mask (255.255.0)</pre>	
Length: 4	
Subnet Mask: 255.255.0	DHCP: Uffer (2)
Option: (58) Renewal Time Value	Option: (1) Subnet Mask (255.255.255.0)
<value: 0000a8c0=""></value:>	Length: 4
Renewal Time Value: 12 hours (43200)	<value: ffffff00=""></value:>
Length: 4	Subnet Mask: 255.255.255.0
<value: 00012750=""></value:>	v Option: (58) Renewal Time Value
 Option: (51) IP Address Lease Time 	Length: 4
Length: 4	<value: 0000a8c0=""></value:>
<value: 00015180=""> IP Address Lease Time: 1 day (86400)</value:>	Renewal Time Value: 12 hours (43200)
Option: (54) DHCP Server Identifier (10.10.10.1)	Ontion: (59) Rehinding Time Value
<pre></pre>	Length: 4
DHCP Server Identifier: 10.10.10.1	
Option: (15) Domain Name Length: 10	<value: 00012="" 30=""></value:>
<value: 636973636f2e636f6d00=""></value:>	Rebinding Time value: 21 hours (75600)
Domain Name: cisco.com	<pre>v Option: (51) IP Address Lease Time</pre>
Length: 47	Length: 4
<pre><value: 01000108000600018a9200a0000000000206707db9b84daf97090074656e616e742d610b040a0a0a0105040a0a0a00=""></value:></pre>	<value: 00015180=""></value:>
Length: 14	IP Address Lease Time: 1 day (86400)
<value: 0108000600018a9200a00000000=""></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 	v Ontion: (3) Router
<value: 0074656e616e742d61=""></value:>	length: 4
VRF name: Option 82 Subortion: (11) Server TD Override (18,18,18,1)	
Length: 4	Value: Valuation
<value: 0a0a0a01=""></value:>	Router: 10.10.10.1
 Option 82 Suboption: (5) Link selection (10.10.10.0) 	Option: (15) Domain Name
Length: 4	Length: 10
<value: 00000000=""> Link selection: 10.10.10.0</value:>	<value: 636973636f2e636f6d00=""></value:>
<pre>> Option: (255) End</pre>	Domain Name: cisco.com
Uption End: 255	Option: (255) End
	Option End: 255

DHCP-Angebot empfangen auf 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
```

Anfrage gesendet von 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
```

Anfrage zu LEAF-1

Anfrage erhalten auf LEAF-1	Anfrage gesendet von 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:b9: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
 Dynamic Host Configuration Protocol (Request) 	Group Policy ID: 0
Hardware type: Ethernet (0x01)	Reserved: 0
Hardware address length: 6	 Internet II, SrC: /0//dib9:08:40:81, 051: 02:00:00:00:00:00:00:00 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)	Hardware address length: 6 Hops: 1
.000 0000 0000 0000 = Reserved flags: 0x0000	Transaction ID: 0xe9e35087 Seconds elapsed: 0
Client IP address: 0.0.0.0	Bootp flags: 0x8000, Broadcast flag (Broadcast) Client IP address: 0.0.0.0
Next server IP address: 0.0.0.0	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 hardware address padding: 0000000000000000000	Client hardware address padding: 000000000000000000
Server host name not given	Server nost 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 <value: 03=""></value:>	DHCP: Request (3) v Option: (61) Client identifier
DHCP: Request (3)	Length: 7 <value: 01005056a5fddd=""></value:>
Option: (61) Client identifier	Nardware type: Ethernet (0x01) Client MAC address: 00:50:55:a5:fd:dd
<value: 01005056a5fddd=""></value:>	<pre>v Option: (50) Requested IP Address (10.10.10.3) length: 4</pre>
Hardware type: Ethernet (0x01)	<value: 0a0a0a03=""></value:>
 Option: (50) Requested IP Address (10.10.10.3) 	 Option: (54) DHCP Server Identifier (10.10.10.150)
Length: 4	Length: 4 ≪Value: 0a0a0a96>
<value: 0a0a0a03=""> Requested IP Address: 10.10.10.3</value:>	DHCP Server Identifier: 10.10.10.150 v Option: (12) Host Name
Option: (54) DHCP Server Identifier (10.10.10.1)	Length: 10 <value: 43584c6162732d573130=""></value:>
Length: 4 <value: 0a0a0a01=""></value:>	Host Name: CXLabs-W10 ~ Option: (81) Client Fully Qualified Domain Name
DHCP Server Identifier: 10.10.10.1	Length: 13 <value: 00000043584c6162732d573130=""></value:>
Option: (12) Host Name Length: 10	> Flags: 0x00 A-RR result: 0
<value: 43584c6162732d573130=""></value:>	PTR-RR result: 0
Host Name: CXLabs-W10	 Option: (50) Vendor class identifier
Length: 13	<value:< td=""> 4d53465420352e30></value:<>
<value: 00000043584c6162732d573130=""></value:>	 Option: (55) Parameter Request List
0000 = Reserved flags: 0x0	Length: 14 <value: 010306011f212b2c2e2f7779f9fc=""></value:>
0 = Server DDNS: Some server updates	Parameter Request List Item: (1) Subnet Mask Parameter Request List Item: (3) Router
0. = Encoding: ASCII encoding 0. = Server overrides: No override	Parameter Request List Item: (6) Domain Name Server Parameter Request List Item: (15) Domain Name
0 = Server: Client	Parameter Request List Item: (31) Perform Router Discover Parameter Request List Item: (33) Static Route
A-RR result: 0 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: (46) NetBIOS over TCP/IP Node Type Parameter Request List Item: (47) NetBIOS over TCP/IP Scope
 Option: (60) Vendor class identifier Length: 8 	Parameter Request List Item: (119) Domain Search Parameter Request List Item: (119) Domain Search
<value: 4d53465420352e30=""></value:>	Parameter Request List Item: (24) Private/Classless Static Route (Microsoft)
Vendor class identifier: MSFT 5.0	 Option: (82) Agent Information Option
Length: 14	Length: 47 <value: 010e01080006600018a9200a00000000000000000000000046566616e742d610b040a0a0a0105040a0a000=""></value:>
<value: 0103060f1f212b2c2e2f7779f9fc=""></value:>	Option 82 Suboption: (1) Agent Circuit ID Length: 14
Parameter Request List Item: (1) Subnet Mask Parameter Request List Item: (3) Router	<value: 0108000500018a9200a000000000=""> Agent Circuit ID: 0108000500018a9200a00000000</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=""></value:>
Parameter Request List Item: (33) Static Route	Option 82 Suboption: (151) VRF name/VPN ID
Parameter Request List Item: (43) Vendor-Specific Information Parameter Request List Item: (44) NetRIOS over TCP/TP Name Server	<value: 0074656c616c742d61=""></value:>
Parameter Request List Item: (46) NetBIOS over TCP/IP Node Type	> [Expert Info (Warning/Undecoded): Trailing stray characters]
Parameter Request List Item: (47) NetBIOS over TCP/IP Scope	Length: 4
Parameter Request List Item: (121) Classless Static Route	<value: canadadu=""> Server ID Override: 10.10.10.1</value:>
Parameter Request List Item: (249) Private/Classless Static Route (Microsoft)	<pre>v uption sz suboption: (5) Link selection (10.10.10.0) Length: 4</pre>
 Option: (255) End 	<value: 0a0a0a00=""> Link selection: 10.10.0</value:>
Option End: 255	Option: (255) End Option End: 255

Anfrage zu SPINE

Anfrage erhalten auf SPINE

Anfrage gesendet von 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: 00:50:56:65:66:d0 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 densitien WFFF E 0 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;0b;0b;4d;ar, Dst: 02:00:0d:0d:0d;0d;1fe 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

Anforderung auf LEAF-2-vPC

Empfangen von PCd auf LEAF-2-vPC anfordern	Anforderung wird von vPCAF-2-vPC gesendet
> Ethermet II, Src: 18:03:d6:a4:85:97, Dst: 68:26:aa:85:95:87 Intermet 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: 0x0800, VXLAN Network ID (VNI) Group Policy ID: 0 	Ethernet II, Src: 60:26:aa:85:95:87, Dst: 00:50:56:a5:dc:ca Internet Protocol Version 4, Src: 17, 16, 10, 8, Dct: 10, 10, 15, 150
VXLAN Network Identifier (WNI): 303030	> User Datagram Protocol, Src Port: 67, Dst Port: 67
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: 172.16.10.8, Dst: 10.10.10.10.150 User Datagram Protocol, Src Port: 67, Dst Port: 67 	Hardware type: Ethernet (0x01) Hardware address length: 6
 Dynamic Host Configuration Protocol (Request) Message type: Boot Request (1) 	Hops: 1 Transaction ID: 0xe9e35087
Hardware type: Ethernet (0x01) Hardware address length: 6	Seconds elapsed: 0 Booth flanc: 0x8000, Broadcast flan (Broadcast)
Hops: 1	Client [2] address: 0.0.0
Fransaction ID: 0xe9es5087 Seconds elapsed: 0	Your (client) IP address: 0.0.0.0 Next server IP address: 0.0.0.0
> Bootp flags: 0x8000, Broadcast flag (Broadcast) Client IP address: 0.0.0.0	Relay agent IP address: 172.16.10.8 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 hardware address padding: 0000000000000000000	 Option: (53) DHCP Message Type (Request)
Boot file name not given	<value: 03=""></value:>
Magic cookie: DHCP ~ Option: (53) DHCP Message Type (Request)	DHCP: Request (3) v Option: (61) Client identifier
Length: 1 <value: 03=""></value:>	Length: 7 <value: 01005056a5fddd=""></value:>
DHCP: Request (3)	Hardware type: Ethernet (0x01)
Length: 7	 Option: (50) Requested IP Address (10.10.10.3)
<value: 01005056a5fddd=""> Hardware type: Ethernet (0x01)</value:>	Length: 4 <value: 0a0a0a03=""></value:>
Client MAC address: 00:50:56:a5:fd:dd v Option: (50) Requested IP Address (10.10.10.3)	Requested IP Address: 10.10.10.3
Length: 4	Length: 4
Requested IP Address: 10.10.10.3	DHCP Server Identifier: 10.10.150
<pre>v Option: (54) DHCP Server Identifier (10.10.10.150) Length: 4</pre>	<pre>v Option: (12) Host Name Length: 10</pre>
<value: 0a0a0a96=""> DMCP Server Identifier: 10.10.10.150</value:>	<value: 43584c6162732d573130=""> Host Name: CXLabs-W10</value:>
 Option: (12) Host Name Length: 10 	Option: (81) Client Fully Qualified Domain Name Length: 13
<pre></pre>	<pre><value: 00000043584c6162732d573130=""></value:></pre>
Host Name: CXLabs-W10 ~ Option: (81) Client Fully Qualified Domain Name	A-RR result: 0
Length: 13 <value: 00000043584c6162732d573130=""></value:>	PTR-RR result: 0 Client name: CXLabs-W10
Flags: 0x00 A-RB result: 0	<pre>v Option: (60) Vendor class identifier length: 8</pre>
PTR-RR result: 0	<pre></pre> <value: 4d53465420352e30=""> </value:>
 Option: (60) Vendor class identifier 	vendor class identifier: MSFT 5.0 v Option: (55) Parameter Request List
Length: 8 <value: 4d53465420352e30=""></value:>	Length: 14 <value: 0103060f1f212b2c2e2f7779f9fc=""></value:>
Vendor class identifier: MSFT 5.0	Parameter Request List Item: (1) Subnet Mask Parameter Request List Item: (3) Buiter
Length: 14	Parameter Request List Item: (6) Domain Name Server
Parameter Request List Item: (1) Subnet Mask	Parameter Request List Item: (1) Domain Rame Parameter Request List Item: (31) Perform Router Discover
Parameter Request List Item: (3) Router Parameter Request List Item: (6) Domain Name Server	Parameter Request List Item: (33) Static Route Parameter Request List Item: (43) Vendor-Specific Information
Parameter Request List Item: (15) Domain Name Parameter Request List Item: (31) Perform Router Discover	Parameter Request List Item: (44) NetBIOS over TCP/IP Name Server
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: (44) NetBIOS over TCP/IP Name Server	Parameter Request List Item: (119) Domain Search Parameter Request List Item: (121) Classless Static Route
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: (249) Private/Classless Static Route (Microsoft) Parameter Request List Item: (252) Private/Proxy autodiscovery
Parameter Request List Item: (119) Domain Search	 Option: (82) Agent Information Option
Parameter Request List Item: (249) Private/Classless Static Route (Microsoft)	<pre>Length: 4/ <value: 010e0108000600018a9200a00000000206707db9b84daf97090074656e616e742d610b040a0a0a0105040a0a0a000=""></value:></pre>
Parameter Request List Item: (252) Private/Proxy autodiscovery v Option: (82) Agent Information Option	Option 82 Suboption: (1) Agent Circuit ID Length: 14
Length: 47	<value: 0108000600018a9200a000000000=""> Agent Circuit ID: 0108000600018a9200a0000000</value:>
 Option 82 Suboption: (1) Agent Circuit ID Length: 14 	 Option 82 Suboption: (2) Agent Remote ID
<value: 0108000600018a9200a00000000=""></value:>	<value: 707db9b84daf=""></value:>
 Option 82 Suboption: (2) Agent Remote ID 	Option 82 Suboption: (151) VRF name/VPN ID
Length: 6 <value: 707db9b84daf=""></value:>	Length: 9 <value: 0074656e616e742d61=""></value:>
Agent Remote ID: 707db9b84daf < Option 82 Suboption: (151) VRF name/VFN ID	VRF name: Option 82 Suboption: (11) Server ID Override (10.10.10.1)
Length: 9	Length: 4
VRF not 2 Constant (1) Converting (1) Converting (1) 10 10 10	Server ID Override: 10.10.10.1
<pre>v uption of suboption: (11) Server 10 Override (10.10.10.1) Length: 4</pre>	<pre>v uption sz suboption: (5) Link selection (10.10.10.0) Length: 4</pre>
<value: 0a0a0a0l=""> Server ID Override: 10.10.10.1</value:>	<value: 0a0a0a00=""> Link selection: 10.10.10.0</value:>
Option 82 Suboption: (5) Link selection (10.10.10.0) Length: 4	Option: (255) End Option End: 255
<value: 0a0a0a00=""> Link celection: 10.10.0</value:>	ng
 Option: (255) End 	
option End: 255	

Anfrage auf DHCP-Server empfangen

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 gesendet vom DHCP-Server
```
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 auf LEAF-2-vPC

ACK on SPINE

ACK empfangen auf SPINE	ACK gesendet von SPINE
Ethernet II, Src: 60:26:aa:85:95:87, Dst: 10:b3:d6:a4:85:97	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	Internet Protocol Version 4, Src: 13.13.13.254, Dst: 5.5.55
User Datagram Protocol, Src Port: 65:318, Dst Port: 4789	User Datagram Protocol, Src Port: 65518, Dst Port: 4789
Virtual eXtensible Local Area Network	Virtual extensible Local Area Network
> Flass: 048080, VILNU Network ID (VII)	Elber: 40980, VIG Metapork TO (ANT)
Group Policy ID: 0	Group Policy ID: 0
VXLAN Network Identifier (VNI): 303030	VXLAN Network Identifier (VNI): 303030
Reserved: 0	Reserved: 0
> Ethernet II, Src: 02:00:0d:0d:0d:0d:fe, Dst: 70:7d:b9:b8:4d:af	> Ethernet II, Src: 02:00:00:00:00:6, Dst: 70:70:b9:b8:4d:af
> Internet Protocol Version 4. Src: 10.10.150. Dst: 172.16.10.8	> Teternet Protocol Version 4, Src: 10.10, Dst: 172.16.10, 8
User Datagram Protocol, Src Port: 67, Dst Port: 67 Dynamic Host Configuration Protocol (ACK)	User Datagram Protocol, Src Port: 67 Dynamic Host Configuration Protocol (ACK)
Message type: Boot Reply (2) Hardware type: Ethernet (0x01) Hardware address length 6	Message type: Boot Reply (2) Hardware type: Ethernet (0x01)
Hops: 0	Hops: 0
Transaction ID: 0xe9e35087	Transaction ID: 0xe9e35087
Seconds elapsed: 0	Seconds elapsed: 0
9 Bootp flags: 0x8000, Broadcast flag (Broadcast)	· Bootp flags: 0x8000, Broadcast flag (Broadcast)
1 Bootp flags: 0x8000, Broadcast flag: Broadcast	- Broadcast flag: Broadcast
.000 0000 0000 = Reserved flags: 0x0000	.000 0000 0000 eReserved flags: 0x0000
Client IP address: 0.0.0.0	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
Relaw anot IP address: 17.2.6.10.8	Poly upont IP address: 10.10.9
Client MAC address: 00:50:56:a5:fd:dd Client hardware address padding: 00000000000000000000	Client hardware address padding: 000000000000000000
Server host name not given	Server host name not given
Boot file name not given	Boot file name not given
Manic cowier DHCP	Manic conkies TMCP
Option: (53) DHCP Message Type (ACK) Length: 1	Option: (S3) DHCP Message Type (ACK) Length: 1
<value: 85=""></value:>	<value: 05=""></value:>
DHCP: ACK (5)	DHCP: ACK (5)
Ontion: (50) Remund Time Value	Option: (59) Resmail Time Value
Length 4	Length: 4
<value: 0000a8c0=""></value:>	
Renewal Time Value: 12 hours (43200)	Renewal Time Value: 12 hours (43200)
Option: (59) Rebinding Time Value	• Option: (59) Rebinding Time Value
<value: 00012750⊳<="" td=""><td><value: 00012750⊳<="" td=""></value:></td></value:>	<value: 00012750⊳<="" td=""></value:>
Rebinding Time Value: 21 hours (75600)	Rebinding Time Value: 21 hours (75600)
 Option: (51) IP Address Lease Time Length: 4 Control (1998) 	• Option: (51) IP Address Lease Time Length: 4 cValue: 08015180-
IP Address Lease Time: 1 day (86400)	IP Address Lease Time: 1 day (86400)
• Option: (54) DHCP Server Identifier (10.10.10.1)	· Option: (54) DHCP Server Identifier (10.10.10.1)
Length: 4	Length: 4
≪Value: 0a0a0a0i>	≪Value: 0a0a0a0i>
DMC Server Identifier: 10.10.10.1	DHCP Server Identifier: 10.10.10
Option: (1) Subnet Mask (255.255.255.0)	Option: (1) Subnet Mask (255.255.255.0)
Length: 4	Length: 4
<value: fffff@b-<="" td=""><td><value: fffff00-<="" td=""></value:></td></value:>	<value: fffff00-<="" td=""></value:>
Subnet Mask: 255.255.00	Subnet Mask: 255.255.255.0
- Ontion: (81) Client Fully Qualified Domain Name	Option: (81) Client Fully Qualified Domain Name
Length: 3	Length: 3
<value: 00ffff=""></value:>	<value: 00ffff=""></value:>
Flags: 0x00	Flags: 0x00
0000 = Reserved flags: 0x0	0000 = Reserved flags: 0x0
	0 = Server DDNS: Some server updates
	<pre></pre>
A-RR result: 255	A-RR result: 255
PTR-BR result: 255	PTR-RR result: 255
<pre>Option: (3) Router Length: 4</pre>	 Option: (3) Router Length: 4
<value:00000002 Router:10.10.10.10 • Oction: (15) Domain Name</value:00000002 	<pre><value: 004040401=""> Router: 10.10.10.1 </value:></pre>
Length: 10	Length: 10
<value: 636973636f2e636f6d00=""></value:>	<value: 636973636f2e636f6d00=""></value:>
v Option: (82) Agent Information Option Length: 47	Option 1 Holes Castor Commation Option Length: 47
<value: 010e0108000600018a9200a0000000000206707db9b84daf97090074656e616e742d610b040a0a0a0105040a0a000=""> > Option 82 Suboption: (1) Agent Circuit ID</value:>	<pre><value: 010e010500060018a9200a000000000206707db9b84daf97090074656e516e742d510b040a0a0a0105040a0a0a00=""> Option 82 Suboption: (1) Agent Circuit ID Leonth: 14</value:></pre>
Lengtn: 14 <value: 0108000600018a9200a000000000<br="">Agent Circuit ID: 0108000600018a9200a00000000</value:>	<value: 0108000600018a9200a000000000=""> Agent Circuit ID: 0108000600018a9200a00000000</value:>
 Option 82 Suboption: (2) Agent Remote ID	 Option 82 Suboption: (2) Agent Remote ID
Length: 6	Length: 6
Agent Remote ID: 7070b9b84daf	Agent Remote ID: 707db9b84daf
9 Option 82 Suboption: (151) VRF name/VPN ID	© Option 82 Suboption: (151) VRF name/VPN ID
Length: 9 	Length: 9 <value: 0074656e616e742d61=""> VRF name:</value:>
<pre>v [Expert Info (Warning/Undecoded): Trailing stray characters] [Trailing stray characters]</pre>	 [Expert Info (Warning/Undecoded): Trailing stray characters] [Trailing stray characters]
<message: characters="" stray="" trailing=""> [Severity level: Warning] [Group: Hoderoded]</message:>	<pre>~mes>age: iraling stray characters> [Severity level: Warning] [Group: Undecoded]</pre>
 Option 82 Suboption: (11) Server ID Override (10.10.10.1)	 Option 82 Suboption: (11) Server ID Override (10.10.10.1)
Length: 4	Length: 4 CVB100: 00000015
<value: 08080801=""> Server ID Override: 10.10.10.1 • Option 82 Subpotion: (5) Link selection (10.10.10.0)</value:>	Server ID Override: 10.10.10.1 • Option 82 Suboption: (5) Link selection (10.10.10.0)
Length: 4 <value: 0s0s0s00=""></value:>	Length: 4 <value: 00000000=""> Link calertion: 10 10 10 0</value:>
Link selection: 10.10.10.0 Option: (255) End Option End: 255	 Option End: 255 Edd: 255

ACK auf LEAF-1

ACK empfangen auf LEAF-1	ACK gesendet von LEAF-1
--------------------------	-------------------------

	<pre>> Ethernet II, Src: 70:7d:b9:b8:4d:af, Dst: ff:ff:ff:ff:ff:ff</pre>
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	> User Datagram Protocol, Src Port: 67, Dst Port: 68
V User Datagram Protocol, Src Port: 05518, DSt Port: 4789 Virtual eXtensible Local Area Network	> Dynamic Host Configuration Protocol (ACK)
> Flags: 0x0800, VXLAN Network ID (VNI)	Message type: Boot Reply (2)
Group Policy ID: 0 VXLAN Network Identifier (VNI): 303030	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	Handware address tengen. o
> User Datagram Protocol, Src Port: 67, Dst Port: 67	Transaction TD: 0ve0e35007
Dynamic Host Configuration Protocol (ACK)	Transaction ID: 0xe9e35087
Hardware type: Ethernet (0x01)	Seconds elapsed: 0
Hardware address length: 6	 Bootp flags: 0x8000, Broadcast flag (Broadcast)
Transaction ID: 0xe9e35087	<pre>1 = Broadcast flag: Broadcast</pre>
Seconds elapsed: 0	.000 0000 0000 0000 = Reserved flags: 0x0000
1 Bootp flags: exeeve, Broadcast flag (Broadcast)	Client IP address: 0.0.0.0
.000 0000 0000 = Reserved flags: 0x0000	Your (client) IP address: 10.10.10.3
Client IP address: 0.0.0.0 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 TP address: 10 10 10 1
Relay agent IP address: 172.16.10.8 Client MAC address: 00:50:56:a5:fd:dd	Client MAC address: 00:50:56:55:fd:dd
Client hardware address padding: 0000000000000000000	Client hardware address redding, 00000000000000000
Server host name not given	Client hardware address padding: 000000000000000000
Magic cookie: DHCP	Server nost name not given
 Option: (53) DHCP Message Type (ACK) 	Boot file name not given
<value: 05=""></value:>	Magic cookie: DHCP
DHCP: ACK (5)	 Option: (53) DHCP Message Type (ACK)
Length: 4	Length: 1
<value: 0000a8c0=""></value:>	<value: 05=""></value:>
 Option: (59) Rebinding Time Value 	DHCP: ACK (5)
Length: 4	Option: (58) Renewal Time Value
<value: 00012750=""> Rebinding Time Value: 21 hours (75600)</value:>	Length: A
Option: (51) IP Address Lease Time	
Length: 4 <value: 00015180=""></value:>	Svalue: 0000dacu>
IP Address Lease Time: 1 day (86400)	Renewal Time value: 12 hours (43200)
Option: (54) DHCP Server Identifier (10.10.10.1) Length: 4	Option: (59) Rebinding Time Value
<value: 0a0a0a01=""></value:>	Length: 4
DHCP Server Identifier: 10.10.10.1 • Option: (1) Subnet Mask (255.255.25.0)	<value: 00012750=""></value:>
Length: 4	Rebinding Time Value: 21 hours (75600)
<value: fffff00=""> Subnet Mack: 255.255.25.0</value:>	Option: (51) IP Address Lease Time
- Option: (81) Client Fully Qualified Domain Name	Length: 4
Length: 3	<value: 00015180=""></value:>
- Flags: 0x00	IP Address Lease Time: 1 day (86400)
0000 = Reserved flags: 0x0	Ontion: (54) DHCP Server Identifier (10.10.10.1)
	Length: A
	Length: 4
A-RR result: 255	<value: babababi<="" td=""></value:>
PTR-RR result: 255	DHCP Server Identifier: 10.10.10.1
Length: 4	 Option: (1) Subnet Mask (255.255.255.0)
<value: 0a0a0a01=""></value:>	Length: 4
v Option: (15) Domain Name	<value: fffff00=""></value:>
Length: 10	Subnet Mask: 255.255.255.0
<value: 0309="" 3030720307203070000=""> Domain Name: cisco.com</value:>	 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: 0108000600018a9200a00000000=""></value:>	0000 = Reserved flags: 0x0
Agent Circuit ID: 0108000600018a9200a0000000	0 = Server DDNS: Some server undates
Length: 6	A = Encoding: ASCII encoding
<value: 707db9b84daf=""></value:>	A - Corver eversides. No everside
Option 82 Suboption: (151) VRF name/VPN ID	
Length: 9	esterver: Client
VRF name:	A-KK FESULT: 255
[Expert Info (Warning/Undecoded): Trailing stray characters] [Trailing stray characters]	PIR-RR result: 255
<pre><message: characters="" stray="" trailing=""></message:></pre>	Option: (3) Router
[Severity level: Warning]	Length: 4
 Option 82 Suboption: (11) Server ID Override (10.10.10.1) 	<value: 0a0a0a01=""></value:>
Length: 4	Router: 10.10.10.1
Server ID Override: 10.10.10.1	Option: (15) Domain Name
 Option 82 Suboption: (5) Link selection (10.10.10.0) Length: 4 	Length: 10
<value: 0a0a8a00=""></value:>	<value: 636973636f2e636f6d00=""></value:>
Link selection: 10.10.10.0	Domain Name: cisco.com
Option End: 255	v Ontion: (255) End
	Option End: 255
	operation child. 200

ACK auf 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

Zugehörige Informationen

Konfigurieren des VXLAN-BGP-EVPN

Konfigurieren von VXLAN

Fehlerbehebung bei DHCP-bezogenen Problemen auf dem Nexus 9000

Cisco Nexus Serie 9000 NX-OS VXLAN Konfigurationsleitfaden, Version 10.4(x)

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