VXLAN-functies configureren op Cisco IOS XE-apparaten

Inhoud

Inleiding

Virtual Extensible LAN (VXLAN) wordt populairder als een Data Center Interconnect-oplossing (DCI). De functie VXLAN wordt gebruikt om Layer 2-uitbreiding via het Layer 3/Public Routing-domein te bieden. Dit document behandelt basisconfiguratie en probleemoplossing op Cisco IOS XE-apparaten.

Het configureren en controleren van de secties van dit document bevat twee scenario's:

- **Scenario A** beschrijft een VXLAN-configuratie tussen drie datacenters in multicast-modus.
- **Scenario B** beschrijft een VXLAN-configuratie tussen twee datacenters in de eenastmodus.

Voorwaarden

Vereisten

Cisco raadt kennis van de volgende onderwerpen aan:

- Basis begrip van DCI-overlay en multicast

Gebruikte componenten

De informatie in dit document is gebaseerd op de volgende software- en hardware-versies:

- ASR1004 actieve software 03.16.00.S
- CSR100v(VXE) actieve software 3.16.03.S

De informatie in dit document is gebaseerd op de apparaten in een specifieke laboratoriumomgeving. Alle apparaten die in dit document worden beschreven, hadden een opgeschoonde (standaard)configuratie. Als uw netwerk levend is, zorg er dan voor dat u de mogelijke impact van om het even welke opdracht begrijpt.

Configureren

Scenario A: VXLAN tussen drie datacenters in multicast-modus configureren

basisconfiguratie

Multicastmodus vereist zowel eenastals multicast connectiviteit tussen sites. Deze configuratiehandleiding gebruikt Open Shortest Path First (OSPF) om unicast-connectiviteit en bidirectional Protocol Independent Multicast (PIM) te bieden om multicast-connectiviteit te bieden.

Hier is de basisconfiguratie voor alle drie datacenters voor multicast werking:

```
!
DC1#show run | sec ospf
router ospf 1
network 1.1.1.1 0.0.0.0 area 0
network 10.10.10.4 0.0.0.3 area 0
!
```

PIM-bidirectionele configuratie:

```
!
DC1#show run | sec pim
ip pim bidir-enable
ip pim send-rp-discovery scope 10
ip pim bsr-candidate Loopback1 0
ip pim rp-candidate Loopback1 group-list 10 bidir
!
access-list 10 permit 239.0.0.0 0.0.0.255
!
DC1#
!
```

Daarnaast is PIM sparse Mode ingeschakeld onder alle L3 interfaces, inclusief de loopback:
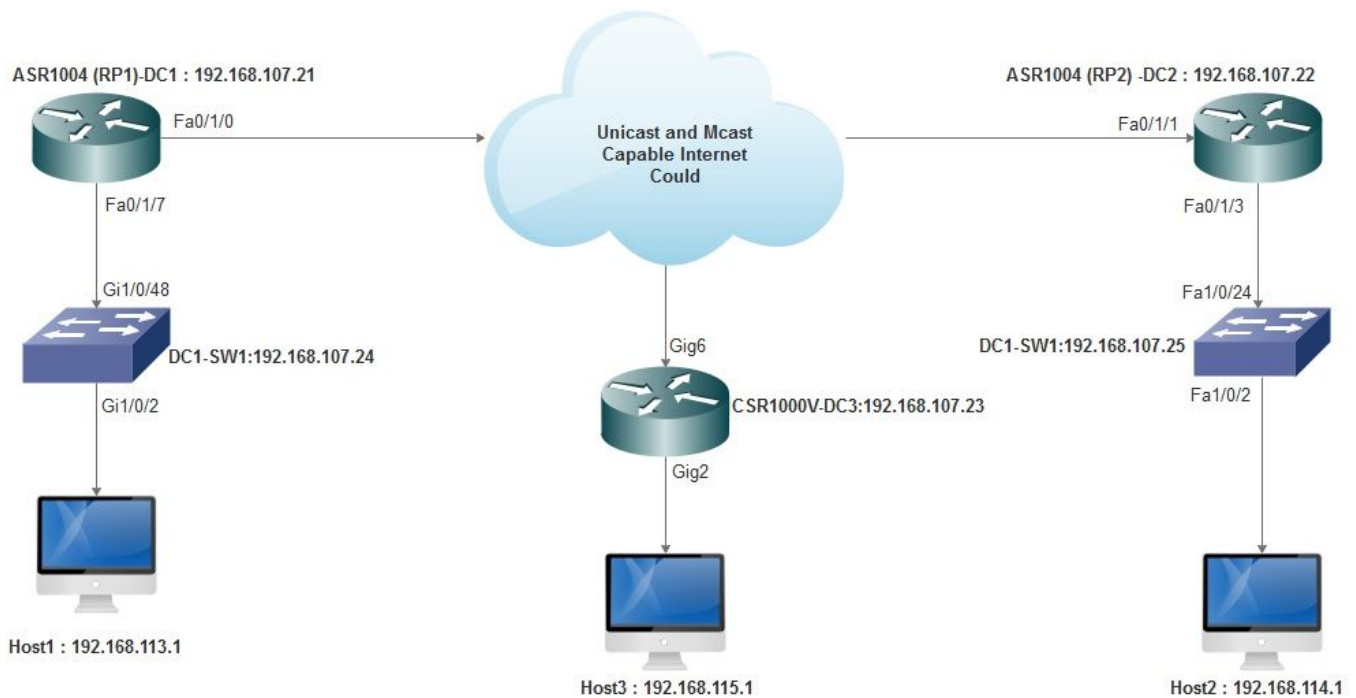
```
!
DC1#show run interface lo1
```

```
Building configuration...
Current configuration : 83 bytes
!
interface Loopback1
ip address 1.1.1.1 255.255.255.255
ip pim sparse-mode
end
```

Verzeker ook dat multicast routing op uw apparaat is ingeschakeld en dat u de multicast route-
tabel ziet die wordt ingevuld.

Netwerkdiagram

DC1(VTEP1) configuratie

```
!
!
Vxlan udp port 1024
!
Interface Loopback1
ip address 1.1.1.1 255.255.255.255
ip pim sparse-mode
!
```

Bepaal de VNI-leden en de gebruikersinterface onder bridge-domeinconfiguratie:

```
!
bridge-domain 1
member vni 6001
member FastEthernet0/1/7 service-instance 1
!
```

Maak de netwerk virtuele interface (NVE) en definieer de VNI-leden die via WAN naar andere
datacenters moeten worden uitgebreid:

```
!
interface nve1
no ip address
shut
member vni 6001 mcast-group 239.0.0.10
!
source-interface Loopback1
!
```

Serviceinstanties via de LAN-interface (d.w.z. de interface die het LAN-netwerk verbindt) om het specifieke VLAN (802.1q gelabeld verkeer) te besturen - in dit geval VLAN 1:

```
!
interface FastEthernet0/1/7
no ip address
negotiation auto
cdp enable
no shut
!
```

Verwijder de VLAN-tag voordat u het verkeer over de lay-out verstuurt en druk het op nadat het retourverkeer naar het VLAN is verzonden:

```
!
service instance 1 ethernet
encapsulation unagged
!
```

DC2-configuratie (VTEP2)

```
!
!
Vxlan udp port 1024
!
interface Loopback1
ip address 2.2.2.2 255.255.255.255
ip pim sparse-mode
!
!
bridge-domain 1
member vni 6001
member FastEthernet0/1/3 service-instance 1
!
!
interface nve1
no ip address
member vni 6001 mcast-group 239.0.0.10
!
source-interface Loopback1
shut
!
!
interface FastEthernet0/1/3
no ip address
negotiation auto
```

```
cdp enable
no shut
!
service instance 1 ethernet
encapsulation untagged
!
```

DC3 (VTEP3) configuratie

```
!
!
Vxlan udp port 1024
!
interface Loopback1
ip address 3.3.3.3 255.255.255.255
ip pim sparse-mode
!
!
bridge-domain 1
member vni 6001
member GigabitEthernet2 service-instance 1
!
interface nve1
no ip address
shut
member vni 6001 mcast-group 239.0.0.10
!
source-interface Loopback1
!
interface gig2
no ip address
negotiation auto
cdp enable
no shut
!
service instance 1 ethernet
encapsulation untagged
!
```
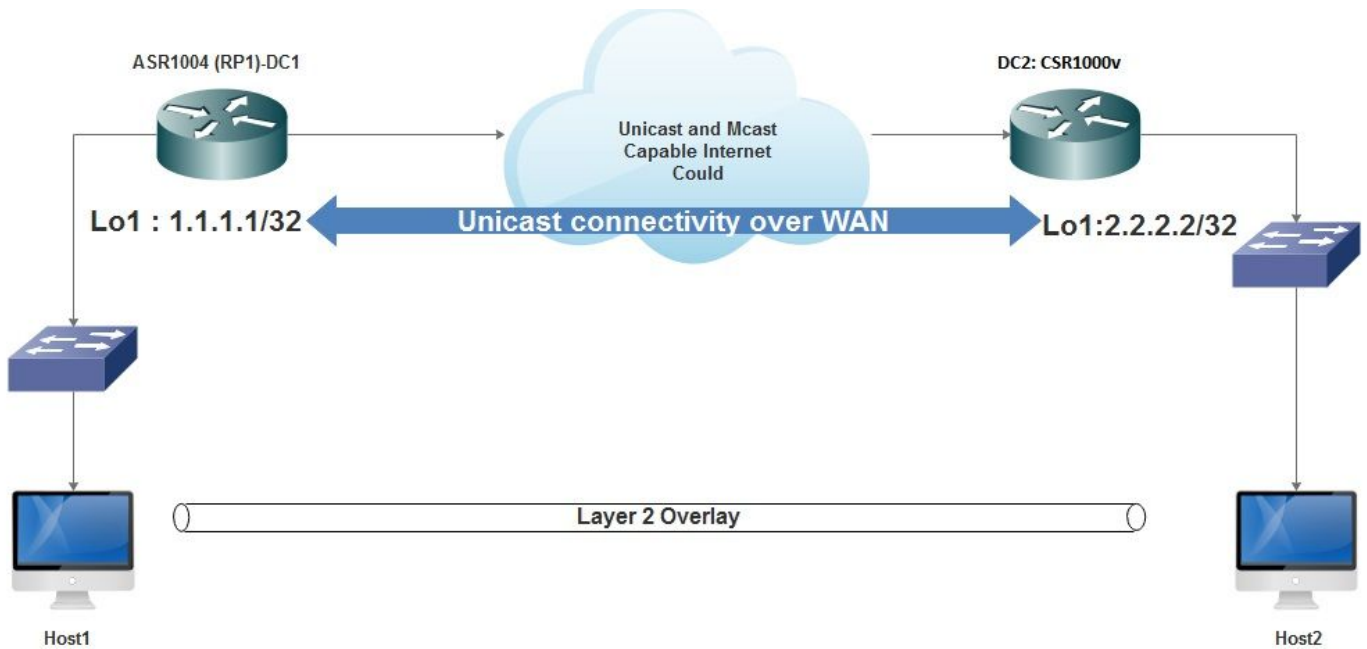
Scenario B: VXLAN tussen twee datacenters in Unicast-modus configureren

Netwerkdiagram

DC1-configuratie

```
!
interface nve1
no ip address
member vni 6001
! ingress replication shold be configured as peer data centers loopback IP address.
!
ingress-replication 2.2.2.2
!
source-interface Loopback1
!
!
interface gig0/2/1
no ip address
negotiation auto
cdp enable
!
service instance 1 ethernet
encapsulation untagged

!
!
!
bridge-domain 1
member vni 6001
member gig0/2/1 service-instance 1
```

DC2-configuratie

```
!
interface nve1
no ip address
member vni 6001
ingress-replication 1.1.1.1
!
source-interface Loopback1
!
```

```
!
interface gig5
no ip address
negotiation auto
cdp enable
!
service instance 1 ethernet
encapsulation untagged


!
!
bridge-domain 1
member vni 6001
member gig5 service-instance 1
```

Verifiëren

Scenario A: VXLAN tussen drie datacenters in multicast-modus configureren

Nadat u de configuratie voor Scenario A hebt voltooid, zouden de verbonden hosts in elk datacenter elkaar binnen hetzelfde uitzenddomein moeten kunnen bereiken.

Gebruik deze opdrachten om de configuraties te controleren. In Scenario B worden enkele voorbeelden gegeven.


```
Router#show nve vni
Router#show nve vni interface nve1
Router#show nve interface nve1
Router#show nve interface nve1 detail
Router#show nve peers
```

Scenario B: VXLAN tussen twee datacenters in Unicast-modus configureren

Aan DC1:


```
DC1#show nve vni
Interface    VNI       Multicast-group    VNI state
nve1         6001          N/A                Up

DC1#show nve interface nve1 detail
Interface: nve1, State: Admin Up, Oper Up Encapsulation: Vxlan
source-interface: Loopback1    (primary:1.1.1.1 vrf:0)
Pkts In      Bytes In      Pkts Out      Bytes Out
60129        6593586        55067          5303698

DC1#show nve peers
Interface    Peer-IP      VNI        Peer state
nve1         2.2.2.2       6000          -
```

Aan DC2:

```
DC2#show nve vni
Interface VNI Multicast-group VNI state
nve1 6000 N/A Up
```

```
DC2#show nve interface nve1 detail
Interface: nve1, State: Admin Up, Oper Up Encapsulation: Vxlan
source-interface: Loopback1 (primary:2.2.2.2 vrf:0)
Pkts In Bytes In Pkts Out Bytes Out
70408 7921636 44840 3950835


DC2#show nve peers
Interface Peer-IP VNI Peer state
nve 1 1.1.1.1 6000 Up


DC2#show bridge-domain 1
Bridge-domain 1 (3 ports in all)
State: UP Mac learning: Enabled
Aging-Timer: 300 second(s)
BDI1 (up)
GigabitEthernet0/2/1 service instance 1
vni 6001
AED MAC address Policy Tag Age Pseudoport
0 7CAD.74FF.2F66 forward dynamic 281 nve1.VNI6001, VxLAN src: 1.1.1.1 dst: 2.2.2.2
0 B838.6130.DA80 forward dynamic 288 nve1.VNI6001, VxLAN src: 1.1.1.1 dst: 2.2.2.2
0 0050.56AD.1AD8 forward dynamic 157 nve1.VNI6001, VxLAN src: 1.1.1.1 dst: 2.2.2.2
```

Problemen oplossen

De opdrachten in de sectie verify-encryptie bevatten basisstappen voor het oplossen van
problemen. Deze extra diagnostiek kan behulpzaam zijn wanneer het systeem niet werkt.

Opmerking: Sommige van deze diagnostiek kunnen een verhoogd geheugen- en CPU-gebruik
veroorzaken.

Debug Diagnostics

```
#debug nve error
*Jan 4 20:00:54.993: NVE-MGR-PEER ERROR: Intf state force down successful for mcast nodes cast
nodes
*Jan 4 20:00:54.993: NVE-MGR-PEER ERROR: Intf state force down successful for mcast nodes cast
nodes
*Jan 4 20:00:54.995: NVE-MGR-PEER ERROR: Intf state force down successful for peer nodes eer
nodes
*Jan 4 20:00:54.995: NVE-MGR-PEER ERROR: Intf state force down successful for peer nodes


#show nve log error
[01/01/70 00:04:34.130 UTC 1 3] NVE-MGR-STATE ERROR: vni 6001: error in create notification to
Tunnel
[01/01/70 00:04:34.314 UTC 2 3] NVE-MGR-PEER ERROR: Intf state force up successful for mcast
nodes
[01/01/70 00:04:34.326 UTC 3 3] NVE-MGR-PEER ERROR: Intf state force up successful for peer
nodes
[01/01/70 01:50:59.650 UTC 4 3] NVE-MGR-PEER ERROR: Intf state force down successful for mcast
nodes
[01/01/70 01:50:59.654 UTC 5 3] NVE-MGR-PEER ERROR: Intf state force down successful for peer
nodes
[01/01/70 01:50:59.701 UTC 6 3] NVE-MGR-PEER ERROR: Intf state force up successful for mcast
nodes
[01/01/70 01:50:59.705 UTC 7 3] NVE-MGR-PEER ERROR: Intf state force up successful for peer
nodes
[01/01/70 01:54:55.166 UTC 8 61] NVE-MGR-PEER ERROR: Intf state force down successful for mcast
nodes
[01/01/70 01:54:55.168 UTC 9 61] NVE-MGR-PEER ERROR: Intf state force down successful for peer
```

```
nodes
[01/01/70 01:55:04.432 UTC A 3] NVE-MGR-PEER ERROR: Intf state force up successful for mcast
nodes
[01/01/70 01:55:04.434 UTC B 3] NVE-MGR-PEER ERROR: Intf state force up successful for peer
nodes
[01/01/70 01:55:37.670 UTC C 61] NVE-MGR-PEER ERROR: Intf state force down successful for mcast
nodes
```

```
#show nve log event
[01/04/70 19:48:51.883 UTC 1DD16 68] NVE-MGR-DB: Return vni 6001 for pi_hdl[0x437C9B68]
[01/04/70 19:48:51.884 UTC 1DD17 68] NVE-MGR-DB: Return pd_hdl[0x1020010] for pi_hdl[0x437C9B68]
[01/04/70 19:48:51.884 UTC 1DD18 68] NVE-MGR-DB: Return vni 6001 for pi_hdl[0x437C9B68]
[01/04/70 19:49:01.884 UTC 1DD19 68] NVE-MGR-DB: Return pd_hdl[0x1020010] for pi_hdl[0x437C9B68]
[01/04/70 19:49:01.884 UTC 1DD1A 68] NVE-MGR-DB: Return vni 6001 for pi_hdl[0x437C9B68]
[01/04/70 19:49:01.885 UTC 1DD1B 68] NVE-MGR-DB: Return pd_hdl[0x1020010] for pi_hdl[0x437C9B68]
[01/04/70 19:49:01.885 UTC 1DD1C 68] NVE-MGR-DB: Return vni 6001 for pi_hdl[0x437C9B68]
[01/04/70 19:49:11.886 UTC 1DD1D 68] NVE-MGR-DB: Return pd_hdl[0x1020010] for pi_hdl[0x437C9B68]
[01/04/70 19:49:11.886 UTC 1DD1E 68] NVE-MGR-DB: Return vni 6001 for pi_hdl[0x437C9B68]
[01/04/70 19:49:11.887 UTC 1DD1F 68] NVE-MGR-DB: Return pd_hdl[0x1020010] for pi_hdl[0x437C9B68]
[01/04/70 19:49:11.887 UTC 1DD20 68] NVE-MGR-DB: Return vni 6001 for pi_hdl[0x437C9B68]
[01/04/70 19:49:21.884 UTC 1DD21 68] NVE-MGR-DB: Return pd_hdl[0x1020010] for pi_hdl[0x437C9B68]
```

Ingesloten pakketvastlegging

De Embedded Packet Capture (EPC) optie die beschikbaar is in Cisco IOS XE software kan aanvullende informatie bieden voor het oplossen van problemen.

Met deze opname wordt bijvoorbeeld het pakket uitgelegd dat door VXLAN wordt ingesloten:

EPC-configuratie (TEST_ACL is de toegangslijst die wordt gebruikt om de opnamgegevens te filteren):

```
#monitor capture TEST access-list TEST_ACL interface gigabitEthernet0/2/0 both

#monitor capture TEST buffer size 10

#monitor capture TEST start
```

Hier vindt u het pakkettransport dat resulteert in:

```
# show monitor capture TEST buffer dump

# monitor capture TEST export bootflash:TEST.pcap        // with this command
you can export the capture in pcap format to the bootflash,
which can be downloaded and opened in wireshark.
```

Hier is een voorbeeld dat uitlegt hoe eenvoudig Internet Control Message Protocol (ICMP) via VXLAN werkt.

Address Resolutie Protocol (ARP) verzonden over VXLAN-overlay:

```
▷ Frame 58: 110 bytes on wire (880 bits), 110 bytes captured (880 bits)
▷ Ethernet II, Src: CiscoInc_ef:79:20 (c4:64:13:ef:79:20), Dst: Vmware_b3:56:56 (00:50:56:b3:56:56)
▷ Internet Protocol Version 4, Src: 1.1.1.1, Dst: 2.2.2.2
▷ User Datagram Protocol, Src Port: 1024 (1024), Dst Port: 1024 (1024)
▲ Virtual eXtensible Local Area Network
   ▷ Flags: 0x0800, VXLAN Network ID (VNI)
     Group Policy ID: 0
     VXLAN Network Identifier (VNI): 6001
     Reserved: 0
▷ Ethernet II, Src: Vmware_87:4e:9c (00:50:56:87:4e:9c), Dst: Broadcast (ff:ff:ff:ff:ff:ff)
▲ Address Resolution Protocol (request)
     Hardware type: Ethernet (1)
     Protocol type: IPv4 (0x0800)
     Hardware size: 6
     Protocol size: 4
     Opcode: request (1)
     Sender MAC address: Vmware_87:4e:9c (00:50:56:87:4e:9c)
     Sender IP address: 192.192.192.1
     Target MAC address: 00:00:00_00:00:00 (00:00:00:00:00:00)
     Target IP address: 192.192.192.2
```

ARP-respons:

```
▷ Frame 59: 110 bytes on wire (880 bits), 110 bytes captured (880 bits)
▷ Ethernet II, Src: Vmware_b3:56:56 (00:50:56:b3:56:56), Dst: CiscoInc_ef:79:20 (c4:64:13:ef:79:20)
▷ Internet Protocol Version 4, Src: 2.2.2.2, Dst: 1.1.1.1
▷ User Datagram Protocol, Src Port: 8457 (8457), Dst Port: 1024 (1024)
▲ Virtual eXtensible Local Area Network
   ▷ Flags: 0x0800, VXLAN Network ID (VNI)
     Group Policy ID: 0
     VXLAN Network Identifier (VNI): 6001
     Reserved: 0
▷ Ethernet II, Src: Vmware_31:8a:5a (00:0c:29:31:8a:5a), Dst: Vmware_87:4e:9c (00:50:56:87:4e:9c)
▲ Address Resolution Protocol (reply)
     Hardware type: Ethernet (1)
     Protocol type: IPv4 (0x0800)
     Hardware size: 6
     Protocol size: 4
     Opcode: reply (2)
     Sender MAC address: Vmware_31:8a:5a (00:0c:29:31:8a:5a)
     Sender IP address: 192.192.192.2
     Target MAC address: Vmware_87:4e:9c (00:50:56:87:4e:9c)
     Target IP address: 192.192.192.1
```

ICMP-verzoek:

```
▷ Frame 61: 124 bytes on wire (992 bits), 124 bytes captured (992 bits)
▷ Ethernet II, Src: CiscoInc_ef:79:20 (c4:64:13:ef:79:20), Dst: Vmware_b3:56:56 (00:50:56:b3:56:56)
▷ Internet Protocol Version 4, Src: 1.1.1.1, Dst: 2.2.2.2
▷ User Datagram Protocol, Src Port: 52141 (52141), Dst Port: 1024 (1024)
▲ Virtual eXtensible Local Area Network
   ▲ Flags: 0x0800, VXLAN Network ID (VNI)
        0... .... .... .... = GBP Extension: Not defined
        .... .... .0.. .... = Don't Learn: False
        .... 1... .... .... = VXLAN Network ID (VNI): True
        .... .... .... 0... = Policy Applied: False
        .000 .000 0.00 .000 = Reserved(R): False
     Group Policy ID: 0
     VXLAN Network Identifier (VNI): 6001
     Reserved: 0
▷ Ethernet II, Src: Vmware_87:4e:9c (00:50:56:87:4e:9c), Dst: Vmware_31:8a:5a (00:0c:29:31:8a:5a)
▷ Internet Protocol Version 4, Src: 192.192.192.1, Dst: 192.192.192.2
▷ Internet Control Message Protocol
```

ICMP-respons:

```
▷ Frame 66: 124 bytes on wire (992 bits), 124 bytes captured (992 bits)
▷ Ethernet II, Src: Vmware_b3:56:56 (00:50:56:b3:56:56), Dst: CiscoInc_ef:79:20 (c4:64:13:ef:79:20)
▷ Internet Protocol Version 4, Src: 2.2.2.2, Dst: 1.1.1.1
▷ User Datagram Protocol, Src Port: 35478 (35478), Dst Port: 1024 (1024)
▲ Virtual eXtensible Local Area Network
    ▲ Flags: 0x0800, VXLAN Network ID (VNI)
          0... .... .... .... = GBP Extension: Not defined
          .... .... .0.. .... = Don't Learn: False
          .... 1... .... .... = VXLAN Network ID (VNI): True
          .... .... .... 0... = Policy Applied: False
          .000 .000 0.00 .000 = Reserved(R): False
      Group Policy ID: 0
      VXLAN Network Identifier (VNI): 6001
      Reserved: 0
▷ Ethernet II, Src: Vmware_31:8a:5a (00:0c:29:31:8a:5a), Dst: Vmware_87:4e:9c (00:50:56:87:4e:9c)
▷ Internet Protocol Version 4, Src: 192.192.192.2, Dst: 192.192.192.1
▲ Internet Control Message Protocol
      Type: 0 (Echo (ping) reply)
      Code: 0
      Checksum: 0xeefb [correct]
      Identifier (BE): 1 (0x0001)
      Identifier (LE): 256 (0x0100)
      Sequence number (BE): 26207 (0x665f)
      Sequence number (LE): 24422 (0x5f66)
      [Request frame: 61]
      [Response time: 7.003 ms]
    ▲ Data (32 bytes)
          Data: 6162636465666768696a6b6c6d6e6f707172737475767761...
          [Length: 32]
```

Aanvullende opdrachten voor debug en probleemoplossing

In deze sectie worden een aantal meer debug- en probleemoplossing beschreven.

In dit voorbeeld, tonen de benadrukte delen van het debug aan dat de interface NVE niet zich bij de multicast groep kon aansluiten. Daarom was de VXLAN-insluiting niet ingeschakeld voor VNI 6002. Deze debug resultaten wijzen op multicast kwesties op het netwerk.

```
#debug nve all
*Jan 5 06:13:55.844: NVE-MGR-DB: creating mcast node for 239.0.0.10
*Jan 5 06:13:55.846: NVE-MGR-MCAST: IGMP add for (0.0.0.0,239.0.0.10) was failure
*Jan 5 06:13:55.846: NVE-MGR-DB ERROR: Unable to join mcast core tree
*Jan 5 06:13:55.846: NVE-MGR-DB ERROR: Unable to join mcast core tree
*Jan 5 06:13:55.846: NVE-MGR-STATE ERROR: vni 6002: error in create notification to mcast
*Jan 5 06:13:55.846: NVE-MGR-STATE ERROR: vni 6002: error in create notification to mcast
*Jan 5 06:13:55.849: NVE-MGR-TUNNEL: Tunnel Endpoint 239.0.0.10 added
*Jan 5 06:13:55.849: NVE-MGR-TUNNEL: Endpoint 239.0.0.10 added
*Jan 5 06:13:55.851: NVE-MGR-EI: Notifying BD engine of VNI 6002 create
*Jan 5 06:13:55.857: NVE-MGR-DB: Return vni 6002 for pi_hdl[0x437C9B28]
*Jan 5 06:13:55.857: NVE-MGR-EI: VNI 6002: BD state changed to up, vni state to Down
```

Hier is het lidmaatschapsrapport van Internet Group Management Protocol (IGMP) dat zal worden verstuurd zodra de VNI tot de Mcast-groep toetreedt:

```
▷ Frame 4649: 46 bytes on wire (368 bits), 46 bytes captured (368 bits)
▷ Ethernet II, Src: 00:00:00_00:00:00 (00:00:00:00:00:00), Dst: 00:00:00_00:00:00 (00:00:00:00:00:00)
◢ Internet Protocol Version 4, Src: 1.1.1.1, Dst: 239.0.0.10
      0100 .... = Version: 4
      .... 0110 = Header Length: 24 bytes (6)
   ▷ Differentiated Services Field: 0xc0 (DSCP: CS6, ECN: Not-ECT)
      Total Length: 32
      Identification: 0xab96 (43926)
   ▷ Flags: 0x00
      Fragment offset: 0
      Time to live: 1
      Protocol: IGMP (2)
   ▷ Header checksum: 0x8775 [validation disabled]
      Source: 1.1.1.1
      Destination: 239.0.0.10
      [Source GeoIP: Unknown]
      [Destination GeoIP: Unknown]
   ◢ Options: (4 bytes), Router Alert
      ◢ Router Alert (4 bytes): Router shall examine packet (0)
         ◢ Type: 148
               1... .... = Copy on fragmentation: Yes
               .00. .... = Class: Control (0)
               ...1 0100 = Number: Router Alert (20)
            Length: 4
            Router Alert: Router shall examine packet (0)
◢ Internet Group Management Protocol
      [IGMP Version: 2]
      Type: Membership Report (0x16)
      Max Resp Time: 0.0 sec (0x00)
      Header checksum: 0xfaf4 [correct]
      Multicast Address: 239.0.0.10
```

Dit voorbeeld toont het verwachte debug resultaat nadat u een VNI onder NVE voor Multicast modus configureren als Multicast werkt zoals verwacht:

```
*Jan 5 06:19:20.335: NVE-MGR-DB: [IF 0x14]VNI node creation
*Jan 5 06:19:20.335: NVE-MGR-DB: VNI Node created [437C9B28]
*Jan 5 06:19:20.336: NVE-MGR-PD: VNI 6002 create notification to PD
*Jan 5 06:19:20.336: NVE-MGR-PD: VNI 6002 Create notif successful, map [pd 0x1020017] to [pi
0x437C9B28]
*Jan 5 06:19:20.336: NVE-MGR-DB: creating mcast node for 239.0.0.10
*Jan 5 06:19:20.342: NVE-MGR-MCAST: IGMP add for (0.0.0.0,239.0.0.10) was successful
*Jan 5 06:19:20.345: NVE-MGR-TUNNEL: Tunnel Endpoint 239.0.0.10 added
*Jan 5 06:19:20.345: NVE-MGR-TUNNEL: Endpoint 239.0.0.10 added
*Jan 5 06:19:20.347: NVE-MGR-EI: Notifying BD engine of VNI 6002 create
*Jan 5 06:19:20.347: NVE-MGR-DB: Return pd_hdl[0x1020017] for pi_hdl[0x437C9B28]
*Jan 5 06:19:20.347: NVE-MGR-DB: Return vni 6002 for pi_hdl[0x437C9B28]
*Jan 5 06:19:20.349: NVE-MGR-DB: Return vni state Create for pi_hdl[0x437C9B28]
*Jan 5 06:19:20.349: NVE-MGR-DB: Return vni state Create for pi_hdl[0x437C9B28]
*Jan 5 06:19:20.349: NVE-MGR-DB: Return vni 6002 for pi_hdl[0x437C9B28]
*Jan 5 06:19:20.351: NVE-MGR-EI: L2FIB query for info 0x437C9B28
*Jan 5 06:19:20.351: NVE-MGR-EI: PP up notification for bd_id 3
*Jan 5 06:19:20.351: NVE-MGR-DB: Return vni 6002 for pi_hdl[0x437C9B28]
*Jan 5 06:19:20.352: NVE-MGR-STATE: vni 6002: Notify clients of state change Create to Up
*Jan 5 06:19:20.352: NVE-MGR-DB: Return vni 6002 for pi_hdl[0x437C9B28]
*Jan 5 06:19:20.353: NVE-MGR-PD: VNI 6002 Create to Up State update to PD successful
*Jan 5 06:19:20.353: NVE-MGR-EI: VNI 6002: BD state changed to up, vni state to Up
*Jan 5 06:19:20.353: NVE-MGR-STATE: vni 6002: No state change Up
*Jan 5 06:19:20.353: NVE-MGR-STATE: vni 6002: New State as a result of create Up
```

Gerelateerde informatie

- [Ondersteuning van Cisco CSR 1000V VXLAN](#)
- [Software voor Cisco ASR 1000 Series aggregation services routers](#)
- [Technische ondersteuning en documentatie – Cisco Systems](#)