

# ةئيب يف هنم ققحتلا و VPN/VxLAN نيوكت ةددعتملا عقاوملا

## تايوتحملا

[ةمدقملا](#)

[ةيساسألا تابلطتملا](#)

[تابلطتملا](#)

[ةمدختسملا تانوكملا](#)

[ةلصلما تاذ تاجتتملا](#)

[ةيساسأ تامولعم](#)

[ةددعتم عقاوم مادختسا اديفم نوكت فيك](#)

[مدخأ دئاوف](#)

[ةمومدملا ايجولوبوطلا](#)

[ططخملا](#)

[نيوكتلا](#)

[ققحتلا نم ققحتلا](#)

[اهجالص او عاخذألا فاشكتسا](#)

[ةلصلما تاذ تامولعم](#)

## ةمدقملا

ةددعتم LAN ةكبش/Ethernet ةكبش VPN ةئيب نيوكت ةيفيكن دنتمسملا اذه فصبي  
Cisco Nexus 9000 Series Switches تالوحم مادختساب اهنم ققحتلا و ةيرهاظلا عسوتلل ةلباقلا عقاوملا

## ةيساسألا تابلطتملا

### تابلطتملا

ةيلالتلا عيضاوملاب ةفرعم كيديل نوكت نأب Cisco ي صوت:

- Multiprotocol Label Switching (MPLS) Layer 3 VPN
- ةيدودحلا ةرابعلا لوكوتورب - ددعتملا لوكوتوربلا (MP-BGP)
- ةنرتيإلاب ةصاخلا VPN ةكبش (EVPN)

### ةمدختسملا تانوكملا

ةيلالتلا ةيداملا تانوكملا و اوجماربلا تارادصا إلى دنتمسملا اذه يف ةدراولا تامولعملا دنتمست

page1#	N5K-C5672UP-16G-SUP	7.3(0)N1(1) رادصإلا: ماطنلا
page2#	N9K-C92160YC-X	9.2(3) رادصإلا: NXOS

spine1#	N9K-C9396PX	NXOS: رادصلإا 9.2(3)
spine2#	N9K-C9396PX	NXOS: رادصلإا 9.2(3)
multisiteBG1#	N9K-C93108TC-EX	NXOS: رادصلإا 9.2(3)
multisiteBG2#	N9K-C93108TC-FX	NXOS: رادصلإا 9.3(1)
2# عق اووملا ددعت م	N9K-C9372TX-E	NXOS: رادصلإا 9.2(3)
multistespine1#	N9K-C92160YC-X	NXOS: رادصلإا 9.2(3)
MultisteLeaf1#	N9K-C93108TC-EX	NXOS: رادصلإا 7.0(3)I7(5)

ةصاخ ةي لمعم ةئي ي ف ةدوجوملا ةزهجال نم دنتسمل اذه ي ف ةدراول تامولعمل عاشنإ م تناك اذا .(يضا رتفا) حوسم نيوكتب دنتسمل اذه ي ف ةمدختسمل ةزهجال عيمج تادب رما يال لمحتحمل ريثاتلل كمهف نم دكاتف ،ليغشتلا دي قكتكبش

## ةلصل اذ تاجت نمل

ةكبش بةصاخال عق اووملا ةددعت م دودحل ةباوبل ةزهجال او جماربلا تابلطتمل ىندال دحل EVPN.

رصنعلا	تابلطتملا
Cisco نم Nexus ةزهجأ	• Cisco Nexus 9300 EX يساسألا ماظنلا
	• Cisco Nexus 9300 FX يساسألا ماظنلا
	• Cisco Nexus 9332C يساسألا ماظنلا
	• Cisco Nexus 9364C يساسألا ماظنلا
	• Cisco Nexus 9500 طخال ةقابط عم يساسألا ماظنلا Line Card
	• Cisco Nexus 9500 طخال ةقابط عم يساسألا ماظنلا Line Card
Cisco نم NX-OS جمارب	Cisco نم ثدحأ رادصلأا وأ 7.0(3)I7(1) رادصلإا NX-OS جمارب

لباقلا يره اظلال LAN عقومل ةيلخادلا عقوملا دقعل جماربلا ةزهجال تابلطتم ي قبت ةكبش بةصاخال عق اووملا ددعت م BGW دجوي ال يتلا اهسفن يه BGP EVPN (VXLAN) عسوتلل EVPN

## ةيساسأ تامولعم

تاقيبطتلا او ني زختلا ةيساسحل ةقاطلا - ىلع يوتحت دراوم ةعومجم وه تانايبلا زكرم زكرمل ةيساسألا ةينبلا ميمصتل ميلسلا طيختلا دعي .لمع ةئي ي ةيأ معدل ةي رورضلا اهليلع بلغتت فيكو ةجرحلا تابلطتملا يه ام اورظنانال او .ةيمهال غلاب ارما تانايبلا ىل تانايبلا زكارم رشن تاي لمعو تامولعمل ةينقتل ةثيدحل ةيساسألا ةينبلا جاتحت امئاد لمعلا ةلصاومو قئاف ءادأو ربكأ ةعرب ريوطتلا ىلع ةردقلاو (HA) ةقئاف تاناك م

ةحاسم/(DC) لاجملا ب مكحتلا ةدحو ميمصت ي ف ةيويحل تابلطتملا ليلق ددع فشكتسا ةيساسألا ةينبلا:



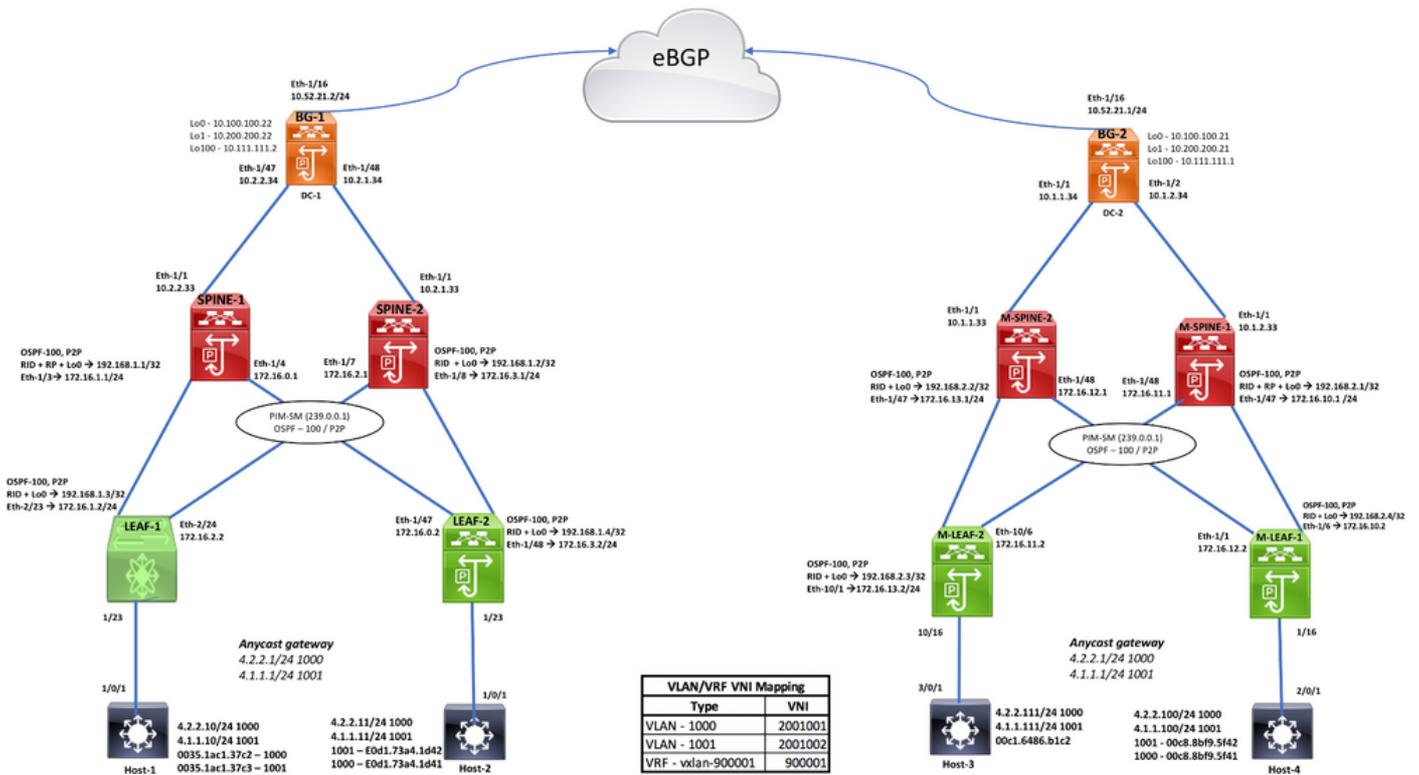
# رخا دئوف

- تانايبلا تاعومجمو تانايبلا زكارم ربع لمعال لمح ءنزاوم .
- لثم ، ثراوكلا ءهءاو م رطاخم نم فيفختلا - فقوتلا تالءل ءيقتابستالا ءباجتسالا . اء م لهو ، تانايبلا ءو ريصاعالا .
- نم ءرتف رادم لء ءطءملا ءاءءالا ءلوءم - تانايبلا زكارم في لءءرءلا ءنايبلا . ءمءءقلا ءاكءبلا عم جمءلا ءقولا .
- ثراوكلا ءعب تانايبلا ءءاعءساو يءايبءءالا ءءنللا ءايبلا عم .

## ءم ءءملا اءءول ءو ءلا

- ءءومن BGW-to-Cloud
- ءءايبلا ءءومن ءءايبلا ءءومن ءءايبلا ءءومن
- ءءايبلا ءءومن لء BGWs
- ءءايبلا لء ءءومن BGW

## ءطءملا



## نءوكءلا

DC-1, LEAF-1 CONFIGURATION

<p><b>Enable Features</b></p> <pre>install feature-set fabric feature-set fabric hostname leaf1 feature fabric forwarding nv overlay evpn feature ospf feature bgp feature pim feature interface-vlan feature fabric access feature nv overlay feature vn-segment-vlan-based</pre>	<p><b>VLAN-VNI Mapping</b></p> <pre>vlan 1 vlan 101 vn-segment 900001 vlan 1000 vn-segment 2001002 vlan 1001 vn-segment 2001001</pre> <p><b>VLAN Config</b></p> <pre>interface Vlan101 no shutdown vrf member vxlan-900001 ip forward</pre> <p>Interface Vlan1000</p> <pre>no shutdown mtu 9216 vrf member vxlan-900001 ip address 4.2.2.1/24 ipv6 address 4:2:0::1/64 fabric forwarding mode anycast-gateway</pre> <p>Interface Vlan1001</p> <pre>no shutdown mtu 9216 vrf member vxlan-900001 ip address 4.1.1.1/24 ipv6 address 4:1:0::1/64 fabric forwarding mode anycast-gateway</pre> <p><b>Anycast GW mapping</b></p> <pre>fabric forwarding anycast-gateway-mac 0000.2222.3333</pre> <p><b>Static RP Config</b></p> <pre>ip pim rp-address 192.168.1.1 group-list 224.0.0.0/4 ip pim rp-address 192.168.1.2 group-list 224.0.0.0/4 ip pim ssm range 232.0.0.0/8 ip multicast multipath none</pre>	<p><b>VTEP Config</b></p> <pre>interface nve1 no shutdown source-interface loopback0 host-reachability protocol bgp member vni 900001 associate-vrf member vni 2001001 suppress-arp mcast-group 239.0.0.1 member vni 2001002 suppress-arp mcast-group 239.0.0.1</pre>	<p><b>LEAF to SPINE interfaces/OSPF Config</b></p> <pre>interface Ethernet2/23 no switchport ip address 172.16.1.2/24 ip ospf network point-to-point ip router ospf 100 area 0.0.0.0 ip pim sparse-mode</pre> <p>interface Ethernet2/24</p> <pre>no switchport ip address 172.16.2.2/24 ip ospf network point-to-point ip router ospf 100 area 0.0.0.0 ip pim sparse-mode</pre> <p>Interface loopback0</p> <pre>ip address 192.168.1.3/24 ip router ospf 100 area 0.0.0.0 ip pim sparse-mode</pre> <p>router ospf 100</p> <pre>router-id 192.168.1.3</pre>	<p><b>BGP Config</b></p> <pre>router bgp 200 router-id 192.168.1.3 address-family ipv4 unicast address-family l2vpn evpn neighbor 192.168.1.1 remote-as 200 update-source loopback0 address-family ipv4 unicast address-family l2vpn evpn send-community extended neighbor 192.168.1.2 remote-as 200 update-source loopback0 address-family ipv4 unicast address-family l2vpn evpn send-community extended</pre> <p>evpn</p> <pre>vni 2001001 l2 &lt;&lt;&lt;&lt;&lt;&lt; L2VNI Config rd auto route-target import auto route-target export auto vni 2001002 l2 rd auto route-target import auto route-target export auto</pre> <p>vrf context vxlan-900001</p> <pre>vni 900001 &lt;&lt;&lt;&lt;&lt;&lt; L3VNI Config rd auto address-family ipv4 unicast route-target both auto route-target both auto evpn address-family ipv6 unicast route-target both auto route-target both auto evpn</pre>
--	---	---	--	---

DC-1 SPINE -1 Configuration

Enabling Features, RP Config	OSPF Configuration	BGP/EVPN Configuration
<pre>hostname spine1 boot n9000 bootflash:/n9000-9.2.3.bin</pre> <p>nv overlay evpn</p> <pre>feature ospf feature bgp feature pim feature interface-vlan feature vn-segment-vlan-based feature nv overlay</pre> <p>ip pim rp-address 192.168.1.1 group-list 224.0.0.0/4</p>	<pre>interface Ethernet1/1 no switchport ip address 10.2.2.33/30 ip ospf network point-to-point ip router ospf 100 area 0.0.0.0 ip pim sparse-mode no shutdown</pre> <pre>interface Ethernet1/3 no switchport ip address 172.16.1.1/24 ip ospf network point-to-point ip router ospf 100 area 0.0.0.0 ip pim sparse-mode no shutdown</pre> <pre>interface Ethernet1/4 no switchport ip address 172.16.0.1/24 ip ospf network point-to-point ip router ospf 100 area 0.0.0.0 ip pim sparse-mode no shutdown</pre> <pre>interface loopback0 ip address 192.168.1.1/32 ip router ospf 100 area 0.0.0.0 ip pim sparse-mode</pre> <p>router ospf 100</p> <pre>router-id 192.168.1.1</pre>	<pre>router bgp 200 router-id 192.168.1.1 address-family ipv4 unicast address-family l2vpn evpn neighbor 10.100.100.22 remote-as 200 update-source loopback0 address-family ipv4 unicast address-family l2vpn evpn send-community send-community extended route-reflector-client neighbor 192.168.1.3 remote-as 200 update-source loopback0 address-family ipv4 unicast send-community extended route-reflector-client address-family l2vpn evpn send-community extended route-reflector-client neighbor 192.168.1.4 remote-as 200 update-source loopback0 address-family ipv4 unicast send-community extended route-reflector-client address-family l2vpn evpn send-community extended route-reflector-client</pre>

DC-1 Border Gateway-1 Configuration			
Enabling Features, RouteMap, B-G Config	VLAN,VNI,VTEP Config	OSPF Configuration	BGP/EVPN Configuration
hostname MultisiteBG1 boot nxos bootflash:/nxos.9.2.3.bin nv overlay evpn feature ospf feature bgp feature pim feature fabric forwarding feature interface-vlan feature vn-segment-vlan-based feature lldp feature nv overlay evpn multisite border-gateway 200 delay-restore time 300 route-map RMAP-REDIST-DIRECT permit 10 match tag 54321	<b>VLAN-VNI Mapping</b> vlan 101 vn-segment 900001 vlan 1000 vn-segment 2001002 vlan 1001 vn-segment 2001001	interface Ethernet1/47 ip address 10.2.2.34/30 ip ospf network point-to-point ip router ospf 100 area 0.0.0.0 ip pim sparse-mode evpn multisite fabric-tracking no shutdown	router bgp 200 router-id 10.100.100.22 address-family ipv4 unicast redistribute direct route-map RMAP-REDIST-DIRECT neighbor 10.52.21.1 remote-as 100 update-source Ethernet1/16 address-family ipv4 unicast neighbor 10.100.100.21 remote-as 100 update-source loopback0 ebgp-multihop 5 peer-type fabric-external address-family I2vpn evpn send-community send-community extended rewrite-evpn-rt-asn neighbor 192.168.1.1 remote-as 200 update-source loopback0 address-family I2vpn evpn send-community send-community extended neighbor 192.168.1.2 remote-as 200 update-source loopback0 address-family I2vpn evpn send-community send-community extended
	<b>VTEP Config</b> interface nve1 no shutdown host-reachability protocol bgp source-interface loopback1 multisite border-gateway interface loopback100 member vni 900001 associate-vrf member vni 2001001 multisite ingress-replication ingress-replication protocol bgp member vni 2001002 multisite ingress-replication ingress-replication protocol bgp	<b>Core-Facing Interface Config</b> interface Ethernet1/16 mtu 9216 ip address 10.52.21.2/30 tag 54321 evpn multisite dc1-tracking no shutdown	interface loopback0 ip address 10.100.100.22/32 tag 54321 ip router ospf 100 area 0.0.0.0 ip pim sparse-mode interface loopback1 ip address 10.200.200.22/32 tag 54321 ip router ospf 100 area 0.0.0.0 ip pim sparse-mode interface loopback100 ip address 10.111.111.2/32 tag 54321 ip router ospf 100 area 0.0.0.0 router ospf 100 router-id 10.100.100.22

DC-2 Border Gateway-2 Configuration			
Enabling Features, RouteMap, B-G Config	VLAN,VNI,VTEP Config	OSPF Configuration	BGP/EVPN Configuration
boot nxos bootflash:/nxos.9.3.0.221.bin hostname MultisiteBG2 nv overlay evpn feature ospf feature bgp feature pim feature fabric forwarding feature interface-vlan feature vn-segment-vlan-based feature lldp feature nv overlay evpn multisite border-gateway 100 delay-restore time 300 vlan 1,101,1000-1001 vlan 101 vn-segment 900001 vlan 1000 vn-segment 2001002 vlan 1001 vn-segment 2001001 route-map RMAP-REDIST-DIRECT permit 10 match tag 54321 interface Ethernet1/16 mtu 9216 ip address 10.52.21.1/30 tag 54321 evpn multisite dc1-tracking no shutdown	interface Vlan101 no shutdown vrf member vxlan-900001 ip forward interface nve1 no shutdown host-reachability protocol bgp source-interface loopback1 multisite border-gateway interface loopback100 member vni 900001 associate-vrf member vni 2001001 multisite ingress-replication ingress-replication protocol bgp member vni 2001002 multisite ingress-replication ingress-replication protocol bgp vrf context vxlan-900001 vni 900001 rd auto address-family ipv4 unicast route-target both auto route-target both auto evpn address-family ipv6 unicast route-target both auto route-target both auto evpn	interface Ethernet1/1 description SITE-INTERNAL INTERFACE mtu 9216 medium p2p ip address 10.1.1.34/30 ip ospf network point-to-point ip router ospf 100 area 0.0.0.0 ip pim sparse-mode evpn multisite fabric-tracking no shutdown interface Ethernet1/2 description SITE-INTERNAL INTERFACE mtu 9216 medium p2p ip address 10.1.2.34/30 ip ospf network point-to-point ip router ospf 100 area 0.0.0.0 ip pim sparse-mode evpn multisite fabric-tracking no shutdown interface loopback0 description RID AND BGP PEERING ip address 10.100.100.21/32 tag 54321 ip router ospf 100 area 0.0.0.0 ip pim sparse-mode interface loopback1 description NVE INTERFACE (PIP VTEP) ip address 10.200.200.21/32 tag 54321 ip router ospf 100 area 0.0.0.0 ip pim sparse-mode interface loopback100 description MULTI-SITE INTERFACE (VIP VTEP) ip address 10.111.111.1/32 tag 54321 ip router ospf 100 area 0.0.0.0 router ospf 100 router-id 10.100.100.21	router bgp 100 router-id 10.100.100.21 address-family ipv4 unicast redistribute direct route-map RMAP-REDIST-DIRECT maximum-paths 4 neighbor 10.52.21.2 remote-as 200 update-source Ethernet1/16 address-family ipv4 unicast neighbor 10.100.100.22 remote-as 200 update-source loopback0 ebgp-multihop 5 peer-type fabric-external address-family I2vpn evpn send-community send-community extended rewrite-evpn-rt-asn neighbor 192.168.2.1 remote-as 100 update-source loopback0 address-family I2vpn evpn send-community send-community extended neighbor 192.168.2.2 remote-as 100 update-source loopback0 address-family I2vpn evpn send-community send-community extended evpn vni 2001001 I2 rd auto route-target import auto route-target export auto vni 2001002 I2 rd auto route-target import auto route-target export auto

## DC-2 SPINE -1 Configuration

Enabling Features, RP Config	OSPF Configuration	BGP/EVPN Configuration
<pre>boot nxos bootflash:/nxos.9.2.3.bin hostname MultisteSpine1 nv overlay evpn feature ospf feature bgp feature pim feature interface-vlan feature vn-segment-vlan-based feature nv overlay  ip pim rp-address 192.168.2.1 group-list 224.0.0.0/4</pre>	<pre>interface Ethernet1/1 mtu 9216 ip address 10.1.2.33/30 ip ospf network point-to-point ip router ospf 100 area 0.0.0.0 ip pim sparse-mode no shutdown  interface Ethernet1/47 ip address 172.16.10.1/24 ip ospf network point-to-point ip router ospf 100 area 0.0.0.0 ip pim sparse-mode no shutdown  interface Ethernet1/48 ip address 172.16.11.1/24 ip ospf network point-to-point ip router ospf 100 area 0.0.0.0 ip pim sparse-mode no shutdown  interface loopback0 ip address 192.168.2.1/32 ip router ospf 100 area 0.0.0.0 ip pim sparse-mode  router ospf 100 router-id 192.168.2.1</pre>	<pre>router bgp 100 router-id 192.168.2.1 address-family ipv4 unicast address-family l2vpn evpn neighbor 10.100.100.21 remote-as 100 update-source loopback0 address-family l2vpn evpn send-community send-community extended route-reflector-client neighbor 192.168.2.3 remote-as 100 update-source loopback0 address-family ipv4 unicast send-community extended route-reflector-client address-family l2vpn evpn send-community extended route-reflector-client neighbor 192.168.2.4 remote-as 100 update-source loopback0 address-family ipv4 unicast send-community extended route-reflector-client address-family l2vpn evpn send-community extended route-reflector-client</pre>

## DC-2, LEAF -1 Configuration

Enabling Features, RP, VTEP Config	VLAN,VNI Configuration	OSPF Configuration	BGP/EVPN Configuration
<pre>boot nxos bootflash:/nxos.7.0.3.17.5.bin hostname MultisteLeaf1 nv overlay evpn feature ospf feature bgp feature pim feature fabric forwarding feature interface-vlan feature vn-segment-vlan-based feature lldp feature nv overlay  fabric forwarding anycast-gateway-mac 0000.2222.3333 ip pim rp-address 192.168.2.1 group-list 224.0.0.0/4  interface nve1 no shutdown host-reachability-protocol bgp source-interface loopback0 member vni 900001 associate-vrf member vni 2001001 suppress-arp mcast-group 239.0.0.1 member vni 2001002 suppress-arp mcast-group 239.0.0.1</pre>	<pre>vlan 101 vn-segment 900001 vlan 1000 vn-segment 2001002 vlan 1001 vn-segment 2001001  interface Vlan101 no shutdown vrf member vxlan-900001 ip forward  interface Vlan1000 no shutdown vrf member vxlan-900001 ip address 4.2.2.1/24 ipv6 address 4:2:0:1::1/64 fabric forwarding mode anycast-gateway  interface Vlan1001 no shutdown vrf member vxlan-900001 ip address 4.1.1.1/24 ipv6 address 4:1:0:1::1/64 fabric forwarding mode anycast-gateway  vrf context vxlan-900001 vni 900001 rd auto address-family ipv4 unicast route-target both auto route-target both auto evpn address-family ipv6 unicast route-target both auto route-target both auto evpn</pre>	<pre>interface Ethernet1/1 ip address 172.16.12.2/24 ip ospf network point-to-point ip router ospf 100 area 0.0.0.0 ip pim sparse-mode no shutdown  interface Ethernet1/6 ip address 172.16.10.2/24 ip ospf network point-to-point ip router ospf 100 area 0.0.0.0 ip pim sparse-mode no shutdown  interface Ethernet1/16 switchport switchport mode trunk no shutdown  interface loopback0 ip address 192.168.2.4/32 ip router ospf 100 area 0.0.0.0 ip pim sparse-mode  router ospf 100 router-id 192.168.2.4</pre>	<pre>router bgp 100 router-id 192.168.2.4 address-family ipv4 unicast address-family l2vpn evpn neighbor 192.168.2.1 remote-as 100 update-source loopback0 address-family ipv4 unicast address-family l2vpn evpn send-community extended neighbor 192.168.2.2 remote-as 100 update-source loopback0 address-family ipv4 unicast address-family l2vpn evpn send-community extended  evpn vni 2001001 l2 rd auto route-target import auto route-target export auto vni 2001002 l2 rd auto route-target import auto route-target export auto</pre>

# تحصيلنا من ققحتنا

## LEAF-1 VERIFICATION

<pre>leaf1# show cdp neighbors Capability Codes: R - Router, T - Trans-Bridge, B - Source-Route- S - Switch, H - Host, I - IGMP, r - Repeater, V - VoIP-Phone, D - Remotely-Managed-Device, s - Supports-STP-Dispute  Device-ID           Local Intrfce  Hldtme  Capability  Platform MX066-H-01-SM.cisco.com mgmt0              142        S I      WS-C2960X-48T  ToLeaf1            Eth1/23      163     S I          WS-C3750X-24S  spine1(SAL1948U4Y1) Eth2/23      156     R S s       N9K-C9396PX  spine2(SAL1949UELD) Eth2/24      152     R S s       N9K-C9396PX  leaf1#  leaf1# sh ip int brief   exclude down IP Interface Status for VRF "default"(1) Interface      IP Address      Interface Status Lo0            192.168.1.3     protocol-up/link-up/admin-up Eth2/23        172.16.1.2     protocol-up/link-up/admin-up Eth2/24        172.16.2.2     protocol-up/link-up/admin-up leaf1#  leaf1# sh nve vrf VRF-Name      VNI      Interface Gateway-MAC ----- vxlan-900001 900001   nve1      00de.fb01.9fc1  leaf1# sh nve vxlan-params VxLAN Dest. UDP Port: 4789</pre>	<pre>leaf1# show ip pim rp PIM RP Status Information for VRF "default" BSR disabled Auto-RP disabled BSR RP Candidate policy: None BSR RP policy: None Auto-RP Announcement policy: None Auto-RP Discovery policy: None  RP: 192.168.1.1, (0), uptime: 3w1d priority: 0, RP-source: (local), group ranges: 224.0.0.0/4  RP: 192.168.1.2, (0), uptime: 3w1d priority: 0, RP-source: (local), group ranges: 224.0.0.0/4  leaf1#  leaf1# sh nve interface Interface: nve1, State: Up, encapsulation: VXLAN VPC Capability: VPC-VFP-Only [not-notified] Local Router MAC: 00de.fb01.9fc1 Host Learning Mode: Control-Plane Source-Interface: loopback0 (primary: 192.168.1.3, secondary: 0)  leaf1#</pre>	<pre>leaf1# sh nve peers Interface Peer-IP      State LearnType Uptime  Router-Mac ----- nve1 10.111.111.2 Up CP 3w1d 0200.0a6f.6f02 nve1 10.200.200.22 Up CP 3w1d n/a nve1 192.168.1.4 Up CP 3w1d 7079.b33e.8123  leaf1#  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 900001 n/a Up CP L3 [vxlan-900001] nve1 2001001 239.0.0.1 Up CP L2 [1001] SA nve1 2001002 239.0.0.1 Up CP L2 [1000] SA  leaf1#  leaf1# sh vrf vxlan-900001 DETAIL VRF-Name: vxlan-900001, VRF-ID: 3, State: Up VFNID: unknown RD: 192.168.1.3:3 VNI: 900001, State: Up Max Routes: 0 Mid-Threshold: 0 Table-ID: 0x80000003, AF: IPv6, Fwd-ID: 0x80000003, State: Up Table-ID: 0x00000003, AF: IPv4, Fwd-ID: 0x00000003, State: Up</pre>
---	---	---

## CONTROL PLANE LEARNING: Destination Prefix is 4.2.2.100 <====> 00c8.8bf9.5f41 <====> Vlan1000 <====> VNI2001002

<p><b>Destination Prefix is learnt on host-connected LEAF 192.168.2.4</b></p> <pre>MultiteLeaf1# sh ip route 4.2.2.100 vrf vxlan-900001 IP Route Table for VRF "vxlan-900001" *** denotes best ucast next-hop *** denotes best mcast next-hop [x/y/z] denotes [preference/metric] *&lt;string*&gt; in via output denotes VRF &lt;string&gt;  4.2.2.100/32, ubest/mbest: 1/0, attached *via 4.2.2.100, Vlan1000, [190/0], 4w2d, hhm  MultiteLeaf1# sh bgp l2vpn evpn summary BGP summary information for VRF default, address family L2VPN EVPN BGP router identifier 192.168.2.4, local AS number 100 BGP table version is 56, L2VPN EVPN config peers 2, capable peers 2 36 network entries and 50 paths using 7968 bytes of memory BGP attribute entries (26/4160), BGP AS path entries (1/6) BGP community entries (0/0), BGP clusterlist entries (2/8)  Neighbor V AS MsgRcvd MsgSent TblVer Inq OutQ Up/Down State/PfxRcd 192.168.2.1 4 100 44038 44029 56 0 0 4w2d 14 192.168.2.2 4 100 44037 44030 56 0 0 4w2d 14  MultiteLeaf1#  MultiteLeaf1# sh nve peers Interface Peer-IP      State LearnType Uptime  Router-Mac ----- nve1 10.111.111.1 Up CP 4w2d 0200.0a6f.6f01 nve1 10.200.200.21 Up CP 4w2d n/a  MultiteLeaf1# show nve vni Codes: CP - Control Plane DP - Data Plane UC - Unconfigured SA - Suppress ARP SU - Suppress Unknown Unicast SC - Crossconnect MS-IR - Multisite Ingress Replication  Interface VNI      Multicast-group State Mode Type [BD/VRF]  Flags ----- nve1 900001 n/a Up CP L3 [vxlan-900001] nve1 2001001 239.0.0.1 Up CP L2 [1001] SA nve1 2001002 239.0.0.1 Up CP L2 [1000] SA  MultiteLeaf1#</pre>	<p><b>Host-Connected Leaf is advertising this prefix to its SPINE (192.168.2.1)</b></p> <pre>MultiteLeaf1# sh bgp l2vpn evpn neighbors 192.168.2.1 advertised-routes Peer 192.168.2.1 routes for address family L2VPN EVPN: BGP table version is 56, Local Router ID is 192.168.2.4 Status: s-suppressed, x-deleted, S-stale, d-dampened, h-history, *-valid, &gt;best Path type: i-internal, e-external, c-confed, l-local, a-aggregate, r-redist, I- njected Origin codes: i - IGP, e - EGP, ? - incomplete, ! - multipath, &amp; - backup  Network Next Hop Metric LocPrf Weight Path Route Distinguisher: 10.100.100.21:33767 Route Distinguisher: 10.100.100.21:33768 Route Distinguisher: 10.100.100.22:33767 Route Distinguisher: 10.100.100.22:33768 Route Distinguisher: 192.168.1.3:33767 Route Distinguisher: 192.168.1.3:33768 Route Distinguisher: 192.168.1.4:33767 Route Distinguisher: 192.168.1.4:33768  Route Distinguisher: 192.168.2.4:33767 (L2VNI 2001002) **i(2):(0):(0):(48):(00c8.8bf9.5f41):(0):(0.0.0.0)/216 192.168.2.4 100 32768 i **i(2):(0):(0):(48):(00c8.8bf9.5f41):(32):(4.2.2.100)/272 192.168.2.4 100 32768 i  Route Distinguisher: 192.168.2.4:33768 (L2VNI 2001001) **i(2):(0):(0):(48):(00c8.8bf9.5f42):(0):(0.0.0.0)/216 192.168.2.4 100 32768 i **i(2):(0):(0):(48):(00c8.8bf9.5f42):(32):(4.1.1.100)/272 192.168.2.4 100 32768 i  Route Distinguisher: 192.168.2.4:3 (L3VNI 900001) **i(2):(0):(0):(48):(00c8.8bf9.5f42):(32):(4.1.1.100)/272 192.168.2.4 100 32768 i  MultiteLeaf1#</pre>	<p><b>SPINE is advertising the same prefix to Border Gateway (BG-2 == 10.100.100.21)</b></p> <pre>MultiteSpine1# sh bgp l2vpn evpn neighbors 10.100.100.21 advertised-routes Peer 10.100.100.21 routes for address family L2VPN EVPN: BGP table version is 26, Local Router ID is 192.168.2.1 Status: s-suppressed, x-deleted, S-stale, d-dampened, h-history, *-valid, &gt;best Path type: i-internal, e-external, c-confed, l-local, a-aggregate, r-redist, I- njected Origin codes: i - IGP, e - EGP, ? - incomplete, ! - multipath, &amp; - backup, 2 - b est2  Network Next Hop Metric LocPrf Weight Path Route Distinguisher: 10.100.100.21:27001 Route Distinguisher: 10.100.100.21:33767 Route Distinguisher: 10.100.100.22:33767 Route Distinguisher: 10.100.100.21:33768 Route Distinguisher: 10.100.100.22:33767 Route Distinguisher: 10.100.100.22:33768 Route Distinguisher: 192.168.1.3:33767 Route Distinguisher: 192.168.1.3:33768 Route Distinguisher: 192.168.1.4:33767 Route Distinguisher: 192.168.1.4:33768  Route Distinguisher: 192.168.2.4:33767 **i(2):(0):(0):(48):(00c8.8bf9.5f41):(0):(0.0.0.0)/216 192.168.2.4 100 0 i **i(2):(0):(0):(48):(00c8.8bf9.5f41):(32):(4.2.2.100)/272 192.168.2.4 100 0 i  Route Distinguisher: 192.168.2.4:33768 **i(2):(0):(0):(48):(00c8.8bf9.5f42):(0):(0.0.0.0)/216 192.168.2.4 100 0 i **i(2):(0):(0):(48):(00c8.8bf9.5f42):(32):(4.1.1.100)/272 192.168.2.4 100 0 i  MultiteSpine1#</pre>
--	--	--

**eBGP Neighborship between Border Gateways**

MultisiteBG2# sh bgp l2vpn evpn summary												MultisiteBG1# sh bgp l2vpn evpn summary																																																																																											
BGP summary information for VRF default, address family L2VPN EVPN												BGP summary information for VRF default, address family L2VPN EVPN																																																																																											
BGP router identifier 10.100.100.21, local AS number 100												BGP router identifier 10.100.100.22, local AS number 200																																																																																											
BGP table version is 60, L2VPN EVPN config peers 3, capable peers 3												BGP table version is 82, L2VPN EVPN config peers 3, capable peers 3																																																																																											
43 network entries and 47 paths using 8160 bytes of memory												37 network entries and 45 paths using 7296 bytes of memory																																																																																											
BGP attribute entries [37/6068], BGP AS path entries [1/6]												BGP attribute entries [37/6068], BGP AS path entries [1/6]																																																																																											
BGP community entries [0/0], BGP clusterlist entries [2/8]												BGP community entries [0/0], BGP clusterlist entries [4/16]																																																																																											
<table border="1"> <thead> <tr> <th>Neighbor</th> <th>V</th> <th>AS</th> <th>MsgRcvd</th> <th>MsgSent</th> <th>TblVer</th> <th>InQ</th> <th>OutQ</th> <th>Up/Down</th> <th>State/PfxRcd</th> </tr> </thead> <tbody> <tr> <td>10.100.100.22</td> <td>4</td> <td>200</td> <td>44066</td> <td>44039</td> <td>60</td> <td>0</td> <td>0</td> <td>4w2d 12</td> <td></td> </tr> <tr> <td>192.168.2.1</td> <td>4</td> <td>100</td> <td>44050</td> <td>44037</td> <td>60</td> <td>0</td> <td>0</td> <td>4w2d 4</td> <td></td> </tr> <tr> <td>192.168.2.2</td> <td>4</td> <td>100</td> <td>44048</td> <td>44037</td> <td>60</td> <td>0</td> <td>0</td> <td>4w2d 4</td> <td></td> </tr> </tbody> </table>												Neighbor	V	AS	MsgRcvd	MsgSent	TblVer	InQ	OutQ	Up/Down	State/PfxRcd	10.100.100.22	4	200	44066	44039	60	0	0	4w2d 12		192.168.2.1	4	100	44050	44037	60	0	0	4w2d 4		192.168.2.2	4	100	44048	44037	60	0	0	4w2d 4		<table border="1"> <thead> <tr> <th>Neighbor</th> <th>V</th> <th>AS</th> <th>MsgRcvd</th> <th>MsgSent</th> <th>TblVer</th> <th>InQ</th> <th>OutQ</th> <th>Up/Down</th> <th>State/PfxRcd</th> </tr> </thead> <tbody> <tr> <td>10.100.100.21</td> <td>4</td> <td>100</td> <td>44126</td> <td>44106</td> <td>82</td> <td>0</td> <td>0</td> <td>4w2d 8</td> <td></td> </tr> <tr> <td>192.168.1.1</td> <td>4</td> <td>200</td> <td>44122</td> <td>44104</td> <td>82</td> <td>0</td> <td>0</td> <td>4w2d 8</td> <td></td> </tr> <tr> <td>192.168.1.2</td> <td>4</td> <td>200</td> <td>44121</td> <td>44104</td> <td>82</td> <td>0</td> <td>0</td> <td>4w2d 8</td> <td></td> </tr> </tbody> </table>												Neighbor	V	AS	MsgRcvd	MsgSent	TblVer	InQ	OutQ	Up/Down	State/PfxRcd	10.100.100.21	4	100	44126	44106	82	0	0	4w2d 8		192.168.1.1	4	200	44122	44104	82	0	0	4w2d 8		192.168.1.2	4	200	44121	44104	82	0	0	4w2d 8	
Neighbor	V	AS	MsgRcvd	MsgSent	TblVer	InQ	OutQ	Up/Down	State/PfxRcd																																																																																														
10.100.100.22	4	200	44066	44039	60	0	0	4w2d 12																																																																																															
192.168.2.1	4	100	44050	44037	60	0	0	4w2d 4																																																																																															
192.168.2.2	4	100	44048	44037	60	0	0	4w2d 4																																																																																															
Neighbor	V	AS	MsgRcvd	MsgSent	TblVer	InQ	OutQ	Up/Down	State/PfxRcd																																																																																														
10.100.100.21	4	100	44126	44106	82	0	0	4w2d 8																																																																																															
192.168.1.1	4	200	44122	44104	82	0	0	4w2d 8																																																																																															
192.168.1.2	4	200	44121	44104	82	0	0	4w2d 8																																																																																															
<table border="1"> <thead> <tr> <th>Neighbor</th> <th>T</th> <th>AS</th> <th>PfxRcd</th> <th>Type-2</th> <th>Type-3</th> <th>Type-4</th> <th>Type-5</th> </tr> </thead> <tbody> <tr> <td>10.100.100.22</td> <td>E</td> <td>200</td> <td>12</td> <td>10</td> <td>2</td> <td>0</td> <td>0</td> </tr> <tr> <td>192.168.2.1</td> <td>I</td> <td>100</td> <td>4</td> <td>4</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>192.168.2.2</td> <td>I</td> <td>100</td> <td>4</td> <td>4</td> <td>0</td> <td>0</td> <td>0</td> </tr> </tbody> </table>												Neighbor	T	AS	PfxRcd	Type-2	Type-3	Type-4	Type-5	10.100.100.22	E	200	12	10	2	0	0	192.168.2.1	I	100	4	4	0	0	0	192.168.2.2	I	100	4	4	0	0	0	<table border="1"> <thead> <tr> <th>Neighbor</th> <th>T</th> <th>AS</th> <th>PfxRcd</th> <th>Type-2</th> <th>Type-3</th> <th>Type-4</th> <th>Type-5</th> </tr> </thead> <tbody> <tr> <td>10.100.100.21</td> <td>E</td> <td>100</td> <td>8</td> <td>6</td> <td>2</td> <td>0</td> <td>0</td> </tr> <tr> <td>192.168.1.1</td> <td>I</td> <td>200</td> <td>8</td> <td>8</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>192.168.1.2</td> <td>I</td> <td>200</td> <td>8</td> <td>8</td> <td>0</td> <td>0</td> <td>0</td> </tr> </tbody> </table>												Neighbor	T	AS	PfxRcd	Type-2	Type-3	Type-4	Type-5	10.100.100.21	E	100	8	6	2	0	0	192.168.1.1	I	200	8	8	0	0	0	192.168.1.2	I	200	8	8	0	0	0																
Neighbor	T	AS	PfxRcd	Type-2	Type-3	Type-4	Type-5																																																																																																
10.100.100.22	E	200	12	10	2	0	0																																																																																																
192.168.2.1	I	100	4	4	0	0	0																																																																																																
192.168.2.2	I	100	4	4	0	0	0																																																																																																
Neighbor	T	AS	PfxRcd	Type-2	Type-3	Type-4	Type-5																																																																																																
10.100.100.21	E	100	8	6	2	0	0																																																																																																
192.168.1.1	I	200	8	8	0	0	0																																																																																																
192.168.1.2	I	200	8	8	0	0	0																																																																																																
MultisiteBG2#												MultisiteBG1#																																																																																											
MultisiteBG2# sh bgp ipv4 unicast summary												MultisiteBG1# sh bgp ipv4 unicast summary																																																																																											
BGP summary information for VRF default, address family IPv4 Unicast												BGP summary information for VRF default, address family IPv4 Unicast																																																																																											
BGP router identifier 10.100.100.21, local AS number 100												BGP router identifier 10.100.100.22, local AS number 200																																																																																											
BGP table version is 11, IPv4 Unicast config peers 1, capable peers 1												BGP table version is 11, IPv4 Unicast config peers 1, capable peers 1																																																																																											
7 network entries and 8 paths using 1800 bytes of memory												7 network entries and 8 paths using 1692 bytes of memory																																																																																											
BGP attribute entries [2/328], BGP AS path entries [1/6]												BGP attribute entries [2/328], BGP AS path entries [1/6]																																																																																											
BGP community entries [0/0], BGP clusterlist entries [2/8]												BGP community entries [0/0], BGP clusterlist entries [4/16]																																																																																											
<table border="1"> <thead> <tr> <th>Neighbor</th> <th>V</th> <th>AS</th> <th>MsgRcvd</th> <th>MsgSent</th> <th>TblVer</th> <th>InQ</th> <th>OutQ</th> <th>Up/Down</th> <th>State/PfxRcd</th> </tr> </thead> <tbody> <tr> <td>10.52.21.2</td> <td>4</td> <td>200</td> <td>44043</td> <td>44041</td> <td>11</td> <td>0</td> <td>0</td> <td>4w2d 4</td> <td></td> </tr> </tbody> </table>												Neighbor	V	AS	MsgRcvd	MsgSent	TblVer	InQ	OutQ	Up/Down	State/PfxRcd	10.52.21.2	4	200	44043	44041	11	0	0	4w2d 4		<table border="1"> <thead> <tr> <th>Neighbor</th> <th>V</th> <th>AS</th> <th>MsgRcvd</th> <th>MsgSent</th> <th>TblVer</th> <th>InQ</th> <th>OutQ</th> <th>Up/Down</th> <th>State/PfxRcd</th> </tr> </thead> <tbody> <tr> <td>10.52.21.1</td> <td>4</td> <td>100</td> <td>44106</td> <td>44105</td> <td>11</td> <td>0</td> <td>0</td> <td>4w2d 4</td> <td></td> </tr> </tbody> </table>												Neighbor	V	AS	MsgRcvd	MsgSent	TblVer	InQ	OutQ	Up/Down	State/PfxRcd	10.52.21.1	4	100	44106	44105	11	0	0	4w2d 4																																									
Neighbor	V	AS	MsgRcvd	MsgSent	TblVer	InQ	OutQ	Up/Down	State/PfxRcd																																																																																														
10.52.21.2	4	200	44043	44041	11	0	0	4w2d 4																																																																																															
Neighbor	V	AS	MsgRcvd	MsgSent	TblVer	InQ	OutQ	Up/Down	State/PfxRcd																																																																																														
10.52.21.1	4	100	44106	44105	11	0	0	4w2d 4																																																																																															
MultisiteBG2#												MultisiteBG1#																																																																																											
MultisiteBG2# sh bgp ipv4 unicast neighbors 10.52.21.2 advertised-routes												MultisiteBG1# show bgp ipv4 unicast neighbors 10.52.21.1 advertised-routes																																																																																											
Peer 10.52.21.2 routes for address family IPv4 Unicast:												Peer 10.52.21.1 routes for address family IPv4 Unicast:																																																																																											
BGP table version is 11, Local Router ID is 10.100.100.21												BGP table version is 11, Local Router ID is 10.100.100.22																																																																																											
Status: s-suppressed, x-deleted, S-stale, d-dampened, h-history, *-valid, >-best												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												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, 2 - best2												Origin codes: i - IGP, e - EGP, ? - incomplete,   - multipath, & - backup, 2 - best2																																																																																											
<table border="1"> <thead> <tr> <th>Network</th> <th>Next Hop</th> <th>Metric</th> <th>LocPrf</th> <th>Weight</th> <th>Path</th> </tr> </thead> <tbody> <tr> <td>*&gt;r10.52.21.0/30</td> <td>0.0.0.0</td> <td>0</td> <td>100</td> <td>32768</td> <td>?</td> </tr> <tr> <td>*&gt;r10.100.100.21/32</td> <td>0.0.0.0</td> <td>0</td> <td>100</td> <td>32768</td> <td>?</td> </tr> <tr> <td>*&gt;r10.111.111.1/32</td> <td>0.0.0.0</td> <td>0</td> <td>100</td> <td>32768</td> <td>?</td> </tr> <tr> <td>*&gt;r10.200.200.21/32</td> <td>0.0.0.0</td> <td>0</td> <td>100</td> <td>32768</td> <td>?</td> </tr> </tbody> </table>												Network	Next Hop	Metric	LocPrf	Weight	Path	*>r10.52.21.0/30	0.0.0.0	0	100	32768	?	*>r10.100.100.21/32	0.0.0.0	0	100	32768	?	*>r10.111.111.1/32	0.0.0.0	0	100	32768	?	*>r10.200.200.21/32	0.0.0.0	0	100	32768	?	<table border="1"> <thead> <tr> <th>Network</th> <th>Next Hop</th> <th>Metric</th> <th>LocPrf</th> <th>Weight</th> <th>Path</th> </tr> </thead> <tbody> <tr> <td>*&gt;r10.52.21.0/30</td> <td>0.0.0.0</td> <td>0</td> <td>100</td> <td>32768</td> <td>?</td> </tr> <tr> <td>*&gt;r10.100.100.22/32</td> <td>0.0.0.0</td> <td>0</td> <td>100</td> <td>32768</td> <td>?</td> </tr> <tr> <td>*&gt;r10.111.111.2/32</td> <td>0.0.0.0</td> <td>0</td> <td>100</td> <td>32768</td> <td>?</td> </tr> <tr> <td>*&gt;r10.200.200.22/32</td> <td>0.0.0.0</td> <td>0</td> <td>100</td> <td>32768</td> <td>?</td> </tr> </tbody> </table>												Network	Next Hop	Metric	LocPrf	Weight	Path	*>r10.52.21.0/30	0.0.0.0	0	100	32768	?	*>r10.100.100.22/32	0.0.0.0	0	100	32768	?	*>r10.111.111.2/32	0.0.0.0	0	100	32768	?	*>r10.200.200.22/32	0.0.0.0	0	100	32768	?																				
Network	Next Hop	Metric	LocPrf	Weight	Path																																																																																																		
*>r10.52.21.0/30	0.0.0.0	0	100	32768	?																																																																																																		
*>r10.100.100.21/32	0.0.0.0	0	100	32768	?																																																																																																		
*>r10.111.111.1/32	0.0.0.0	0	100	32768	?																																																																																																		
*>r10.200.200.21/32	0.0.0.0	0	100	32768	?																																																																																																		
Network	Next Hop	Metric	LocPrf	Weight	Path																																																																																																		
*>r10.52.21.0/30	0.0.0.0	0	100	32768	?																																																																																																		
*>r10.100.100.22/32	0.0.0.0	0	100	32768	?																																																																																																		
*>r10.111.111.2/32	0.0.0.0	0	100	32768	?																																																																																																		
*>r10.200.200.22/32	0.0.0.0	0	100	32768	?																																																																																																		
MultisiteBG2#												MultisiteBG1#																																																																																											

Route exchange between Border Gateways (B.G-2 ==> B.G-1)												In DC-1, Route advertisement from BG-1 to SPINE-1																																																																																																																																																																																																																																																																																									
MultisiteBG2# sh bgp l2vpn evpn neighbors 10.100.100.22 advertised-routes												MultisiteBG1# sh bgp l2vpn evpn neighbors 192.168.1.1 advertised-routes																																																																																																																																																																																																																																																																																									
Peer 10.100.100.22 routes for address family L2VPN EVPN:												Peer 192.168.1.1 routes for address family L2VPN EVPN:																																																																																																																																																																																																																																																																																									
BGP table version is 60, Local Router ID is 10.100.100.21												BGP table version is 82, Local Router ID is 10.100.100.22																																																																																																																																																																																																																																																																																									
Status: s-suppressed, x-deleted, S-stale, d-dampened, h-history, *-valid, >-best												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												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, 2 - best2												Origin codes: i - IGP, e - EGP, ? - incomplete,   - multipath, & - backup, 2 - best2																																																																																																																																																																																																																																																																																									
<table border="1"> <thead> <tr> <th>Network</th> <th>Next Hop</th> <th>Metric</th> <th>LocPrf</th> <th>Weight</th> <th>Path</th> </tr> </thead> <tbody> <tr> <td>Route Distinguisher: 10.100.100.21:27001 (ES [0300.0000.0000.6400.0309 0])</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>*&gt;l[4]:[0300.0000.0000.6400.0309]:[32]:[10.200.200.21]/136</td> <td>10.200.200.21</td> <td>100</td> <td></td> <td>32768</td> <td>i</td> </tr> <tr> <td>Route Distinguisher: 10.100.100.21:33767 (L2VNI 2001002)</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>*&gt;l[2]:[0]:[0]:[48]:[005d.738e.a337]:[0]:[0.0.0.0]/216</td> <td>10.200.200.21</td> <td>100</td> <td></td> <td>32768</td> <td>i</td> </tr> <tr> <td>*&gt;l[3]:[0]:[32]:[10.200.200.21]/88</td> <td>10.200.200.21</td> <td>100</td> <td></td> <td>32768</td> <td>i</td> </tr> <tr> <td>Route Distinguisher: 10.100.100.21:33768 (L2VNI 2001001)</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>*&gt;l[2]:[0]:[0]:[48]:[005d.738e.a337]:[0]:[0.0.0.0]/216</td> <td>10.200.200.21</td> <td>100</td> <td></td> <td>32768</td> <td>i</td> </tr> <tr> <td>*&gt;l[3]:[0]:[32]:[10.200.200.21]/88</td> <td>10.200.200.21</td> <td>100</td> <td></td> <td>32768</td> <td>i</td> </tr> <tr> <td>Route Distinguisher: 10.100.100.22:33767</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Route Distinguisher: 10.100.100.22:33768</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Route Distinguisher: 192.168.1.3:33767</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Route Distinguisher: 192.168.1.4:33768</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Route Distinguisher: 192.168.1.4:33767</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Route Distinguisher: 192.168.1.4:33768</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Route Distinguisher: 192.168.2.4:33767</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>*&gt;i[2]:[0]:[0]:[48]:[00c8.8bf9.5f41]:[0]:[0.0.0.0]/216</td> <td>192.168.2.4</td> <td>100</td> <td></td> <td>0</td> <td>i</td> </tr> <tr> <td>*&gt;i[2]:[0]:[0]:[48]:[00c8.8bf9.5f41]:[32]:[4.2.2.100]/272</td> <td>192.168.2.4</td> <td>100</td> <td></td> <td>0</td> <td>i</td> </tr> <tr> <td>Route Distinguisher: 192.168.2.4:33768</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>*&gt;i[2]:[0]:[0]:[48]:[00c8.8bf9.5f42]:[0]:[0.0.0.0]/216</td> <td>192.168.2.4</td> <td>100</td> <td></td> <td>0</td> <td>i</td> </tr> <tr> <td>*&gt;i[2]:[0]:[0]:[48]:[00c8.8bf9.5f42]:[32]:[4.1.1.100]/272</td> <td>192.168.2.4</td> <td>100</td> <td></td> <td>0</td> <td>i</td> </tr> <tr> <td>Route Distinguisher: 10.100.100.21:3 (L3VNI 900001)</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>												Network	Next Hop	Metric	LocPrf	Weight	Path	Route Distinguisher: 10.100.100.21:27001 (ES [0300.0000.0000.6400.0309 0])						*>l[4]:[0300.0000.0000.6400.0309]:[32]:[10.200.200.21]/136	10.200.200.21	100		32768	i	Route Distinguisher: 10.100.100.21:33767 (L2VNI 2001002)						*>l[2]:[0]:[0]:[48]:[005d.738e.a337]:[0]:[0.0.0.0]/216	10.200.200.21	100		32768	i	*>l[3]:[0]:[32]:[10.200.200.21]/88	10.200.200.21	100		32768	i	Route Distinguisher: 10.100.100.21:33768 (L2VNI 2001001)						*>l[2]:[0]:[0]:[48]:[005d.738e.a337]:[0]:[0.0.0.0]/216	10.200.200.21	100		32768	i	*>l[3]:[0]:[32]:[10.200.200.21]/88	10.200.200.21	100		32768	i	Route Distinguisher: 10.100.100.22:33767						Route Distinguisher: 10.100.100.22:33768						Route Distinguisher: 192.168.1.3:33767						Route Distinguisher: 192.168.1.4:33768						Route Distinguisher: 192.168.1.4:33767						Route Distinguisher: 192.168.1.4:33768						Route Distinguisher: 192.168.2.4:33767						*>i[2]:[0]:[0]:[48]:[00c8.8bf9.5f41]:[0]:[0.0.0.0]/216	192.168.2.4	100		0	i	*>i[2]:[0]:[0]:[48]:[00c8.8bf9.5f41]:[32]:[4.2.2.100]/272	192.168.2.4	100		0	i	Route Distinguisher: 192.168.2.4:33768						*>i[2]:[0]:[0]:[48]:[00c8.8bf9.5f42]:[0]:[0.0.0.0]/216	192.168.2.4	100		0	i	*>i[2]:[0]:[0]:[48]:[00c8.8bf9.5f42]:[32]:[4.1.1.100]/272	192.168.2.4	100		0	i	Route Distinguisher: 10.100.100.21:3 (L3VNI 900001)						<table border="1"> <thead> <tr> <th>Network</th> <th>Next Hop</th> <th>Metric</th> <th>LocPrf</th> <th>Weight</th> <th>Path</th> </tr> </thead> <tbody> <tr> <td>Route Distinguisher: 10.100.100.21:33767</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>*&gt;e[2]:[0]:[0]:[48]:[005d.738e.a337]:[0]:[0.0.0.0]/216</td> <td>10.200.200.21</td> <td>100</td> <td></td> <td>0</td> <td>i</td> </tr> <tr> <td>Route Distinguisher: 10.100.100.21:33768</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>*&gt;e[2]:[0]:[0]:[48]:[005d.738e.a337]:[0]:[0.0.0.0]/216</td> <td>10.200.200.21</td> <td>100</td> <td></td> <td>0</td> <td>i</td> </tr> <tr> <td>Route Distinguisher: 10.100.100.22:27001 (ES [0300.0000.0000.c800.0309 0])</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>*&gt;l[4]:[0300.0000.0000.c800.0309]:[32]:[10.200.200.22]/136</td> <td>10.200.200.22</td> <td>100</td> <td></td> <td>32768</td> <td>i</td> </tr> <tr> <td>Route Distinguisher: 10.100.100.22:33767 (L2VNI 2001002)</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>*&gt;l[2]:[0]:[0]:[48]:[6cb2.ae91.38bf]:[0]:[0.0.0.0]/216</td> <td>10.200.200.22</td> <td>100</td> <td></td> <td>32768</td> <td>i</td> </tr> <tr> <td>*&gt;l[3]:[0]:[32]:[10.200.200.22]/88</td> <td>10.200.200.22</td> <td>100</td> <td></td> <td>32768</td> <td>i</td> </tr> <tr> <td>Route Distinguisher: 10.100.100.22:33768 (L2VNI 2001001)</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>*&gt;l[2]:[0]:[0]:[48]:[6cb2.ae91.38bf]:[0]:[0.0.0.0]/216</td> <td>10.200.200.22</td> <td>100</td> <td></td> <td>32768</td> <td>i</td> </tr> <tr> <td>*&gt;l[3]:[0]:[32]:[10.200.200.22]/88</td> <td>10.200.200.22</td> <td>100</td> <td></td> <td>32768</td> <td>i</td> </tr> <tr> <td>Route Distinguisher: 192.168.1.3:33767</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Route Distinguisher: 192.168.1.3:33768</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Route Distinguisher: 192.168.1.4:33767</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Route Distinguisher: 192.168.1.4:33768</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Route Distinguisher: 192.168.2.4:33767</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>*&gt;e[2]:[0]:[0]:[48]:[00c8.8bf9.5f41]:[0]:[0.0.0.0]/216</td> <td>10.111.111.1</td> <td>2000</td> <td></td> <td>0</td> <td>100 i</td> </tr> <tr> <td>*&gt;e[2]:[0]:[0]:[48]:[00c8.8bf9.5f41]:[32]:[4.2.2.100]/272</td> <td>10.111.111.1</td> <td>2000</td> <td></td> <td>0</td> <td>100 i</td> </tr> <tr> <td>Route Distinguisher: 192.168.2.4:33768</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>*&gt;e[2]:[0]:[0]:[48]:[00c8.8bf9.5f42]:[0]:[0.0.0.0]/216</td> <td>10.111.111.1</td> <td>2000</td> <td></td> <td>0</td> <td>100 i</td> </tr> <tr> <td>*&gt;e[2]:[0]:[0]:[48]:[00c8.8bf9.5f42]:[32]:[4.1.1.100]/272</td> <td>10.111.111.1</td> <td>2000</td> <td></td> <td>0</td> <td>100 i</td> </tr> </tbody> </table>												Network	Next Hop	Metric	LocPrf	Weight	Path	Route Distinguisher: 10.100.100.21:33767						*>e[2]:[0]:[0]:[48]:[005d.738e.a337]:[0]:[0.0.0.0]/216	10.200.200.21	100		0	i	Route Distinguisher: 10.100.100.21:33768						*>e[2]:[0]:[0]:[48]:[005d.738e.a337]:[0]:[0.0.0.0]/216	10.200.200.21	100		0	i	Route Distinguisher: 10.100.100.22:27001 (ES [0300.0000.0000.c800.0309 0])						*>l[4]:[0300.0000.0000.c800.0309]:[32]:[10.200.200.22]/136	10.200.200.22	100		32768	i	Route Distinguisher: 10.100.100.22:33767 (L2VNI 2001002)						*>l[2]:[0]:[0]:[48]:[6cb2.ae91.38bf]:[0]:[0.0.0.0]/216	10.200.200.22	100		32768	i	*>l[3]:[0]:[32]:[10.200.200.22]/88	10.200.200.22	100		32768	i	Route Distinguisher: 10.100.100.22:33768 (L2VNI 2001001)						*>l[2]:[0]:[0]:[48]:[6cb2.ae91.38bf]:[0]:[0.0.0.0]/216	10.200.200.22	100		32768	i	*>l[3]:[0]:[32]:[10.200.200.22]/88	10.200.200.22	100		32768	i	Route Distinguisher: 192.168.1.3:33767						Route Distinguisher: 192.168.1.3:33768						Route Distinguisher: 192.168.1.4:33767						Route Distinguisher: 192.168.1.4:33768						Route Distinguisher: 192.168.2.4:33767						*>e[2]:[0]:[0]:[48]:[00c8.8bf9.5f41]:[0]:[0.0.0.0]/216	10.111.111.1	2000		0	100 i	*>e[2]:[0]:[0]:[48]:[00c8.8bf9.5f41]:[32]:[4.2.2.100]/272	10.111.111.1	2000		0	100 i	Route Distinguisher: 192.168.2.4:33768						*>e[2]:[0]:[0]:[48]:[00c8.8bf9.5f42]:[0]:[0.0.0.0]/216	10.111.111.1	2000		0	100 i	*>e[2]:[0]:[0]:[48]:[00c8.8bf9.5f42]:[32]:[4.1.1.100]/272	10.111.111.1	2000		0	100 i
Network	Next Hop	Metric	LocPrf	Weight	Path																																																																																																																																																																																																																																																																																																
Route Distinguisher: 10.100.100.21:27001 (ES [0300.0000.0000.6400.0309 0])																																																																																																																																																																																																																																																																																																					
*>l[4]:[0300.0000.0000.6400.0309]:[32]:[10.200.200.21]/136	10.200.200.21	100		32768	i																																																																																																																																																																																																																																																																																																
Route Distinguisher: 10.100.100.21:33767 (L2VNI 2001002)																																																																																																																																																																																																																																																																																																					
*>l[2]:[0]:[0]:[48]:[005d.738e.a337]:[0]:[0.0.0.0]/216	10.200.200.21	100		32768	i																																																																																																																																																																																																																																																																																																
*>l[3]:[0]:[32]:[10.200.200.21]/88	10.200.200.21	100		32768	i																																																																																																																																																																																																																																																																																																
Route Distinguisher: 10.100.100.21:33768 (L2VNI 2001001)																																																																																																																																																																																																																																																																																																					
*>l[2]:[0]:[0]:[48]:[005d.738e.a337]:[0]:[0.0.0.0]/216	10.200.200.21	100		32768	i																																																																																																																																																																																																																																																																																																
*>l[3]:[0]:[32]:[10.200.200.21]/88	10.200.200.21	100		32768	i																																																																																																																																																																																																																																																																																																
Route Distinguisher: 10.100.100.22:33767																																																																																																																																																																																																																																																																																																					
Route Distinguisher: 10.100.100.22:33768																																																																																																																																																																																																																																																																																																					
Route Distinguisher: 192.168.1.3:33767																																																																																																																																																																																																																																																																																																					
Route Distinguisher: 192.168.1.4:33768																																																																																																																																																																																																																																																																																																					
Route Distinguisher: 192.168.1.4:33767																																																																																																																																																																																																																																																																																																					
Route Distinguisher: 192.168.1.4:33768																																																																																																																																																																																																																																																																																																					
Route Distinguisher: 192.168.2.4:33767																																																																																																																																																																																																																																																																																																					
*>i[2]:[0]:[0]:[48]:[00c8.8bf9.5f41]:[0]:[0.0.0.0]/216	192.168.2.4	100		0	i																																																																																																																																																																																																																																																																																																
*>i[2]:[0]:[0]:[48]:[00c8.8bf9.5f41]:[32]:[4.2.2.100]/272	192.168.2.4	100		0	i																																																																																																																																																																																																																																																																																																
Route Distinguisher: 192.168.2.4:33768																																																																																																																																																																																																																																																																																																					
*>i[2]:[0]:[0]:[48]:[00c8.8bf9.5f42]:[0]:[0.0.0.0]/216	192.168.2.4	100		0	i																																																																																																																																																																																																																																																																																																
*>i[2]:[0]:[0]:[48]:[00c8.8bf9.5f42]:[32]:[4.1.1.100]/272	192.168.2.4	100		0	i																																																																																																																																																																																																																																																																																																
Route Distinguisher: 10.100.100.21:3 (L3VNI 900001)																																																																																																																																																																																																																																																																																																					
Network	Next Hop	Metric	LocPrf	Weight	Path																																																																																																																																																																																																																																																																																																
Route Distinguisher: 10.100.100.21:33767																																																																																																																																																																																																																																																																																																					
*>e[2]:[0]:[0]:[48]:[005d.738e.a337]:[0]:[0.0.0.0]/216	10.200.200.21	100		0	i																																																																																																																																																																																																																																																																																																
Route Distinguisher: 10.100.100.21:33768																																																																																																																																																																																																																																																																																																					
*>e[2]:[0]:[0]:[48]:[005d.738e.a337]:[0]:[0.0.0.0]/216	10.200.200.21	100		0	i																																																																																																																																																																																																																																																																																																
Route Distinguisher: 10.100.100.22:27001 (ES [0300.0000.0000.c800.0309 0])																																																																																																																																																																																																																																																																																																					
*>l[4]:[0300.0000.0000.c800.0309]:[32]:[10.200.200.22]/136	10.200.200.22	100		32768	i																																																																																																																																																																																																																																																																																																
Route Distinguisher: 10.100.100.22:33767 (L2VNI 2001002)																																																																																																																																																																																																																																																																																																					
*>l[2]:[0]:[0]:[48]:[6cb2.ae91.38bf]:[0]:[0.0.0.0]/216	10.200.200.22	100		32768	i																																																																																																																																																																																																																																																																																																
*>l[3]:[0]:[32]:[10.200.200.22]/88	10.200.200.22	100		32768	i																																																																																																																																																																																																																																																																																																
Route Distinguisher: 10.100.100.22:33768 (L2VNI 2001001)																																																																																																																																																																																																																																																																																																					
*>l[2]:[0]:[0]:[48]:[6cb2.ae91.38bf]:[0]:[0.0.0.0]/216	10.200.200.22	100		32768	i																																																																																																																																																																																																																																																																																																
*>l[3]:[0]:[32]:[10.200.200.22]/88	10.200.200.22	100		32768	i																																																																																																																																																																																																																																																																																																
Route Distinguisher: 192.168.1.3:33767																																																																																																																																																																																																																																																																																																					
Route Distinguisher: 192.168.1.3:33768																																																																																																																																																																																																																																																																																																					
Route Distinguisher: 192.168.1.4:33767																																																																																																																																																																																																																																																																																																					
Route Distinguisher: 192.168.1.4:33768																																																																																																																																																																																																																																																																																																					
Route Distinguisher: 192.168.2.4:33767																																																																																																																																																																																																																																																																																																					
*>e[2]:[0]:[0]:[48]:[00c8.8bf9.5f41]:[0]:[0.0.0.0]/216	10.111.111.1	2000		0	100 i																																																																																																																																																																																																																																																																																																
*>e[2]:[0]:[0]:[48]:[00c8.8bf9.5f41]:[32]:[4.2.2.100]/272	10.111.111.1	2000		0	100 i																																																																																																																																																																																																																																																																																																
Route Distinguisher: 192.168.2.4:33768																																																																																																																																																																																																																																																																																																					
*>e[2]:[0]:[0]:[48]:[00c8.8bf9.5f42]:[0]:[0.0.0.0]/216	10.111.111.1	2000		0	100 i																																																																																																																																																																																																																																																																																																
*>e[2]:[0]:[0]:[48]:[00c8.8bf9.5f42]:[32]:[4.1.1.100]/272	10.111.111.1	2000		0	100 i																																																																																																																																																																																																																																																																																																
MultisiteBG2#												MultisiteBG1#																																																																																																																																																																																																																																																																																									

CONTROL PLANE VERIFICATION AT DC-1 (Spine-1, Leaf-1): Destination Prefix is 4.2.2.100 <====> 00c8.8bf9.5f41 <====> Vlan1000 <====> VNI2001002

spine1# sh bgp ipv4 unicast summary

```
BGP summary information for VRF default, address family IPv4 Unicast
BGP router identifier 192.168.1.1, local AS number 200
BGP table version is 3, IPv4 Unicast config peers 3, capable peers 2
0 network entries and 0 paths using 0 bytes of memory
BGP attribute entries [0/0], BGP AS path entries [0/0]
BGP community entries [0/0], BGP clusterlist entries [0/0]
```

Neighbor	V	AS	MsgRcvd	MsgSent	TblVer	InQ	OutQ	Up/Down	State/PfxRcd
10.100.100.22	4	200	43997	43988	0	0	0	4w2d 0	(No Cap)
192.168.1.3	4	200	43986	43984	3	0	0	4w2d 0	
192.168.1.4	4	200	43990	43987	3	0	0	4w2d 0	

spine1# sh ip route 10.100.100.22

```
IP Route Table for VRF "default"
*** denotes best ucast next-hop
*** denotes best mcast next-hop
'[x/y]' denotes [preference/metric]
'*<string>' in via output denotes VRF <string>

10.100.100.22/32, ubest/mbest: 1/0
 *via 10.2.2.34, Eth1/1, [110/41], 4w2d, ospf-100, intra
spine1#
```

spine1# sh bgp l2vpn evpn summary

```
BGP summary information for VRF default, address family L2VPN EVPN
BGP router identifier 192.168.1.1, local AS number 200
BGP table version is 31, L2VPN EVPN config peers 3, capable peers 3
19 network entries and 19 paths using 4256 bytes of memory
BGP attribute entries [17/2788], BGP AS path entries [1/6]
BGP community entries [0/0], BGP clusterlist entries [0/0]
```

Neighbor	V	AS	MsgRcvd	MsgSent	TblVer	InQ	OutQ	Up/Down	State/PfxRcd
10.100.100.22	4	200	44002	43993	31	0	0	4w2d 11	
192.168.1.3	4	200	43991	43989	31	0	0	4w2d 4	
192.168.1.4	4	200	43996	43992	31	0	0	4w2d 4	

spine1# sh bgp l2vpn evpn 00c8.8bf9.5f41

```
BGP routing table information for VRF default, address family L2VPN EVPN
Route Distinguisher: 192.168.2.4:33767
BGP routing table entry for [2]:[0]:[0]:[48]:[00c8.8bf9.5f41]:[0]:[0.0.0.0]/216,
version 27
Paths: (1 available, best #1)
Flags: (0x000202) (high32 00000000) on xmit-list, is not in l2rib/evpn, is not i
n HW
Multipath: iBGP
```

```
Advertised path-id 1
Path type: internal, path is valid, is best path, no labeled nexthop
AS-Path: 100 , path sourced external to AS
10.111.111.2 (metric 41) from 10.100.100.22 (10.100.100.22)
Received label 2001002
Extcommunity: RT:200:2001002 ENCAP:8
```

```
Path-id 1 advertised to peers:
192.168.1.3 192.168.1.4
BGP routing table entry for [2]:[0]:[0]:[48]:[00c8.8bf9.5f41]:[32]:[4.2.2.100]/2
72, version 29
Paths: (1 available, best #1)
Flags: (0x000202) (high32 00000000) on xmit-list, is not in l2rib/evpn, is not i
n HW
Multipath: iBGP
```

```
Advertised path-id 1
Path type: internal, path is valid, is best path, no labeled nexthop
AS-Path: 100 , path sourced external to AS
10.111.111.2 (metric 41) from 10.100.100.22 (10.100.100.22)
Origin IGP, MED 2000, localpref 100, weight 0
Received label 2001002 900001
Extcommunity: RT:200:900001 RT:200:2001002 ENCAP:8 Router MAC:0200.0a6f.6f
2
```

```
Path-id 1 advertised to peers:
192.168.1.3 192.168.1.4
spine1#
```

leaf1# sh bgp l2vpn evpn summary

```
BGP summary information for VRF default, address family L2VPN EVPN
BGP router identifier 192.168.1.1, local AS number 200
BGP table version is 52, L2VPN EVPN config peers 2, capable peers 2
36 network entries and 50 paths using 4864 bytes of memory
BGP attribute entries [32/4408], BGP AS path entries [1/6]
BGP community entries [0/0], BGP clusterlist entries [4/16]
```

Neighbor	V	AS	MsgRcvd	MsgSent	TblVer	InQ	OutQ	Up/Down	State/PfxRcd
192.168.1.1	4	200	42565	42552	52	0	0	4w1d 14	
192.168.1.2	4	200	42565	42552	52	0	0	4w1d 14	

leaf1# show bgp ip unicast 4.2.2.100 vrf vxlan-900001

```
BGP routing table information for VRF vxlan-900001, address family IPv4 Unicast
BGP routing table entry for 4.2.2.100/32, version 7
Paths: (1 available, best #1)
Flags: (0x00041a) on xmit-list, is in urib, is best urib route, is in HW,
vgnl version 7, (0x100002) on xmit-list
```

```
Advertised path-id 1, VPN AF advertised path-id 1
Path type: internal, path is valid, is best path
Imported from 192.168.2.4:33767:[2]:[0]:[0]:[48]:[00c8.8bf9.5f41]:[
32]:[4.2.2.100]/272
AS-Path: 100 , path sourced external to AS
10.111.111.2 (metric 41) from 192.168.1.1 (192.168.1.1)
Origin IGP, MED 2000, localpref 100, weight 0
Received label 2001002 900001
Extcommunity:
RT:200:900001
RT:200:2001002
ENCAP:8
Router MAC:0200.0a6f.6f02
Originator: 10.100.100.22 Cluster list: 192.168.1.1
```

```
VRF advertise information:
Path-id 1 not advertised to any peer
```

```
VPN AF advertise information:
Path-id 1 not advertised to any peer
leaf1#
```

Reachability Verification from DC-1 Leaf-1

```
leaf1# show mac address-table | i 00c8.8bf9.5f41 | *Type
VLAN MAC Address Type age Secure NFFP Ports/SWID.SSID.LID
* 1000 00c8.8bf9.5f41 dynamic 0 F F vsw1/10.111.111.2
leaf1#
```

leaf1# show ip interface bri vrf all

```
IP Interface Status for VRF "default"(1)
Interface IP Address Interface Status
Lo0 192.168.1.3 protocol-up/link-up/admin-up
Eth1/18 1.1.1.1 protocol-down/link-down/admin-dc
Eth2/23 172.16.1.2 protocol-up/link-up/admin-up
Eth2/24 172.16.2.2 protocol-up/link-up/admin-up
```

leaf1# show ip interface Status for VRF "management"(2)

```
Interface IP Address Interface Status
mgmt0 10.31.121.19 protocol-up/link-up/admin-up
```

leaf1# show ip interface Status for VRF "vxlan-900001"(3)

```
Interface IP Address Interface Status
Vlan101 forward-enabled protocol-up/link-up/admin-up
Vlan1000 4.2.2.1 protocol-up/link-up/admin-up
Vlan1001 4.1.1.1 protocol-up/link-up/admin-up
```

leaf1# show ip arp vrf vxlan-900001

```
IP ARP Table for context vxlan-900001
Total number of entries: 2
Address Age MAC Address Interface
4.1.1.10 00:03:15e 0035.lac1.37c3 Vlan1001
4.2.2.10 00:13:10 0035.lac1.37c2 Vlan1000
```

leaf1# show arp table for context vxlan-900001

```
Address Age MAC Address Interface
4.1.1.10 00:03:15e 0035.lac1.37c3 Vlan1001
4.2.2.10 00:13:10 0035.lac1.37c2 Vlan1000
leaf1#
```

leaf1# show ip route vrf vxlan-900001 4.2.2.100

```
IP Route Table for VRF "vxlan-900001"
*** denotes best ucast next-hop
*** denotes best mcast next-hop
'[x/y]' denotes [preference/metric]
'*<string>' in via output denotes VRF <string>
4.2.2.100/32, ubest/mbest: 1/0
 *via 10.111.111.2&default, [200/2000], 4w2d, bgp-200, internal, tag 100, (m
pls-vpn)seqid 900001 tunnel: 175075074 encap: 1
leaf1#
```

leaf1# traceroute 10.111.111.2

```
traceroute to 10.111.111.2 (10.111.111.2), 30 hops max, 40 byte packets
1 172.16.1.1 (172.16.1.1) 1.066 ms 0.816 ms 0.664 ms
2 10.111.111.2 (10.111.111.2) 1 ms 0.74 ms 0.693 ms
leaf1#
```

leaf1# show l2route evpn mac-ip evi 1000

```
Mac Address Prod Host IP Next Hop (s)
-----
0035.lac1.37c2 HMM 4.2.2.10 N/A
00c8.8bf9.5f41 BGP 4.2.2.10 10.111.111.2
e0d1.73a4.1d61 BGP 4.2.2.11 192.168.1.4
leaf1#
```

leaf1# show nve internal bgp rnh database | i Encap|10.111.111.2

```
VNI Peer-IP Peer-Mac Tunnel-ID Encap (A/S) Flags
900001 10.111.111.2 0200.0a6f.6f02 0xa6f6f02 vxlan (1/0) 0
200100110.111.111.2 0000.0000.0000 0x0 vxlan (1/0) 0
200100210.111.111.2 0000.0000.0000 0x0 vxlan (1/0) 0
leaf1#
```

Host Reachability Verification from DC-1 to DC-2

ToLeaf1# show ip int br | e down

Interface	IP-Address	OK?	Method	Status	Protocol
Vlan1000	4.2.2.10	YES	NVRAM	up	up
Vlan1001	4.1.1.10	YES	NVRAM	up	up
GigabitEthernet1/0/1	unassigned	YES	unset	up	up

ToLeaf1# ping 4.2.2.100

```
Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 4.2.2.100, timeout is 2 seconds:
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/4/9 ms
ToLeaf1#
```

ToLeaf1# show ip arp 4.2.2.100

Protocol	Address	Age (min)	Hardware Addr	Type	Interface
Internet	4.2.2.100	54	00c8.8bf9.5f41	ARPA	Vlan1000

ToMultisiteLeaf1# sh ip interf bri | ex down

Interface	IP-Address	OK?	Method	Status	Protocol
Vlan1000	4.2.2.100	YES	NVRAM	up	up
Vlan1001	4.1.1.100	YES	NVRAM	up	up
GigabitEthernet2/0/1	unassigned	YES	unset	up	up

ToMultisiteLeaf1# sh ip arp 4.2.2.100

Protocol	Address	Age (min)	Hardware Addr	Type	Interface
Internet	4.2.2.100	-	00c8.8bf9.5f41	ARPA	Vlan1000

```

Leaf-1 MAC Address Verification
leaf1# sh mac address-table vlan 1000
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/SWID.SSID.LID
-----
 * 1000  0000.2222.3333  static 0      F F sup-eth2
 * 1000  0035.1a1c.37c2  dynamic 730    F F Eth1/23
 * 1000  005d.738e.a337  static 0      F F nve1/10.111.111.2
 * 1000  00c8.8bf9.5f41  dynamic 0      F F nve1/10.111.111.2
 * 1000  6cb2.ae91.38bf  static 0      F F nve1/10.200.200.22
 * 1000  e0d1.73a4.1d41  dynamic 0      F F nve1/192.168.1.4
leaf1#

leaf1# sh system internal l2rib event-history mac | i 0035.1a1c.37c2
[04/24/20 13:10:09.721 UTC 3 4173] Received MAC ROUTE msg: addr: (1000-0035.1a1c.37c2) vni: 0 admin_dist: 0 seq_num: 0 rt_flags: L soo: 0 dg_count: 0 res: 0 esi: (F) nh_count: 1
[04/24/20 13:10:09.721 UTC 6 4173] (1000,0035.1a1c.37c2,3):MAC route created with seq num:0, flags:L (), soo:0, peerid:0
[04/24/20 13:10:09.732 UTC c 4173] (1000,0035.1a1c.37c2,3):Encoding MAC best route (ADD, client id 4)
[04/24/20 13:10:09.871 UTC e 4173] (1000,0035.1a1c.37c2):Bound MAC-IP(4.2.2.10) to MAC, Total MAC-IP linked: 1

leaf1# show system internal l2rib event-history mac | i 0035.1a1c.37c3
[04/24/20 13:10:09.721 UTC 8 4173] Received MAC ROUTE msg: addr: (1001-0035.1a1c.37c3) vni: 0 admin_dist: 0 seq_num: 0 rt_flags: L soo: 0 dg_count: 0 res: 0 esi: (F) nh_count: 1
[04/24/20 13:10:09.721 UTC b 4173] (1001,0035.1a1c.37c3,3):MAC route created with seq num:0, flags:L (), soo:0, peerid:0
[04/24/20 13:10:09.732 UTC d 4173] (1001,0035.1a1c.37c3,3):Encoding MAC best route (ADD, client id 4)
[04/24/20 13:10:09.871 UTC f 4173] (1001,0035.1a1c.37c3):Bound MAC-IP(4.1.1.10) to MAC, Total MAC-IP linked: 1

leaf1# sh system internal l2rib event-history mac-ip | i 0035.1a1c.37c2
[04/24/20 13:10:09.871 UTC 2 4173] Received MAC-IP ROUTE msg: addr: (1000-0035.1a1c.37c2) host ip: 4.2.2.10 vni: 0 L3 info: 900001 rt_flags: 0 admin_dist: 7 seq_num: 0 soo: 0 nh_count: 0
[04/24/20 13:10:09.871 UTC 3 4173] (1000,0035.1a1c.37c2,4.2.2.10):MAC-IP entry created
[04/24/20 13:10:09.871 UTC 4 4173] (1000,0035.1a1c.37c2,4.2.2.10,12):MAC-IP route created with flags 0, L3 vrf 900001, seq 0, admin dist 7, soo 0
[04/24/20 13:10:09.882 UTC 9 4173] (1000,0035.1a1c.37c2,4.2.2.10,12):Encoding MAC-IP best route (ADD, client id 4)
leaf1#

leaf1# show system internal l2rib event-history mac-ip | i 0035.1a1c.37c3
[04/24/20 13:10:09.871 UTC 6 4173] Received MAC-IP ROUTE msg: addr: (1001-0035.1a1c.37c3) host ip: 4.1.1.10 vni: 0 L3 info: 900001 rt_flags: 0 admin_dist: 7 seq_num: 0 soo: 0 nh_count: 0
[04/24/20 13:10:09.871 UTC 7 4173] (1001,0035.1a1c.37c3,4.1.1.10):MAC-IP entry created
[04/24/20 13:10:09.871 UTC 8 4173] (1001,0035.1a1c.37c3,4.1.1.10,12):MAC-IP route created with flags 0, L3 vrf 900001, seq 0, admin dist 7, soo 0
[04/24/20 13:10:09.882 UTC a 4173] (1001,0035.1a1c.37c3,4.1.1.10,12):Encoding MAC-IP best route (ADD, client id 4)
leaf1#

```

## اهحال صاوا عا طخال افاشك ت سا

multisite ةئب ب ف EVPN/VxLAN رجت ب ، ت رجت in order to تلح

## ةل ص تا ذ تام ول عم

- [VXLAN EVPN ةك ب ش ل ع ق او مل ا ة د د ع ت مل ا ر ش ن ل او م ي م ص ت ل ا ت ا ي ل م ع ر ي ر ق ت](#)
- [VXLAN EVPN Multi-site ن ي و ك ت](#)

ةمچرتل هذه ل و ح

ةلأل تاي نقتل ن م ة و مچ م ادخت ساب دن تسم ل ا ذه Cisco ت مچرت  
م ل ا ل اء ان ا ع مچ ي ف ن م دخت س م ل ل م عد ي و ت م م م دقت ل ة يرش ب ل و  
امك ة ق ي ق د ن و ك ت ن ل ة ل ا ة مچرت ل ض ف ا ن ا ة ظ ح ال م ي ج ر ي . ة ص ا خ ل ا م ه ت غ ل ب  
Cisco ي ل خ ت . ف ر ت م م مچرت م ا م د ق ي ي ت ل ا ة ي ف ا ر ت ح ال ا ة مچرت ل ا م ل ا ح ل ا و ه  
ي ل ا م اء ا د ع و ج ر ل ا ب ي ص و ت و ت ا مچرت ل ا هذه ة ق د ن ع ا ه ت ي ل و ئ س م Cisco  
Systems (ر ف و ت م ط ب ا ر ل ا) ي ل ص ا ل ا ي ز ي ل ج ن ا ل ا دن ت س م ل ا