

# Configure Layer3 EVPN over SR MPLS [eBGP] in Nexus 9300

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## Introduction

This document describes how to deploy L3 Ethernet VPN (EVPN) over Segment Routing (SR) Multiprotocol Label Switching on Nexus 9300 with external BGP.

## Prerequisites

### Requirements

Cisco recommends that you have knowledge of these topics:

- Border Gateway Protocol (BGP)
- L3VPN
- EVPN
- SR

### Components Used

The information in this document is based on these software and hardware versions:

- SPINE Hardware - 9336C-FX that runs Release 10.2(2)
- LEAF Hardware - 93240YC-FX2 that runs Release 10.2(2)
- CLIENT - 92160YC-X (Host-1), Catlyst-3850 (Host-2)

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, ensure that you understand the potential impact of any command.

# Background Information

## MPLS L3VPN Recap

A VPN is:

- An IP-based network that delivers private network services over a public infrastructure.
- A set of sites that are allowed to communicate with each other privately over the Internet or other public or private networks.

Conventional VPNs are created by the configuration of a full mesh of tunnels or permanent virtual circuits (PVCs) to all sites in a VPN. This type of VPN is not easy to maintain or expand, as the addition of a new site requires a change to each edge device in the VPN.

MPLS-based VPNs are created in Layer 3 and are based on the peer model. The peer model enables the service provider and the CE to exchange Layer 3 routing information. The service provider relays the data between the CE sites without CE involvement.

MPLS VPNs are easier to manage and expand than conventional VPNs. When a new site is added to an MPLS VPN, only the edge router of the service provider that provides services to the customer site needs to be updated.

These are the components of the MPLS VPN:

- Provider (P) router- Router in the core of the provider network. PE routers run MPLS switching and do not attach VPN labels to routed packets. VPN labels are used to direct data packets to the correct private network or CE edge router.
- Provider Edge (PE) router- Router that attaches the VPN label to incoming packets based on the interface or subinterface on which they are received, and also attaches the MPLS core labels. A PE router attaches directly to a router.
- Customer (C) router- Router in the Internet service provider (ISP) or enterprise network.
- Customer Edge (CE) router- Edge router on the network of the ISP that connects to the PE router on the network. A CE router must interface with a PE router.

## Overview of EVPN with L3VPN (MPLS SR)

Data Center (DC) deployments have adopted Virtual Extensible LAN (VXLAN) EVPN or MPLS EVPN for its benefits such as EVPN control-plane learning, multitenancy, seamless mobility, redundancy, and easier POD additions. Similarly, the CORE is either a Label Distribution Protocol (LDP)-based MPLS L3VPN network or a transition from the traditional MPLS L3VPN LDP-based underlay to a more sophisticated solution like SR.

SR is adopted for its benefits such as:

- Unified interior gateway protocol (IGP) and MPLS control planes
- Simpler traffic engineering methods

- Easier configuration
- Software-Defined Networking (SDN) adoption

EVPN (RFC 7432) is BGP MPLS-based solution that has been used for next-generation Ethernet services in a virtualized data center network. It uses several blocks such as Route Distinguisher (RD), Route Target (RT), and Virtual Routing and Forwarding (VRF) from MPLS technologies that exist.

L3 EVPN over SR which was introduced in NXOS 7.0(3)I6(1) release uses the EVPN Type-5 route with MPLS encapsulation. It offers Multi-tenant, Scalability, and High Performance for evolved data center services.

**Note:** In DC, the data plane can be VXLAN or MPLS.

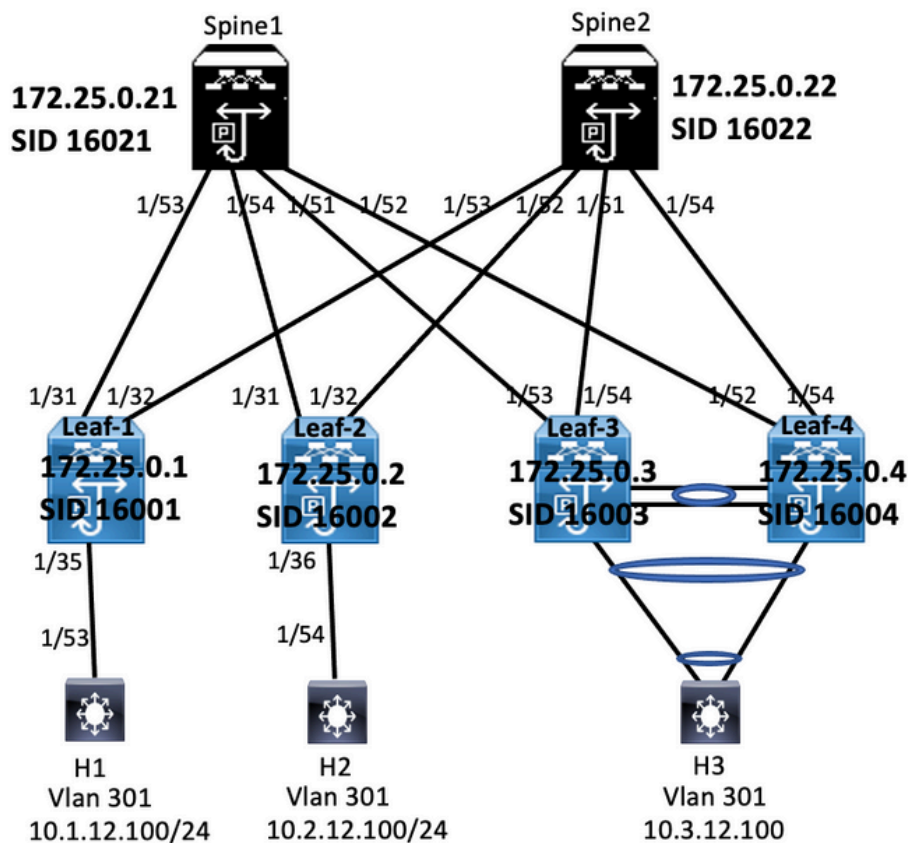
### Traditional MPLS L3 VPN

Main build blocks: RD, RT, and VRF  
 Underlay Layer for Transport: IGP, LDP, and RSVP-TE  
 Overlay Layer for Service: VPNv4 and VPNv6

### MPLS L3 VPN over SR

Main build blocks: RD, RT, and VRF  
 Underlay Layer for Transport: IGP/BGP-LU and S  
 Overlay Layer for Service: EVPN

### Network Diagram



### High-Level Configuration

1. Install Features

2. Configure IP address - Underlay
3. Configure IGP/MP - BGP
4. Configure VLAN and EVPN Overlay
5. Configure e-BGP between Hosts and LEAFs

Leaf-1		
Enabling Features	Interface Configuration	BGP/EVPN Configuration
<pre>install feature-set mpls feature-set mpls feature bgp feature mpls segment-routing feature mpls evpn feature interface-vlan feature lisp feature mpls oam feature mpls segment-routing traffic-engineering vlan 1,301-310 segment-routing mpls   global-block 16000 24000   connected-prefix-sid-map   address-family ipv4 172.25.0.1/32 absolute 16001 ip prefix-list node-sid-loopback seq 10 permit 172.25.0.1/32 ip as-path access-list LOCALLY-ORIGINATE seq 1 permit "65534" ip as-path access-list LOCALLY-ORIGINATE seq 2 permit "65" route-map NODE-SID-MED permit 10 match ip address prefix-list node-sid-loopback set metric 100 route-map NODE-SID-MED permit 20 route-map SET_NH permit 5  match community MATCH-65534:65534 set ip next-hop unchanged route-map SET_NH permit 10 match as-path LOCALLY-ORIGINATE set ip next-hop 172.25.0.1  vrf context VPN-A rd auto address-family ipv4 unicast route-target import 301:301 route-target import 301:301 evpn route-target export 301:301 route-target export 301:301 evpn vrf context VPN-B rd auto address-family ipv4 unicast route-target import 302:302 route-target import 302:302 evpn route-target export 302:302 route-target export 302:302 evpn</pre>	<pre>interface Vlan301 ip access-group deny-to-core_ra in vrf member VPN-A no ip redirects ip address 10.1.12.1/24 ip directed-broadcast ip-dir-bcast ip arp timeout 720  interface Vlan302 ip access-group deny-to-core_ra in vrf member VPN-B no ip redirects ip address 10.1.13.1/24 ip directed-broadcast ip-dir-bcast ip arp timeout 720  interface Ethernet1/31 description connected to spine1 - 1/53 - 192.168.1.10 mtu 9216 logging event port link-status no ip redirects ip address 192.168.1.9/30 ip arp timeout 14400 mpls ip forwarding  interface Ethernet1/32 description connected to spine2 - 1/53 - 192.168.1.14 mtu 9216 logging event port link-status no ip redirects ip address 192.168.1.13/30 ip arp timeout 14400 mpls ip forwarding  interface Ethernet1/35 switchport switchport mode trunk switchport trunk allowed vlan 301-310 no shutdown  interface loopback0 ip address 172.25.0.1/32 no shut</pre>	<pre>router bgp 65534 router-id 172.25.0.1 disable-policy-batching bestpath as-path multipath-relax bestpath med missing-as-worst log-neighbor-changes event-history detail size large nexthop suppress-default-resolution address-family ipv4 unicast network 172.25.0.1/32 maximum-paths 4 maximum-paths ibgp 4 allocate-label route-map node-sid-label address-family ipv4 labeled-unicast prefix-priority high address-family I2vpn evpn template peer EBGP-SPINE remote-as 64087 description EBGP-PEERING-to-AGG address-family ipv4 unicast allowas-in 1 send-community send-community extended route-map NODE-SID-MED out  no advertise local-labeled-route soft-reconfiguration inbound address-family ipv4 labeled-unicast allowas-in 1 send-community send-community extended route-map NODE-SID-MED out soft-reconfiguration inbound always address-family I2vpn evpn allowas-in 1 send-community send-community extended filter-list LOCALLY-ORIGINATE out route-map SET_NH out encapsulation mpls neighbor 192.168.1.10 inherit peer EBGP-SPINE neighbor 192.168.1.14 inherit peer EBGP-SPINE</pre>

Leaf-2		
Enabling Features	Interface Configuration	BGP/EVPN Configuration
<pre>install feature-set mpls feature-set mpls feature bgp feature mpls segment-routing feature mpls evpn feature interface-vlan feature lisp feature mpls oam feature mpls segment-routing traffic-engineering vlan 1,301-310 segment-routing mpls   global-block 16000 24000   connected-prefix-sid-map   address-family ipv4 172.25.0.2/32 absolute 16002 ip prefix-list node-sid-loopback seq 10 permit 172.25.0.2/32 ip as-path access-list LOCALLY-ORIGINATE seq 1 permit "65534" ip as-path access-list LOCALLY-ORIGINATE seq 2 permit "65" route-map NODE-SID-MED permit 10 match ip address prefix-list node-sid-loopback set metric 100 route-map NODE-SID-MED permit 20 route-map SET_NH permit 5  match community MATCH-65534:65534 set ip next-hop unchanged route-map SET_NH permit 10 match as-path LOCALLY-ORIGINATE set ip next-hop 172.25.0.2  vrf context VPN-A rd auto address-family ipv4 unicast route-target import 301:301 route-target import 301:301 evpn route-target export 301:301 route-target export 301:301 evpn vrf context VPN-B rd auto address-family ipv4 unicast route-target import 302:302 route-target import 302:302 evpn route-target export 302:302 route-target export 302:302 evpn</pre>	<pre>interface Vlan301 no shutdown ip access-group deny-to-core_ra in vrf member VPN-A no ip redirects ip address 10.2.12.1/24 ip directed-broadcast ip-dir-bcast ip arp timeout 720  interface Vlan302 no shutdown ip access-group deny-to-core_ra in vrf member VPN-B no ip redirects ip address 10.2.13.1/24 ip directed-broadcast ip-dir-bcast ip arp timeout 720  interface Ethernet1/3 switchport switchport mode trunk switchport trunk allowed vlan 301-310 no shutdown  interface Ethernet1/31 description connected to spine1 - 1/54 - 192.168.2.10 mtu 9216 logging event port link-status no ip redirects ip address 192.168.2.9/30 ip arp timeout 14400 mpls ip forwarding interface Ethernet1/32 description connected to Spine2 - 1/52 - 192.168.2.14 mtu 9216 logging event port link-status no ip redirects ip address 192.168.2.13/30 ip arp timeout 14400 mpls ip forwarding interface Ethernet1/36 switchport mode trunk switchport trunk allowed vlan 301-310 interface loopback0 ip address 172.25.0.2/32</pre>	<pre>router bgp 65534 router-id 172.25.0.2 disable-policy-batching bestpath as-path multipath-relax bestpath med missing-as-worst log-neighbor-changes event-history detail size large nexthop suppress-default-resolution address-family ipv4 unicast network 172.25.0.2/32 maximum-paths 4 maximum-paths ibgp 4 allocate-label route-map node-sid-label address-family ipv4 labeled-unicast prefix-priority high address-family I2vpn evpn template peer EBGP-SPINE remote-as 64087 description EBGP-PEERING-to-AGG address-family ipv4 unicast allowas-in 1 send-community send-community extended route-map NODE-SID-MED out soft-reconfiguration inbound always address-family I2vpn evpn allowas-in 1 send-community send-community extended filter-list LOCALLY-ORIGINATE out route-map SET_NH out encapsulation mpls neighbor 192.168.2.10 inherit peer EBGP-SPINE neighbor 192.168.2.14 inherit peer EBGP-SPINE</pre>

Spine-1		
Enabling Features	Interface Configuration	BGP/EVPN Configuration
<pre>install feature-set mpls feature-set mpls feature bgp feature mpls segment-routing feature mpls evpn feature interface-vlan feature lisp feature mpls oam feature mpls segment-routing traffic-engineering vlan 1 segment-routing mpls   global-block 16000 24000   connected-prefix-sid-map   address-family ipv4     172.25.0.21/32 absolute 16021 ip prefix-list NH-RESTRICT seq 5 permit 0.0.0.0/0 ip prefix-list node-sid-loopback seq 5 permit 172.25.0.21/32 route-map NH-RESTRICT deny 10   match ip address prefix-list NH-RESTRICT route-map NH-RESTRICT permit 20 route-map NH_UNCHG permit 10 set ip next-hop unchanged</pre>	<pre>interface Ethernet1/53 description connected to Leaf1 - 1/31 - 192.168.1.9 mtu 9216 logging event port link-status no ip redirects ip address 192.168.1.10/30 ip arp timeout 14400 mpls ip forwarding no shutdown  interface Ethernet1/54 description connected to Leaf2- 1/31 - 192.168.2.9 mtu 9216 logging event port link-status no ip redirects ip address 192.168.2.10/30 ip arp timeout 14400 mpls ip forwarding no shutdown  interface loopback0 ip address 172.25.0.21/32 no shutdown</pre>	<pre>router bgp 64087 router-id 172.25.0.21 bestpath as-path multipath-relax bestpath med missing-as-worst log-neighbor-changes nexthop suppress-default-resolution address-family ipv4 unicast network 172.25.0.21/32 maximum-paths 4 nexthop route-map NH-RESTRICT allocate-label route-map node-sid-label address-family ipv4 labeled-unicast prefix-priority high address-family I2vpn evpn retain route-target all template peer EBGp-ACCESS remote-as 65534 description EBGp-PEERING-to-ACCESS address-family ipv4 unicast disable-peer-as-check send-community send-community extended default-originate no advertise local-labeled-route  soft-reconfiguration inbound address-family ipv4 labeled-unicast disable-peer-as-check send-community send-community extended soft-reconfiguration inbound address-family I2vpn evpn disable-peer-as-check send-community send-community extended route-map NH_UNCHG out encapsulation mpls neighbor 192.168.1.9 inherit peer EBGp-ACCESS neighbor 192.168.2.9 inherit peer EBGp-ACCESS</pre>

Spine-2		
Enabling Feature	Interface Configuration	BGP/EVPN Configuration
<pre>install feature-set mpls feature-set mpls feature bgp feature mpls segment-routing feature mpls evpn feature interface-vlan feature lisp feature mpls oam feature mpls segment-routing traffic-engineering vlan 1 segment-routing mpls   global-block 16000 24000   connected-prefix-sid-map   address-family ipv4     172.25.0.22/32 absolute 16021 ip prefix-list NH-RESTRICT seq 5 permit 0.0.0.0/0 ip prefix-list node-sid-loopback seq 5 permit 172.25.0.22/32 route-map NH-RESTRICT deny 10   match ip address prefix-list NH-RESTRICT route-map NH-RESTRICT permit 20 route-map NH_UNCHG permit 10 set ip next-hop unchanged</pre>	<pre>interface Ethernet1/52 description connected to Leaf2 - 1/31 - 192.168.2.13 mtu 9216 logging event port link-status no ip redirects ip address 192.168.2.14/30 ip arp timeout 14400 mpls ip forwarding no shutdown  interface Ethernet1/53 description connected to Leaf2- 1/32 - 192.168.1.13 mtu 9216 logging event port link-status no ip redirects ip address 192.168.1.14/30 ip arp timeout 14400 mpls ip forwarding no shutdown  interface loopback0 ip address 172.25.0.22/32 no shut</pre>	<pre>router bgp 64087 router-id 172.25.0.22 bestpath as-path multipath-relax bestpath med missing-as-worst log-neighbor-changes nexthop suppress-default-resolution address-family ipv4 unicast network 172.25.0.22/32 maximum-paths 4 nexthop route-map NH-RESTRICT allocate-label route-map node-sid-label address-family ipv4 labeled-unicast prefix-priority high address-family I2vpn evpn retain route-target all template peer EBGp-ACCESS remote-as 65534 description EBGp-PEERING-to-ACCESS address-family ipv4 unicast disable-peer-as-check send-community send-community extended default-originate no advertise local-labeled-route  soft-reconfiguration inbound address-family ipv4 labeled-unicast disable-peer-as-check send-community send-community extended soft-reconfiguration inbound address-family I2vpn evpn disable-peer-as-check send-community send-community extended route-map NH_UNCHG out encapsulation mpls neighbor 192.168.1.13 inherit peer EBGp-ACCESS neighbor 192.168.2.13 inherit peer EBGp-ACCESS</pre>

## Host-1 Configuration

```
install feature-set mpls
feature mpls
interface Ethernet1/53
switchport
switchport mode trunk
switchport trunk allowed vlan 301-310
no shut

interface vlan 301
no shutdown
no ip redirects
ip address 10.1.12.100/24
ip directed-broadcast ip-dir-bcast
ip arp timeout 720
```

## Host-2 Configuration

```
install feature-set mpls
feature mpls
interface Ethernet1/54
switchport
switchport mode trunk
switchport trunk allowed vlan 301-310
no shut

interface vlan 301
no shutdown
no ip redirects
ip address 10.2.12.100/24
ip directed-broadcast ip-dir-bcast
ip arp timeout 720
```

# Verify

Use this section in order to confirm that your configuration works properly.

```
H1(config)# show ip int brief
```

```
IP Interface Status for VRF "default"(1)
Interface      IP Address  Interface Status
Vlan301        10.1.12.100 protocol-up/link-up/admin-up
```

```
H1(config)# ping 10.2.12.100
PING 10.2.12.100 (10.2.12.100): 56 data bytes
64 bytes from 10.2.12.100: icmp_seq=0 ttl=251 time=0.994 ms
64 bytes from 10.2.12.100: icmp_seq=1 ttl=251 time=0.586 ms
64 bytes from 10.2.12.100: icmp_seq=2 ttl=251 time=0.677 ms
64 bytes from 10.2.12.100: icmp_seq=3 ttl=251 time=0.615 ms
64 bytes from 10.2.12.100: icmp_seq=4 ttl=251 time=0.597 ms
```

```
--- 10.2.12.100 ping statistics ---
5 packets transmitted, 5 packets received, 0.00% packet loss
round-trip min/avg/max = 0.586/0.693/0.994 ms
```

```
H2(config)# show ip int brief
```

```
IP Interface Status for VRF "default"(1)
Interface      IP Address  Interface Status
Vlan301        10.2.12.100 protocol-up/link-up/admin-up
```

```
H2(config)# ping 10.1.12.100
PING 10.1.12.100 (10.1.12.100): 56 data bytes
64 bytes from 10.1.12.100: icmp_seq=0 ttl=251 time=1.043 ms
64 bytes from 10.1.12.100: icmp_seq=1 ttl=251 time=1.933 ms
64 bytes from 10.1.12.100: icmp_seq=2 ttl=251 time=0.865 ms
64 bytes from 10.1.12.100: icmp_seq=3 ttl=251 time=0.668 ms
64 bytes from 10.1.12.100: icmp_seq=4 ttl=251 time=0.713 ms
```

```
--- 10.1.12.100 ping statistics ---
5 packets transmitted, 5 packets received, 0.00% packet loss
round-trip min/avg/max = 0.668/1.044/1.933 ms
```

# Troubleshoot

This section provides information you can use to troubleshoot your configuration.

```
spine1(config-router-af)# show mpls switching
```

Legend:

(P)=Protected, (F)=FRR active, (\*)=more labels in stack.

IPv4:

In-Label	Out-Label	FEC name	Out-Interface	Next-Hop
16001	Pop Label	172.25.0.1/32	Eth1/53	10.1.1.9
16002	Pop Label	172.25.0.2/32	Eth1/54	10.2.1.9

In-Label	VRF
492287	default

Block	Label-Range
1	16000 - 24000

```
spine1(config-router-af)# show bgp l2vpn evpn
```

BGP routing table information for VRF default, address family L2VPN EVPN  
BGP table version is 17, Local Router ID is 172.25.0.21

Network	Next Hop	Metric	LocPrf	Weight	Path
Route Distinguisher: 172.25.0.1:3					
*>e[5]:[0]:[0]:[24]:[12.1.12.0]/224	172.25.0.1	4294967295		0	65534 i
Route Distinguisher: 172.25.0.1:4					
*>e[5]:[0]:[0]:[24]:[12.1.13.0]/224	172.25.0.1	4294967295		0	65534 i
Route Distinguisher: 172.25.0.2:3					
*>e[5]:[0]:[0]:[24]:[10.2.12.0]/224	172.25.0.2	4294967295		0	65534 i
Route Distinguisher: 172.25.0.2:4					
*>e[5]:[0]:[0]:[24]:[10.2.13.0]/224	172.25.0.2	4294967295		0	65534 i

```

ping 10.1.12.200
PING 10.1.12.200 [10.1.12.200]: 56 data bytes
64 bytes from 10.1.12.200: icmp_seq=0 ttl=254 time=1.14 ms
64 bytes from 10.1.12.200: icmp_seq=1 ttl=254 time=0.687 ms
64 bytes from 10.1.12.200: icmp_seq=2 ttl=254 time=0.636 ms
64 bytes from 10.1.12.200: icmp_seq=3 ttl=254 time=0.636 ms
64 bytes from 10.1.12.200: icmp_seq=4 ttl=254 time=0.699 ms
--- 10.1.12.200 ping statistics ---
5 packets transmitted, 5 packets received, 0.00% packet loss
round-trip min/avg/max = 0.636/0.763/1.14 ms

H3# show ip int brief
IP Interface Status for VRF "default"(1)
Interface IP Address Interface Status
Vlan301 10.1.12.100 protocol-up/link-up/admin-up

H3# show mac address-table
Legend:
* - primary entry, G - Gateway MAC, (R) - Routed MAC, O - Overlay MAC
age - seconds since last seen, + - primary entry using vPC Peer-Link,
(T) - True, (F) - False, C - ControlPlane MAC, - - vsan
VLAN MAC Address Type age Secure NTFY Ports
-----
* 301 0000.0000.1111 dynamic O F F Po30
* 301 00ea.bd27.86ef dynamic O F F Po30
G - 00ea.bd27.6285 static - F F sup-eth1(R)
G 301 00ea.bd27.6285 static - F F sup-eth1(R)

```

```

H3# show ip interface brief
Interface IP Address Interface Status
Vlan301 10.1.12.200 protocol-up/link-up/admin-up
H3# ping 10.1.12.100
PING 10.1.12.100 [10.1.12.100]: 56 data bytes
64 bytes from 10.1.12.100: icmp_seq=0 ttl=254 time=1.211 ms
64 bytes from 10.1.12.100: icmp_seq=1 ttl=254 time=0.694 ms
64 bytes from 10.1.12.100: icmp_seq=2 ttl=254 time=0.68 ms
64 bytes from 10.1.12.100: icmp_seq=3 ttl=254 time=0.673 ms
64 bytes from 10.1.12.100: icmp_seq=4 ttl=254 time=0.624 ms
--- 10.1.12.100 ping statistics ---
5 packets transmitted, 5 packets received, 0.00% packet loss
round-trip min/avg/max = 0.624/0.776/1.211 ms
H3# show int vlan 301
Vlan301 is up, line protocol is up, autostate enabled
Hardware is EtherSVI, address is 00ea.bd27.86ef
H3# show mac address-table
Legend:
* - primary entry, G - Gateway MAC, (R) - Routed MAC, O - Overlay MAC
age - seconds since last seen, + - primary entry using vPC Peer-Link,
VLAN MAC Address Type age Secure NTFY Ports
-----
* 301 0000.0000.1111 dynamic O F F Eth1/33
* 301 00ea.bd27.6285 dynamic O F F Eth1/33
G - 00ea.bd27.86ef static - F F sup-eth1(R)
G 301 00ea.bd27.86ef static - F F sup-eth1(R)

```

```

spine-1# show bgp l2vpn evpn
BGP routing table information for VRF default, address family L2VPN Evpn
BGP table version is 188, Local Router ID is 172.25.0.21
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, l-i-
njected
Origin codes: i - IGP, e - EGP, ? - incomplete, | - multipath, & - backup, 2 - Network
Next Hop Metric LocPrf Weight Path
Route Distinguisher: 172.25.0.15
*>e[5] [0] [0] [24] [10.1.12.0]/224
172.25.0.15 4294967295 0 65534 i
Route Distinguisher: 172.25.0.137164
*>e[2] [0] [0] [48] [00ea.bd27.6285] [0] [0.0.0.0]/216
172.25.0.15 4294967295 0 65534 i
*>e[2] [0] [0] [48] [00ea.bd27.6285] [32] [10.1.12.100]/272
172.25.0.15 4294967295 0 65534 i
*>e[3] [0] [12] [172.25.0.15]/88
172.25.0.15 4294967295 0 65534 i
Route Distinguisher: 172.25.0.237164
*>e[2] [0] [0] [48] [00ea.bd27.6285] [0] [0.0.0.0]/216
172.25.0.15 4294967295 0 65534 i
*>e[2] [0] [0] [48] [00ea.bd27.6285] [32] [10.1.12.100]/272
172.25.0.15 4294967295 0 65534 i
*>e[3] [0] [12] [172.25.0.15]/88
172.25.0.15 4294967295 0 65534 i
Route Distinguisher: 172.25.0.337164
*>e[2] [0] [0] [48] [00ea.bd27.86ef] [0] [0.0.0.0]/216
172.25.0.3 4294967295 0 65534 i
*>e[2] [0] [0] [48] [00ea.bd27.86ef] [32] [10.1.12.200]/272
172.25.0.3 4294967295 0 65534 i
*>e[3] [0] [12] [172.25.0.3]/88
172.25.0.3 4294967295 0 65534 i

```

```

BGP routing table information for VRF default, address family L2VPN
Evpn
BGP table version is 188, Local Router ID is 172.25.0.22
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, l-
i-
njected
Origin codes: i - IGP, e - EGP, ? - incomplete, | - multipath, & - backup, 2 -
b
Network Next Hop Metric LocPrf Weight Path
Route Distinguisher: 172.25.0.15
*>e[5] [0] [0] [24] [10.1.12.0]/224
172.25.0.15 4294967295 0 65534 i
Route Distinguisher: 172.25.0.137164
*>e[2] [0] [0] [48] [00ea.bd27.6285] [0] [0.0.0.0]/216
172.25.0.15 4294967295 0 65534 i
*>e[2] [0] [0] [48] [00ea.bd27.6285] [32] [10.1.12.100]/272
172.25.0.15 4294967295 0 65534 i
*>e[3] [0] [12] [172.25.0.15]/88
172.25.0.15 4294967295 0 65534 i
Route Distinguisher: 172.25.0.237164
*>e[2] [0] [0] [48] [00ea.bd27.6285] [0] [0.0.0.0]/216
172.25.0.15 4294967295 0 65534 i
*>e[2] [0] [0] [48] [00ea.bd27.6285] [32] [10.1.12.100]/272
172.25.0.3 4294967295 0 65534 i
Route Distinguisher: 172.25.0.337164
*>e[2] [0] [0] [48] [00ea.bd27.86ef] [0] [0.0.0.0]/216
172.25.0.3 4294967295 0 65534 i
*>e[2] [0] [0] [48] [00ea.bd27.86ef] [32] [10.1.12.200]/272
172.25.0.3 4294967295 0 65534 i
*>e[3] [0] [12] [172.25.0.3]/88
172.25.0.3 4294967295 0 65534 i

```

```

spine-1# show ip int bri
IP Interface Status for VRF "default"(1)
Interface IP Address Interface Status
Lo0 172.25.0.21 protocol-up/link-up/admin-up
Eth1/45 192.168.1.10 protocol-up/link-up/admin-up
Eth1/46 192.168.2.10 protocol-up/link-up/admin-up
Eth1/52 192.168.3.10 protocol-up/link-up/admin-up

```

```

spine2# show ip int brief
IP Interface Status for VRF "default"(1)
Interface IP Address Interface Status
Lo0 172.25.0.22 protocol-up/link-up/admin-up
Eth1/47 192.168.1.14 protocol-up/link-up/admin-up
Eth1/48 192.168.2.14 protocol-up/link-up/admin-up
Eth1/53 192.168.3.14 protocol-up/link-up/admin-up

```