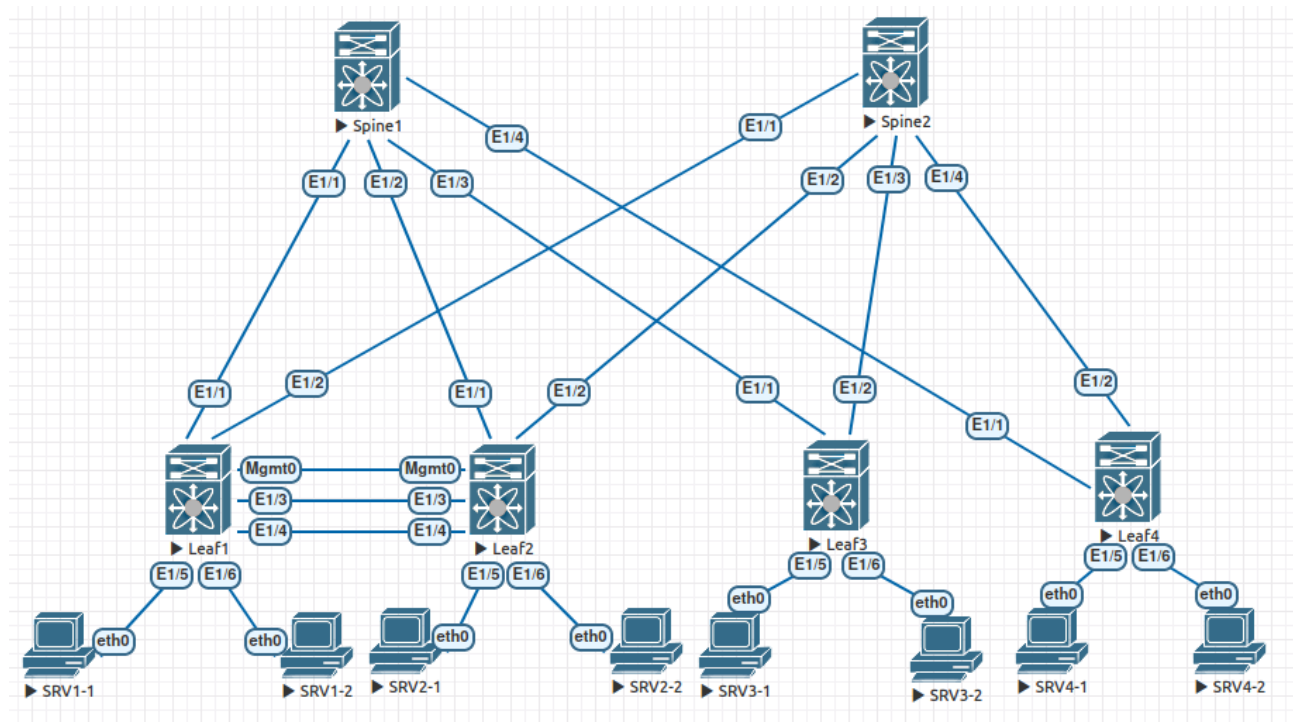


Scenario Name: VXLAN BGP EVPN-Anycast



Leaf1 Configuration:

```
Leaf1(config)# nv overlay evpn
Leaf1(config)# feature ospf
Leaf1(config)# feature bgp
Leaf1(config)# feature pim
Leaf1(config)# feature interface-vlan
Leaf1(config)# feature vn-segment-vlan-based
Leaf1(config)# feature nv overlay

Leaf1(config)# fabric forwarding anycast-gateway-mac 0001.0001.0001

Leaf1(config)# ip pim rp-address 10.10.10.10 group-list 224.0.0.0/4

Leaf1(config)# vlan 10,20,100

Leaf1(config-vlan)# vlan 100
Leaf1(config-vlan)# name L3-VNI-VLAN-10
Leaf1(config-vlan)# vn-segment 1000100

Leaf1(config-vlan)# vlan 10
Leaf1(config-vlan)# vn-segment 100010

Leaf1(config-vlan)# vlan 20
Leaf1(config-vlan)# vn-segment 100020

Leaf1(config-vlan)# vrf context VLAN-100
Leaf1(config-vrf)# vni 1000100
Leaf1(config-vrf)# rd auto
Leaf1(config-vrf)# address-family ipv4 unicast
Leaf1(config-vrf-af-ipv4)# route-target both auto
Leaf1(config-vrf-af-ipv4)# route-target both auto evpn

Leaf1(config-vrf-af-ipv4)# interface Vlan100
Leaf1(config-if)# no shutdown
Leaf1(config-if)# vrf member VLAN-100
Leaf1(config-if)# ip forward

Leaf1(config-if)# interface Vlan10
Leaf1(config-if)# no shutdown
Leaf1(config-if)# vrf member VLAN-100
Leaf1(config-if)# ip address 192.168.10.1/24
Leaf1(config-if)# fabric forwarding mode anycast-gateway

Leaf1(config-if)# interface Vlan20
Leaf1(config-if)# no shutdown
Leaf1(config-if)# vrf member VLAN-100
Leaf1(config-if)# ip address 192.168.20.1/24
Leaf1(config-if)# fabric forwarding mode anycast-gateway
```

```
Leaf1(config-if)# interface nve1
Leaf1(config-if-nve)# no shutdown
Leaf1(config-if-nve)# source-interface loopback1
Leaf1(config-if-nve)# host-reachability protocol bgp
Leaf1(config-if-nve)# member vni 1000100 associate-vrf
Leaf1(config-if-nve-vni)# member vni 100010
Leaf1(config-if-nve-vni)# mcast-group 239.1.1.10
Leaf1(config-if-nve-vni)# exit

Leaf1(config-if-nve)# member vni 100020
Leaf1(config-if-nve-vni)# mcast-group 239.1.1.20
Leaf1(config-if-nve-vni)# exit

Leaf1(config-if-nve)# interface Ethernet1/1-2
Leaf1(config-if-range)# no switchport
Leaf1(config-if-range)# medium p2p
Leaf1(config-if-range)# ip unnumbered loopback1
Leaf1(config-if-range)# ip router ospf 1 area 0.0.0.0
Leaf1(config-if-range)# ip pim sparse-mode
Leaf1(config-if-range)# no shutdown

Leaf1(config-if-range)# interface Ethernet1/5
Leaf1(config-if)# switchport
Leaf1(config-if)# switchport mode access
Leaf1(config-if)# switchport access vlan 10

Leaf1(config-if)# interface Ethernet1/6
Leaf1(config-if)# switchport
Leaf1(config-if)# switchport mode access
Leaf1(config-if)# switchport access vlan 20

Leaf1(config-if)# interface loopback1
Leaf1(config-if)# ip address 11.11.11.11/32
Leaf1(config-if)# ip router ospf 1 area 0.0.0.0
Leaf1(config-if)# ip pim sparse-mode

Leaf1(config-if)# router ospf 1
Leaf1(config-router)# router-id 11.11.11.11

Leaf1(config-router)# router bgp 1
Leaf1(config-router)# router-id 11.11.11.11
Leaf1(config-router)# address-family ipv4 unicast
Leaf1(config-router-af)# address-family l2vpn evpn

Leaf1(config-router-af)# neighbor 21.21.21.21
Leaf1(config-router-neighbor)# remote-as 1
Leaf1(config-router-neighbor)# update-source loopback1
Leaf1(config-router-neighbor)# address-family ipv4 unicast
Leaf1(config-router-neighbor-af)# address-family l2vpn evpn
Leaf1(config-router-neighbor-af)# send-community extended
Leaf1(config-router-neighbor-af)# vrf VLAN-100
```

```
Leaf1(config-router-vrf)# address-family ipv4 unicast
Leaf1(config-router-vrf-af)# advertise l2vpn evpn
```

```
Leaf1(config-router-vrf-af)# neighbor 22.22.22.22
Leaf1(config-router-vrf-neighbor)# remote-as 1
Leaf1(config-router-vrf-neighbor)# update-source loopback1
Leaf1(config-router-vrf-neighbor-af)# address-family ipv4 unicast
Leaf1(config-router-vrf-neighbor-af)# address-family l2vpn evpn
Leaf1(config-router-neighbor-af)# send-community extended
Leaf1(config-router-af)# vrf VLAN-100
Leaf1(config-router-vrf)# address-family ipv4 unicast
Leaf1(config-router-vrf-af)# advertise l2vpn evpn
```

```
Leaf1(config-router-vrf-af)# evpn
Leaf1(config-evpn)# vni 100010 l2
Leaf1(config-evpn-evi)# rd auto
Leaf1(config-evpn-evi)# route-target import auto
Leaf1(config-evpn-evi)# route-target export auto
```

```
Leaf1(config-evpn-evi)# evpn
Leaf1(config-evpn)# vni 100020 l2
Leaf1(config-evpn-evi)# rd auto
Leaf1(config-evpn-evi)# route-target import auto
Leaf1(config-evpn-evi)# route-target export auto
```

Leaf2 Configuration:

```
Leaf2(config)# nv overlay evpn
Leaf2(config)# feature ospf
Leaf2(config)# feature bgp
Leaf2(config)# feature pim
Leaf2(config)# feature interface-vlan
Leaf2(config)# feature vn-segment-vlan-based
Leaf2(config)# feature nv overlay

Leaf2(config)# fabric forwarding anycast-gateway-mac 0001.0001.0001

Leaf2(config)# ip pim rp-address 10.10.10.10 group-list 224.0.0.0/4

Leaf2(config)# vlan 10,20,100

Leaf2(config-vlan)# vlan 100
Leaf2(config-vlan)# name L3-VNI-VLAN-10
Leaf2(config-vlan)# vn-segment 1000100

Leaf2(config-vlan)# vlan 10
Leaf2(config-vlan)# vn-segment 100010

Leaf2(config-vlan)# vlan 20
Leaf2(config-vlan)# vn-segment 100020

Leaf2(config-vlan)# vrf context VLAN-100
Leaf2(config-vrf)# vni 1000100
Leaf2(config-vrf)# rd auto
Leaf2(config-vrf)# address-family ipv4 unicast
Leaf2(config-vrf-af-ipv4)# route-target both auto
Leaf2(config-vrf-af-ipv4)# route-target both auto evpn

Leaf2(config-vrf-af-ipv4)# interface Vlan100
Leaf2(config-if)# no shutdown
Leaf2(config-if)# vrf member VLAN-100
Leaf2(config-if)# ip forward

Leaf2(config-if)# interface Vlan10
Leaf2(config-if)# no shutdown
Leaf2(config-if)# vrf member VLAN-100
Leaf2(config-if)# ip address 192.168.10.1/24
Leaf2(config-if)# fabric forwarding mode anycast-gateway

Leaf2(config-if)# interface Vlan20
Leaf2(config-if)# no shutdown
Leaf2(config-if)# vrf member VLAN-100
Leaf2(config-if)# ip address 192.168.20.1/24
Leaf2(config-if)# fabric forwarding mode anycast-gateway
```

```
Leaf2(config-if)# interface nve1
Leaf2(config-if-nve)# no shutdown
Leaf2(config-if-nve)# source-interface loopback1
Leaf2(config-if-nve)# host-reachability protocol bgp
Leaf2(config-if-nve)# member vni 1000100 associate-vrf
Leaf2(config-if-nve-vni)# member vni 100010
Leaf2(config-if-nve-vni)# mcast-group 239.1.1.10
Leaf2(config-if-nve-vni)# exit
Leaf2(config-if-nve)# member vni 100020
Leaf2(config-if-nve-vni)# mcast-group 239.1.1.20
Leaf2(config-if-nve-vni)# exit
```

```
Leaf2(config-if-nve)# interface Ethernet1/1-2
Leaf2(config-if-range)# no switchport
Leaf2(config-if-range)# medium p2p
Leaf2(config-if-range)# ip unnumbered loopback1
Leaf2(config-if-range)# ip router ospf 1 area 0.0.0.0
Leaf2(config-if-range)# ip pim sparse-mode
Leaf2(config-if-range)# no shutdown
```

```
Leaf2(config-if-range)# interface Ethernet1/5
Leaf2(config-if)# switchport
Leaf2(config-if)# switchport mode access
Leaf2(config-if)# switchport access vlan 10
```

```
Leaf2(config-if)# interface Ethernet1/6
Leaf2(config-if)# switchport
Leaf2(config-if)# switchport mode access
Leaf2(config-if)# switchport access vlan 20
```

```
Leaf2(config-if)# interface loopback1
Leaf2(config-if)# ip address 12.12.12.12/32
Leaf2(config-if)# ip router ospf 1 area 0.0.0.0
Leaf2(config-if)# ip pim sparse-mode
```

```
Leaf2(config-if)# router ospf 1
Leaf2(config-router)# router-id 12.12.12.12
```

```
Leaf2(config-router)# router bgp 1
Leaf2(config-router)# router-id 12.12.12.12
Leaf2(config-router)# address-family ipv4 unicast
Leaf2(config-router-af)# address-family l2vpn evpn
```

```
Leaf2(config-router-af)# neighbor 21.21.21.21
Leaf2(config-router-neighbor)# remote-as 1
Leaf2(config-router-neighbor)# update-source loopback1
Leaf2(config-router-neighbor)# address-family ipv4 unicast
Leaf2(config-router-neighbor-af)# address-family l2vpn evpn
Leaf2(config-router-neighbor-af)# send-community extended
Leaf2(config-router-neighbor-af)# vrf VLAN-100
Leaf2(config-router-vrf)# address-family ipv4 unicast
Leaf2(config-router-vrf-af)# advertise l2vpn evpn
```

```
Leaf2(config-router-vrf-af)# neighbor 22.22.22.22
Leaf2(config-router-vrf-neighbor)# remote-as 1
Leaf2(config-router-vrf-neighbor)# update-source loopback1
Leaf2(config-router-vrf-neighbor)# address-family ipv4 unicast
Leaf2(config-router-vrf-neighbor-af)# address-family l2vpn evpn
Leaf2(config-router-neighbor-af)# send-community extended
Leaf2(config-router-af)# vrf VLAN-100
Leaf2(config-router-vrf)# address-family ipv4 unicast
Leaf2(config-router-vrf-af)# advertise l2vpn evpn
```

```
Leaf2(config-router-vrf-af)# evpn
Leaf2(config-evpn)# vni 100010 l2
Leaf2(config-evpn-evi)# rd auto
Leaf2(config-evpn-evi)# route-target import auto
Leaf2(config-evpn-evi)# route-target export auto
```

```
Leaf2(config-evpn-evi)# evpn
Leaf2(config-evpn)# vni 100020 l2
Leaf2(config-evpn-evi)# rd auto
Leaf2(config-evpn-evi)# route-target import auto
Leaf2(config-evpn-evi)# route-target export auto
```

Leaf3 Configuration:

```
Leaf3(config)# nv overlay evpn
Leaf3(config)# feature ospf
Leaf3(config)# feature bgp
Leaf3(config)# feature pim
Leaf3(config)# feature interface-vlan
Leaf3(config)# feature vn-segment-vlan-based
Leaf3(config)# feature nv overlay

Leaf3(config)# fabric forwarding anycast-gateway-mac 0001.0001.0001

Leaf3(config)# ip pim rp-address 10.10.10.10 group-list 224.0.0.0/4

Leaf3(config)# vlan 10,20,100

Leaf3(config-vlan)# vlan 100
Leaf3(config-vlan)# name L3-VNI-VLAN-10
Leaf3(config-vlan)# vn-segment 1000100

Leaf3(config-vlan)# vlan 10
Leaf3(config-vlan)# vn-segment 100010

Leaf3(config-vlan)# vlan 20
Leaf3(config-vlan)# vn-segment 100020

Leaf3(config-vlan)# vrf context VLAN-100
Leaf3(config-vrf)# vni 1000100
Leaf3(config-vrf)# rd auto
Leaf3(config-vrf)# address-family ipv4 unicast
Leaf3(config-vrf-af-ipv4)# route-target both auto
Leaf3(config-vrf-af-ipv4)# route-target both auto evpn

Leaf3(config-vrf-af-ipv4)# interface Vlan100
Leaf3(config-if)# no shutdown
Leaf3(config-if)# vrf member VLAN-100
Leaf3(config-if)# ip forward

Leaf3(config-if)# interface Vlan10
Leaf3(config-if)# no shutdown
Leaf3(config-if)# vrf member VLAN-100
Leaf3(config-if)# ip address 192.168.10.1/24
Leaf3(config-if)# fabric forwarding mode anycast-gateway

Leaf3(config-if)# interface Vlan20
Leaf3(config-if)# no shutdown
Leaf3(config-if)# vrf member VLAN-100
Leaf3(config-if)# ip address 192.168.20.1/24
Leaf3(config-if)# fabric forwarding mode anycast-gateway
```



```
Leaf3(config-if)# interface nve1
Leaf3(config-if-nve)# no shutdown
Leaf3(config-if-nve)# source-interface loopback1
Leaf3(config-if-nve)# host-reachability protocol bgp
Leaf3(config-if-nve)# member vni 1000100 associate-vrf
Leaf3(config-if-nve-vni)# member vni 100010
Leaf3(config-if-nve-vni)# mcast-group 239.1.1.10
Leaf3(config-if-nve-vni)# exit
Leaf3(config-if-nve)# member vni 100020
Leaf3(config-if-nve-vni)# mcast-group 239.1.1.20
Leaf3(config-if-nve-vni)# exit
```

```
Leaf3(config-if-nve)# interface Ethernet1/1-2
Leaf3(config-if-range)# no switchport
Leaf3(config-if-range)# medium p2p
Leaf3(config-if-range)# ip unnumbered loopback1
Leaf3(config-if-range)# ip router ospf 1 area 0.0.0.0
Leaf3(config-if-range)# ip pim sparse-mode
Leaf3(config-if-range)# no shutdown
```

```
Leaf3(config-if-range)# interface Ethernet1/5
Leaf3(config-if)# switchport
Leaf3(config-if)# switchport mode access
Leaf3(config-if)# switchport access vlan 10
```

```
Leaf3(config-if)# interface Ethernet1/6
Leaf3(config-if)# switchport
Leaf3(config-if)# switchport mode access
Leaf3(config-if)# switchport access vlan 20
```

```
Leaf3(config-if)# interface loopback1
Leaf3(config-if)# ip address 13.13.13.13/32
Leaf3(config-if)# ip router ospf 1 area 0.0.0.0
Leaf3(config-if)# ip pim sparse-mode
```

```
Leaf3(config-if)# router ospf 1
Leaf3(config-router)# router-id 13.13.13.13
```

```
Leaf3(config-router)# router bgp 1
Leaf3(config-router)# router-id 13.13.13.13
Leaf3(config-router)# address-family ipv4 unicast
Leaf3(config-router-af)# address-family l2vpn evpn
```

```
Leaf3(config-router-af)# neighbor 21.21.21.21
Leaf3(config-router-neighbor)# remote-as 1
Leaf3(config-router-neighbor)# update-source loopback1
Leaf3(config-router-neighbor)# address-family ipv4 unicast
Leaf3(config-router-neighbor-af)# address-family l2vpn evpn
Leaf3(config-router-neighbor-af)# send-community extended
Leaf3(config-router-neighbor-af)# vrf VLAN-100
Leaf3(config-router-vrf)# address-family ipv4 unicast
Leaf3(config-router-vrf-af)# advertise l2vpn evpn
```

```
Leaf3(config-router-vrf-af)# neighbor 22.22.22.22
Leaf3(config-router-vrf-neighbor)# remote-as 1
Leaf3(config-router-vrf-neighbor)# update-source loopback1
Leaf3(config-router-vrf-neighbor-af)# address-family ipv4 unicast
Leaf3(config-router-neighbor-af)# address-family l2vpn evpn
Leaf3(config-router-neighbor-af)# send-community extended
Leaf3(config-router-af)# vrf VLAN-100
Leaf3(config-router-vrf)# address-family ipv4 unicast
Leaf3(config-router-vrf-af)# advertise l2vpn evpn
```

```
Leaf3(config-router-vrf-af)# evpn
Leaf3(config-evpn)# vni 100010 l2
Leaf3(config-evpn-evi)# rd auto
Leaf3(config-evpn-evi)# route-target import auto
Leaf3(config-evpn-evi)# route-target export auto
```

```
Leaf3(config-evpn-evi)# evpn
Leaf3(config-evpn)# vni 100020 l2
Leaf3(config-evpn-evi)# rd auto
Leaf3(config-evpn-evi)# route-target import auto
Leaf3(config-evpn-evi)# route-target export auto
```

Leaf4 Configuration:

```
Leaf4(config)# nv overlay evpn
Leaf4(config)# feature ospf
Leaf4(config)# feature bgp
Leaf4(config)# feature pim
Leaf4(config)# feature interface-vlan
Leaf4(config)# feature vn-segment-vlan-based
Leaf4(config)# feature nv overlay

Leaf4(config)# fabric forwarding anycast-gateway-mac 0001.0001.0001

Leaf4(config)# ip pim rp-address 10.10.10.10 group-list 224.0.0.0/4

Leaf4(config)# vlan 10,20,100

Leaf4(config-vlan)# vlan 100
Leaf4(config-vlan)# name L3-VNI-VLAN-10
Leaf4(config-vlan)# vn-segment 1000100

Leaf4(config-vlan)# vlan 10
Leaf4(config-vlan)# vn-segment 100010

Leaf4(config-vlan)# vlan 20
Leaf4(config-vlan)# vn-segment 100020

Leaf4(config-vlan)# vrf context VLAN-100
Leaf4(config-vrf)# vni 1000100
Leaf4(config-vrf)# rd auto
Leaf4(config-vrf)# address-family ipv4 unicast
Leaf4(config-vrf-af-ipv4)# route-target both auto
Leaf4(config-vrf-af-ipv4)# route-target both auto evpn

Leaf4(config-vrf-af-ipv4)# interface Vlan100
Leaf4(config-if)# no shutdown
Leaf4(config-if)# vrf member VLAN-100
Leaf4(config-if)# ip forward

Leaf4(config-if)# interface Vlan10
Leaf4(config-if)# no shutdown
Leaf4(config-if)# vrf member VLAN-100
Leaf4(config-if)# ip address 192.168.10.1/24
Leaf4(config-if)# fabric forwarding mode anycast-gateway

Leaf4(config-if)# interface Vlan20
Leaf4(config-if)# no shutdown
Leaf4(config-if)# vrf member VLAN-100
Leaf4(config-if)# ip address 192.168.20.1/24
Leaf4(config-if)# fabric forwarding mode anycast-gateway
```

```
Leaf4(config-if)# interface nve1
Leaf4(config-if-nve)# no shutdown
Leaf4(config-if-nve)# source-interface loopback1
Leaf4(config-if-nve)# host-reachability protocol bgp
Leaf4(config-if-nve)# member vni 1000100 associate-vrf
Leaf4(config-if-nve-vni)# member vni 100010
Leaf4(config-if-nve-vni)# mcast-group 239.1.1.10
Leaf4(config-if-nve-vni)# exit
Leaf4(config-if-nve)# member vni 100020
Leaf4(config-if-nve-vni)# mcast-group 239.1.1.20
Leaf4(config-if-nve-vni)# exit
```

```
Leaf4(config-if-nve)# interface Ethernet1/1-2
Leaf4(config-if-range)# no switchport
Leaf4(config-if-range)# medium p2p
Leaf4(config-if-range)# ip unnumbered loopback1
Leaf4(config-if-range)# ip router ospf 1 area 0.0.0.0
Leaf4(config-if-range)# ip pim sparse-mode
Leaf4(config-if-range)# no shutdown
```

```
Leaf4(config-if-range)# interface Ethernet1/5
Leaf4(config-if)# switchport
Leaf4(config-if)# switchport mode access
Leaf4(config-if)# switchport access vlan 10
```

```
Leaf4(config-if)# interface Ethernet1/6
Leaf4(config-if)# switchport
Leaf4(config-if)# switchport mode access
Leaf4(config-if)# switchport access vlan 20
```

```
Leaf4(config-if)# interface loopback1
Leaf4(config-if)# ip address 14.14.14.14/32
Leaf4(config-if)# ip router ospf 1 area 0.0.0.0
Leaf4(config-if)# ip pim sparse-mode
```

```
Leaf4(config-if)# router ospf 1
Leaf4(config-router)# router-id 14.14.14.14
```

```
Leaf4(config-router)# router bgp 1
Leaf4(config-router)# router-id 14.14.14.14
Leaf4(config-router)# address-family ipv4 unicast
Leaf4(config-router-af)# address-family l2vpn evpn
```

```
Leaf4(config-router-af)# neighbor 21.21.21.21
Leaf4(config-router-neighbor)# remote-as 1
Leaf4(config-router-neighbor)# update-source loopback1
Leaf4(config-router-neighbor)# address-family ipv4 unicast
Leaf4(config-router-neighbor-af)# address-family l2vpn evpn
Leaf4(config-router-neighbor-af)# send-community extended
Leaf4(config-router-neighbor-af)# vrf VLAN-100
Leaf4(config-router-vrf)# address-family ipv4 unicast
Leaf4(config-router-vrf-af)# advertise l2vpn evpn
```

```
Leaf4(config-router-vrf-af)# neighbor 22.22.22.22
Leaf4(config-router-vrf-neighbor)# remote-as 1
Leaf4(config-router-vrf-neighbor)# update-source loopback1
Leaf4(config-router-vrf-neighbor)# address-family ipv4 unicast
Leaf4(config-router-vrf-neighbor-af)# address-family l2vpn evpn
Leaf4(config-router-neighbor-af)# send-community extended
Leaf4(config-router-af)# vrf VLAN-100
Leaf4(config-router-vrf)# address-family ipv4 unicast
Leaf4(config-router-vrf-af)# advertise l2vpn evpn
```

```
Leaf4(config-router-vrf-af)# evpn
Leaf4(config-evpn)# vni 100010 l2
Leaf4(config-evpn-evi)# rd auto
Leaf4(config-evpn-evi)# route-target import auto
Leaf4(config-evpn-evi)# route-target export auto
```

```
Leaf4(config-evpn-evi)# evpn
Leaf4(config-evpn)# vni 100020 l2
Leaf4(config-evpn-evi)# rd auto
Leaf4(config-evpn-evi)# route-target import auto
Leaf4(config-evpn-evi)# route-target export auto
```

Spine1 Configuration:

```
Spine1(config)# nv overlay evpn
Spine1(config)# feature ospf
Spine1(config)# feature bgp
Spine1(config)# feature pim
Spine1(config)# feature interface-vlan
Spine1(config)# feature vn-segment-vlan-based
Spine1(config)# feature nv overlay

Spine1(config)# ip pim rp-address 10.10.10.10 group-list 224.0.0.0/4

Spine1(config)# interface Ethernet1/1-4
Spine1(config-if-range)# no switchport
Spine1(config-if-range)# medium p2p
Spine1(config-if-range)# ip unnumbered loopback1
Spine1(config-if-range)# ip router ospf 1 area 0.0.0.0
Spine1(config-if-range)# ip pim sparse-mode
Spine1(config-if-range)# no shutdown

Spine1(config-if-range)# interface loopback 0
Spine1(config-if)# ip address 10.10.10.10/32
Spine1(config-if)# ip router ospf 1 area 0.0.0.0
Spine1(config-if)# ip pim sparse-mode

Spine1(config-if)# interface loopback 1
Spine1(config-if)# ip address 21.21.21.21/32
Spine1(config-if)# ip router ospf 1 area 0.0.0.0
Spine1(config-if)# ip pim sparse-mode

Spine1(config-if)# router ospf 1
Spine1(config-router)# router-id 21.21.21.21

Spine1(config-router)# router bgp 1
Spine1(config-router)# router-id 21.21.21.21
Spine1(config-router)# address-family ipv4 unicast
Spine1(config-router-af)# address-family l2vpn evpn

Spine1(config-router-af)# neighbor 11.11.11.11
Spine1(config-router-neighbor)# remote-as 1
Spine1(config-router-neighbor)# update-source loopback 1
Spine1(config-router-neighbor)# address-family ipv4 unicast
Spine1(config-router-neighbor-af)# send-community both
Spine1(config-router-neighbor-af)# route-reflector-client
Spine1(config-router-neighbor-af)# address-family l2vpn evpn
Spine1(config-router-neighbor-af)# send-community both
Spine1(config-router-neighbor-af)# route-reflector-client
```

```
Spine1(config-router-neighbor-af)# neighbor 12.12.12.12
Spine1(config-router-neighbor)# remote-as 1
Spine1(config-router-neighbor)# update-source loopback 1
Spine1(config-router-neighbor)# address-family ipv4 unicast
Spine1(config-router-neighbor-af)# send-community both
Spine1(config-router-neighbor-af)# route-reflector-client
Spine1(config-router-neighbor-af)# address-family l2vpn evpn
Spine1(config-router-neighbor-af)# send-community both
Spine1(config-router-neighbor-af)# route-reflector-client
```

```
Spine1(config-router-neighbor-af)# neighbor 13.13.13.13
Spine1(config-router-neighbor)# remote-as 1
Spine1(config-router-neighbor)# update-source loopback 1
Spine1(config-router-neighbor)# address-family ipv4 unicast
Spine1(config-router-neighbor-af)# send-community both
Spine1(config-router-neighbor-af)# route-reflector-client
Spine1(config-router-neighbor-af)# address-family l2vpn evpn
Spine1(config-router-neighbor-af)# send-community both
Spine1(config-router-neighbor-af)# route-reflector-client
```

```
Spine1(config-router-neighbor-af)# neighbor 14.14.14.14
Spine1(config-router-neighbor)# remote-as 1
Spine1(config-router-neighbor)# update-source loopback 1
Spine1(config-router-neighbor)# address-family ipv4 unicast
Spine1(config-router-neighbor-af)# send-community both
Spine1(config-router-neighbor-af)# route-reflector-client
Spine1(config-router-neighbor-af)# address-family l2vpn evpn
Spine1(config-router-neighbor-af)# send-community both
Spine1(config-router-neighbor-af)# route-reflector-client
```

```
Spine1# sh bgp l2vpn evpn
BGP routing table information for VRF default, address family L2VPN EVPN
BGP table version is 14, Local Router ID is 21.21.21.21
Status: s-suppressed, x-deleted, S-stale, d-dampened, h-history, *-valid, >-best
Path type: i-internal, e-external, c-confed, l-local, a-aggregate, r-redist, I-injected
Origin codes: i - IGP, e - EGP, ? - incomplete, | - multipath, & - backup
```

Network	Next Hop	Metric	LocPrf	Weight	Path
Route Distinguisher: 11.11.11.11:32777					
*>i[2]:[0]:[0]:[48]:[0050.7966.6808]:[0]:[0.0.0.0]/216					
11.11.11.11		100	0	i	
*>i[2]:[0]:[0]:[48]:[0050.7966.6808]:[32]:[192.168.10.11]/272					
11.11.11.11		100	0	i	

```
Route Distinguisher: 11.11.11.11:32787
*>i[2]:[0]:[0]:[48]:[0050.7966.6807]
```

Spine2 Configuration:

```
Spine2(config)# nv overlay evpn
Spine2(config)# feature ospf
Spine2(config)# feature bgp
Spine2(config)# feature pim
Spine2(config)# feature interface-vlan
Spine2(config)# feature vn-segment-vlan-based
Spine2(config)# feature lacp
Spine2(config)# feature nv overlay

Spine2(config)# ip pim rp-address 10.10.10.10 group-list 224.0.0.0/4

Spine2(config)# interface Ethernet1/1-4
Spine2(config-if-range)# no switchport
Spine2(config-if-range)# medium p2p
Spine2(config-if-range)# ip unnumbered loopback1
Spine2(config-if-range)# ip router ospf 1 area 0.0.0.0
Spine2(config-if-range)# ip pim sparse-mode
Spine2(config-if-range)# no shutdown

Spine2(config-if-range)# interface loopback 0
Spine2(config-if)# ip address 10.10.10.10/32
Spine2(config-if)# ip router ospf 1 area 0.0.0.0
Spine2(config-if)# ip pim sparse-mode

Spine2(config-if)# interface loopback 1
Spine2(config-if)# ip address 22.22.22.22/32
Spine2(config-if)# ip router ospf 1 area 0.0.0.0
Spine2(config-if)# ip pim sparse-mode

Spine2(config-if)# router ospf 1
Spine2(config-router)# router-id 22.22.22.22

Spine2(config-router)# router bgp 1
Spine2(config-router)# router-id 22.22.22.22
Spine2(config-router)# address-family ipv4 unicast
Spine2(config-router-af)# address-family l2vpn evpn

Spine2(config-router-af)# neighbor 11.11.11.11
Spine2(config-router-neighbor)# remote-as 1
Spine2(config-router-neighbor)# update-source loopback 1
Spine2(config-router-neighbor)# address-family ipv4 unicast
Spine2(config-router-neighbor-af)# send-community both
Spine2(config-router-neighbor-af)# route-reflector-client
Spine2(config-router-neighbor-af)# address-family l2vpn evpn
Spine2(config-router-neighbor-af)# send-community both
Spine2(config-router-neighbor-af)# route-reflector-client
```



```
Spine2(config-router-neighbor-af)# neighbor 12.12.12.12
Spine2(config-router-neighbor)# remote-as 1
Spine2(config-router-neighbor)# update-source loopback 1
Spine2(config-router-neighbor)# address-family ipv4 unicast
Spine2(config-router-neighbor-af)# send-community both
Spine2(config-router-neighbor-af)# route-reflector-client
Spine2(config-router-neighbor-af)# address-family l2vpn evpn
Spine2(config-router-neighbor-af)# send-community both
Spine2(config-router-neighbor-af)# route-reflector-client
```

```
Spine2(config-router-neighbor-af)# neighbor 13.13.13.13
Spine2(config-router-neighbor)# remote-as 1
Spine2(config-router-neighbor)# update-source loopback 1
Spine2(config-router-neighbor)# address-family ipv4 unicast
Spine2(config-router-neighbor-af)# send-community both
Spine2(config-router-neighbor-af)# route-reflector-client
Spine2(config-router-neighbor-af)# address-family l2vpn evpn
Spine2(config-router-neighbor-af)# send-community both
Spine2(config-router-neighbor-af)# route-reflector-client
```

```
Spine2(config-router-neighbor-af)# neighbor 14.14.14.14
Spine2(config-router-neighbor)# remote-as 1
Spine2(config-router-neighbor)# update-source loopback 1
Spine2(config-router-neighbor)# address-family ipv4 unicast
Spine2(config-router-neighbor-af)# send-community both
Spine2(config-router-neighbor-af)# route-reflector-client
Spine2(config-router-neighbor-af)# address-family l2vpn evpn
Spine2(config-router-neighbor-af)# send-community both
Spine2(config-router-neighbor-af)# route-reflector-client
```

```
Spine1# sh bgp l2vpn evpn
BGP routing table information for VRF default, address family L2VPN EVPN
BGP table version is 30, Local Router ID is 21.21.21.21
Status: s-suppressed, x-deleted, S-stale, d-dampened, h-history, *-valid, >-best
Path type: i-internal, e-external, c-confed, l-local, a-aggregate, r-redist, I-injected
Origin codes: i - IGP, e - EGP, ? - incomplete, | - multipath, & - backup
```

Network	Next Hop	Metric	LocPrf	Weight	Path
---------	----------	--------	--------	--------	------

Route Distinguisher: 11.11.11.11:32777

*>i[2]:[0]:[0]:[48]:[0050.7966.6808]:[0]:[0.0.0.0]/216	11.11.11.11	100	0	i	
*>i[2]:[0]:[0]:[48]:[0050.7966.6808]:[32]:[192.168.10.11]/272	11.11.11.11	100	0	i	

Route Distinguisher: 11.11.11.11:32787

*>i[2]:[0]:[0]:[48]:[0050.7966.6807]:[0]:[0.0.0.0]/216	11.11.11.11	100	0	i	
*>i[2]:[0]:[0]:[48]:[0050.7966.6807]:[32]:[192.168.20.11]/272	11.11.11.11	100	0	i	

Route Distinguisher: 12.12.12.12:32777

*>i[2]:[0]:[0]:[48]:[0050.7966.6809]:[0]:[0.0.0.0]/216	12.12.12.12	100	0	i	
*>i[2]:[0]:[0]:[48]:[0050.7966.6809]:[32]:[192.168.10.12]/272	12.12.12.12	100	0	i	

Route Distinguisher: 12.12.12.12:32787

*>i[2]:[0]:[0]:[48]:[0050.7966.680a]:[0]:[0.0.0.0]/216	12.12.12.12	100	0	i	
*>i[2]:[0]:[0]:[48]:[0050.7966.680a]:[32]:[192.168.20.12]/272	12.12.12.12	100	0	i	

Route Distinguisher: 13.13.13.13:32777

*>i[2]:[0]:[0]:[48]:[0050.7966.680b]:[0]:[0.0.0.0]/216	13.13.13.13	100	0	i	
*>i[2]:[0]:[0]:[48]:[0050.7966.680b]:[32]:[192.168.10.13]/272	13.13.13.13	100	0	i	

Route Distinguisher: 13.13.13.13:32787

*>i[2]:[0]:[0]:[48]:[0050.7966.680c]:[0]:[0.0.0.0]/216	13.13.13.13	100	0	i	
*>i[2]:[0]:[0]:[48]:[0050.7966.680c]:[32]:[192.168.20.13]/272	13.13.13.13	100	0	i	

Route Distinguisher: 14.14.14.14:32777

*>i[2]:[0]:[0]:[48]:[0050.7966.680d]:[0]:[0.0.0.0]/216	14.14.14.14	100	0	i	
*>i[2]:[0]:[0]:[48]:[0050.7966.680d]:[32]:[192.168.10.14]/272	14.14.14.14	100	0	i	

Route Distinguisher: 14.14.14.14:32787

```
*>i[2]:[0]:[0]:[48]:[0050.7966.680e]:[0]:[0.0.0.0]/216
    14.14.14.14          100      0 i
*>i[2]:[0]:[0]:[48]:[0050.7966.680e]:[32]:[192.168.20.14]/272
    14.14.14.14          100      0 i
```

Leaf1# show bgp l2vpn evpn

BGP routing table information for VRF default, address family L2VPN EVPN

BGP table version is 53, Local Router ID is 11.11.11.11

Status: s-suppressed, x-deleted, S-stale, d-dampened, h-history, *-valid, >-best

Path type: i-internal, e-external, c-confed, l-local, a-aggregate, r-redist, I-injected

Origin codes: i - IGP, e - EGP, ? - incomplete, | - multipath, & - backup

Network	Next Hop	Metric	LocPrf	Weight	Path
---------	----------	--------	--------	--------	------

Route Distinguisher: 11.11.11.11:32777 (L2VNI 100010)

*>l[2]:[0]:[0]:[48]:[0050.7966.6808]:[0]:[0.0.0.0]/216

11.11.11.11	100	32768	i
-------------	-----	-------	---

*>i[2]:[0]:[0]:[48]:[0050.7966.6809]:[0]:[0.0.0.0]/216

12.12.12.12	100	0	i
-------------	-----	---	---

*>i[2]:[0]:[0]:[48]:[0050.7966.680b]:[0]:[0.0.0.0]/216

13.13.13.13	100	0	i
-------------	-----	---	---

*>i[2]:[0]:[0]:[48]:[0050.7966.680d]:[0]:[0.0.0.0]/216

14.14.14.14	100	0	i
-------------	-----	---	---

*>l[2]:[0]:[0]:[48]:[0050.7966.6808]:[32]:[192.168.10.11]/272

11.11.11.11	100	32768	i
-------------	-----	-------	---

*>i[2]:[0]:[0]:[48]:[0050.7966.6809]:[32]:[192.168.10.12]/272

12.12.12.12	100	0	i
-------------	-----	---	---

*>i[2]:[0]:[0]:[48]:[0050.7966.680b]:[32]:[192.168.10.13]/272

13.13.13.13	100	0	i
-------------	-----	---	---

*>i[2]:[0]:[0]:[48]:[0050.7966.680d]:[32]:[192.168.10.14]/272

14.14.14.14	100	0	i
-------------	-----	---	---

Route Distinguisher: 11.11.11.11:32787 (L2VNI 100020)

*>l[2]:[0]:[0]:[48]:[0050.7966.6807]:[0]:[0.0.0.0]/216

11.11.11.11	100	32768	i
-------------	-----	-------	---

*>i[2]:[0]:[0]:[48]:[0050.7966.680a]:[0]:[0.0.0.0]/216

12.12.12.12	100	0	i
-------------	-----	---	---

*>i[2]:[0]:[0]:[48]:[0050.7966.680c]:[0]:[0.0.0.0]/216

13.13.13.13	100	0	i
-------------	-----	---	---

*>i[2]:[0]:[0]:[48]:[0050.7966.680e]:[0]:[0.0.0.0]/216

14.14.14.14	100	0	i
-------------	-----	---	---

*>l[2]:[0]:[0]:[48]:[0050.7966.6807]:[32]:[192.168.20.11]/272

11.11.11.11	100	32768	i
-------------	-----	-------	---

*>i[2]:[0]:[0]:[48]:[0050.7966.680a]:[32]:[192.168.20.12]/272

12.12.12.12	100	0	i
-------------	-----	---	---

*>i[2]:[0]:[0]:[48]:[0050.7966.680c]:[32]:[192.168.20.13]/272

13.13.13.13	100	0	i
-------------	-----	---	---

*>i[2]:[0]:[0]:[48]:[0050.7966.680e]:[32]:[192.168.20.14]/272

14.14.14.14	100	0	i
-------------	-----	---	---

Route Distinguisher: 12.12.12.12:32777

*>i[2]:[0]:[0]:[48]:[0050.7966.6809]:[0]:[0.0.0.0]/216

12.12.12.12	100	0	i
-------------	-----	---	---

*>i[2]:[0]:[0]:[48]:[0050.7966.6809]:[32]:[192.168.10.12]/272

12.12.12.12	100	0	i
-------------	-----	---	---

Route Distinguisher: 12.12.12.12:32787

```
*>i[2]:[0]:[0]:[48]:[0050.7966.680a]:[0]:[0.0.0.0]/216
    12.12.12.12          100      0 i
*>i[2]:[0]:[0]:[48]:[0050.7966.680a]:[32]:[192.168.20.12]/272
    12.12.12.12          100      0 i
```

Route Distinguisher: 13.13.13.13:32777

```
*>i[2]:[0]:[0]:[48]:[0050.7966.680b]:[0]:[0.0.0.0]/216
    13.13.13.13          100      0 i
*>i[2]:[0]:[0]:[48]:[0050.7966.680b]:[32]:[192.168.10.13]/272
    13.13.13.13          100      0 i
```

Route Distinguisher: 13.13.13.13:32787

```
*>i[2]:[0]:[0]:[48]:[0050.7966.680c]:[0]:[0.0.0.0]/216
    13.13.13.13          100      0 i
*>i[2]:[0]:[0]:[48]:[0050.7966.680c]:[32]:[192.168.20.13]/272
    13.13.13.13          100      0 i
```

Route Distinguisher: 14.14.14.14:32777

```
*>i[2]:[0]:[0]:[48]:[0050.7966.680d]:[0]:[0.0.0.0]/216
    14.14.14.14          100      0 i
*>i[2]:[0]:[0]:[48]:[0050.7966.680d]:[32]:[192.168.10.14]/272
    14.14.14.14          100      0 i
```

Route Distinguisher: 14.14.14.14:32787

```
*>i[2]:[0]:[0]:[48]:[0050.7966.680e]:[0]:[0.0.0.0]/216
    14.14.14.14          100      0 i
*>i[2]:[0]:[0]:[48]:[0050.7966.680e]:[32]:[192.168.20.14]/272
    14.14.14.14          100      0 i
```

Route Distinguisher: 11.11.11.11:3 (L3VNI 1000100)

```
*>i[2]:[0]:[0]:[48]:[0050.7966.6809]:[32]:[192.168.10.12]/272
    12.12.12.12          100      0 i
*>i[2]:[0]:[0]:[48]:[0050.7966.680a]:[32]:[192.168.20.12]/272
    12.12.12.12          100      0 i
*>i[2]:[0]:[0]:[48]:[0050.7966.680b]:[32]:[192.168.10.13]/272
    13.13.13.13          100      0 i
*>i[2]:[0]:[0]:[48]:[0050.7966.680c]:[32]:[192.168.20.13]/272
    13.13.13.13          100      0 i
*>i[2]:[0]:[0]:[48]:[0050.7966.680d]:[32]:[192.168.10.14]/272
    14.14.14.14          100      0 i
*>i[2]:[0]:[0]:[48]:[0050.7966.680e]:[32]:[192.168.20.14]/272
    14.14.14.14          100      0 i
```

Leaf1# sh nve peers

Interface	Peer-IP	State	LearnType	Uptime	Router-Mac
nve1	12.12.12.12	Up	CP	00:13:35	5000.0002.0007
nve1	13.13.13.13	Up	CP	00:06:18	5000.0003.0007
nve1	14.14.14.14	Up	CP	00:05:53	5000.0004.0007

Leaf1# show vxlan

Vlan	VN-Segment
10	100010
20	100020
100	1000100

Leaf1# show nve vni

Codes: CP - Control Plane DP - Data Plane
 UC - Unconfigured SA - Suppress ARP
 SU - Suppress Unknown Unicast

Interface	VNI	Multicast-group	State	Mode	Type [BD/VRF]	Flags
nve1	100010	239.1.1.10	Up	CP	L2 [10]	
nve1	100020	239.1.1.20	Up	CP	L2 [20]	
nve1	1000100	n/a	Up	CP	L3 [VLAN-100]	

Leaf1# show l2route evpn mac-ip all

Flags -(Rmac):Router MAC (Stt):Static (L):Local (R):Remote (V):vPC link
(Dup):Duplicate (Spl):Split (Rcv):Recv(D):Del Pending (S):Stale (C):Clear
(Ps):Peer Sync (Ro):Re-Originated

Topology	Mac Address	Prod	Flags	Seq No	Host IP	Next-Hops
10	0050.7966.6808	HMM	--	0	192.168.10.11	Local
10	0050.7966.6809	BGP	--	0	192.168.10.12	12.12.12.12
10	0050.7966.680b	BGP	--	0	192.168.10.13	13.13.13.13
10	0050.7966.680d	BGP	--	0	192.168.10.14	14.14.14.14
20	0050.7966.6807	HMM	--	0	192.168.20.11	Local
20	0050.7966.680a	BGP	--	0	192.168.20.12	12.12.12.12
20	0050.7966.680c	BGP	--	0	192.168.20.13	13.13.13.13
20	0050.7966.680e	BGP	--	0	192.168.20.14	14.14.14.14

```
Leaf1# show bgp l2vpn evpn vni-id 100010
BGP routing table information for VRF default, address family L2VPN EVPN
BGP table version is 83, Local Router ID is 11.11.11.11
Status: s-suppressed, x-deleted, S-stale, d-dampened, h-history, *-valid, >-best
Path type: i-internal, e-external, c-confed, l-local, a-aggregate, r-redist, I-i
njected
Origin codes: i - IGP, e - EGP, ? - incomplete, | - multipath, & - backup
```

Network	Next Hop	Metric	LocPrf	Weight	Path
Route Distinguisher: 11.11.11.11:32777 (L2VNI 100010)					
*>l[2]:[0]:[0]:[48]:[0050.7966.6808]:[0]:[0.0.0.0]/216	11.11.11.11	100	32768	i	
*>i[2]:[0]:[0]:[48]:[0050.7966.6809]:[0]:[0.0.0.0]/216	12.12.12.12	100	0	i	
*>i[2]:[0]:[0]:[48]:[0050.7966.680b]:[0]:[0.0.0.0]/216	13.13.13.13	100	0	i	
*>i[2]:[0]:[0]:[48]:[0050.7966.680d]:[0]:[0.0.0.0]/216	14.14.14.14	100	0	i	
*>l[2]:[0]:[0]:[48]:[0050.7966.6808]:[32]:[192.168.10.11]/272	11.11.11.11	100	32768	i	
*>i[2]:[0]:[0]:[48]:[0050.7966.6809]:[32]:[192.168.10.12]/272	12.12.12.12	100	0	i	
*>i[2]:[0]:[0]:[48]:[0050.7966.680b]:[32]:[192.168.10.13]/272	13.13.13.13	100	0	i	
*>i[2]:[0]:[0]:[48]:[0050.7966.680d]:[32]:[192.168.10.14]/272	14.14.14.14	100	0	i	

```
Leaf1# show bgp l2vpn evpn vni-id 100020
BGP routing table information for VRF default, address family L2VPN EVPN
BGP table version is 83, Local Router ID is 11.11.11.11
Status: s-suppressed, x-deleted, S-stale, d-dampened, h-history, *-valid, >-best
Path type: i-internal, e-external, c-confed, l-local, a-aggregate, r-redist, I-injected
Origin codes: i - IGP, e - EGP, ? - incomplete, | - multipath, & - backup
```

Network	Next Hop	Metric	LocPrf	Weight	Path
Route Distinguisher: 11.11.11.11:32787 (L2VNI 100020)					
*>i[2]:[0]:[0]:[48]:[0050.7966.6807]:[0]:[0.0.0.0]/216	11.11.11.11	100	32768	i	
*>i[2]:[0]:[0]:[48]:[0050.7966.680a]:[0]:[0.0.0.0]/216	12.12.12.12	100	0	i	
*>i[2]:[0]:[0]:[48]:[0050.7966.680c]:[0]:[0.0.0.0]/216	13.13.13.13	100	0	i	
*>i[2]:[0]:[0]:[48]:[0050.7966.680e]:[0]:[0.0.0.0]/216	14.14.14.14	100	0	i	
*>l[2]:[0]:[0]:[48]:[0050.7966.6807]:[32]:[192.168.20.11]/272	11.11.11.11	100	32768	i	
*>i[2]:[0]:[0]:[48]:[0050.7966.680a]:[32]:[192.168.20.12]/272	12.12.12.12	100	0	i	
*>i[2]:[0]:[0]:[48]:[0050.7966.680c]:[32]:[192.168.20.13]/272	13.13.13.13	100	0	i	
*>i[2]:[0]:[0]:[48]:[0050.7966.680e]:[32]:[192.168.20.14]/272	14.14.14.14	100	0	i	

```
Leaf1# sh nve internal platform interface nve1 detail
```

```
Printing Interface ifindex 0x49000001 detail
```

Intf	State	PriIP	SecIP	Vnis	Peers
nve1	UP	11.11.11.11	0.0.0.0	3	3

```
SW_BD/VNIs of interface nve1:
```

Sw BD	Vni	State	Intf	Type	Vrf-ID	Notified
10	100010	UP	nve1	CP	0	Yes
20	100020	UP	nve1	CP	0	Yes
100	1000100	UP	nve1	CP	3	Yes

```
Peers of interface nve1:
```

```
=====
```


Peer_ip: 12.12.12.12

Peer-ID : 1

State : UP

Learning : Disabled

TunnelID : 0x0

Mode : Symmetric

MAC : 0000.0000.0000

Table-ID : 0x1

Encap : 0x0

Peer_ip: 13.13.13.13

Peer-ID : 2

State : UP

Learning : Disabled

TunnelID : 0x0

Mode : Symmetric

MAC : 0000.0000.0000

Table-ID : 0x1

Encap : 0x0

Peer_ip: 14.14.14.14

Peer-ID : 3

State : UP

Learning : Disabled

TunnelID : 0x0

Mode : Symmetric

MAC : 0000.0000.0000

Table-ID : 0x1

Encap : 0x0