Configuration et vérification d'EVPN/VxLAN dans un environnement multisite

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Introduction

Ce document décrit comment configurer et vérifier un environnement Ethernet VPN/Virtual Extensible LAN Multisite avec des commutateurs de la gamme Cisco Nexus 9000.

Conditions préalables

Exigences

Cisco vous recommande de prendre connaissance des rubriques suivantes :

- VPN de couche 3 à commutation multiprotocole par étiquette (MPLS)
- Protocole MP-BGP (Multiprotocol- Border Gateway Protocol)
- VPN Ethernet (EVPN)

Composants utilisés

Les informations contenues dans ce document sont basées sur les versions de matériel et de logiciel suivantes :

leaf1#	N5K-C5672UP-16G-SUP	système : version 7.3(0)N1(1)					
leaf2#	N9K-C92160YC-X	NXOS : version 9.2(3)					

spine1#	N9K-C9396PX	NXOS : version 9.2(3)				
spine2#	N9K-C9396PX	NXOS : version 9.2(3)				
MultisiteBG1#	N9K-C93108TC-EX	NXOS : version 9.2(3)				
MultisiteBG2#	N9K-C93108TC-FX	NXOS : version 9.3(1)				
multisitespine2#	N9K-C9372TX-E	NXOS : version 9.2(3)				
Multistespine1#	N9K-C92160YC-X	NXOS : version 9.2(3)				
Feuille1 multisite#	N9K-C93108TC-EX	NXOS : version 7.0(3)I7(5)				

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. Si votre réseau est en ligne, assurez-vous de bien comprendre l'incidence possible des commandes.

Produits connexes

Configuration logicielle et matérielle minimale requise pour la passerelle frontière multisite EVPN.

Élément	Exigence
	Plate-forme Cisco Nexus 9300 EX
	Plate-forme Cisco Nexus 9300 FX
Matérial Ciaca Navyua	Plate-forme Cisco Nexus 9332C
Matériel Cisco Nexus	Plate-forme Cisco Nexus 9364C
	Plate-forme Cisco Nexus 9500 avec carte de ligne X9700-EX
	● Plate-forme Cisco Nexus 9500 avec carte de ligne X9700-FX
Logiciel Cisco NX-OS	Logiciel Cisco NX-OS version 7.0(3)I7(1) ou ultérieure

La configuration matérielle et logicielle requise pour les noeuds internes au site d'un site EVPN BGP de réseau local extensible virtuel (VXLAN) reste la même que pour les noeuds EVPN multisites BGW

Informations générales

Le centre de données est un pool de ressources qui contient la puissance de calcul, le stockage et les applications nécessaires pour prendre en charge n'importe quel environnement d'entreprise. Une planification adéquate de la conception de l'infrastructure du data center est essentielle. Voyez maintenant quelles sont les exigences essentielles et comment elles peuvent être surmontées. Les déploiements d'infrastructures informatiques et de data centers modernes nécessitent une haute disponibilité, une évolutivité plus rapide, des performances élevées et une disponibilité permanente.

Quelques-uns ont exploré les exigences essentielles dans l'espace DC Design/Architecture :

Densité de port, améliorée par FEX.

- La capacité de calcul est améliorée par la virtualisation matérielle (UCS).
- La bande passante de liaison ascendante de la couche d'accès est améliorée par FI, Port-Channel.
- La redondance au niveau du châssis est améliorée par vPC.
- Le fabric SDN est amélioré par l'ACI, qui automatise la sous-couche et la superposition dans un fabric.
- DCNM améliore le déploiement rapide et la prise en charge de nouveaux services.
- La bande passante requise pour les applications longue distance est améliorée par la fibre noire ou le service de longueur d'onde.
- Dans l'ensemble, la redondance et l'évolutivité géographiques sont des attributs clés pour dynamiser/faire évoluer l'environnement de data center, Multi-Site VxLAN/EVPN nous aide à avoir de meilleures solutions DCI.

En quoi le multisite est-il utile ?

La connectivité externe inclut la connexion du data center au reste du réseau : à Internet, au WAN ou au campus. Toutes les options fournies pour la connectivité externe sont compatibles multilocataire et se concentrent sur le transport de couche 3 vers les domaines de réseau externes.

- EVPN est une solution VPN tout-en-un de nouvelle génération.
- Non seulement il fonctionne avec de nombreuses autres technologies VPN, mais il est également meilleur.
- Intégration avec les anciens réseaux.
- Annonce/extension sélective :
 - Étendez les seuls VLAN/sous-réseaux L2 spécifiques pouvant être étendus à l'aide de routes de type 2.
 - Extension des seuls domaines L3 Des domaines L3 spécifiques peuvent être étendus à l'aide de routes de type 5.
- Détection automatique du groupe de redondance à l'aide des routes de type 4.
- Aliasage, retrait massigue d'adresses, indication SH/AA MH utilisant des routes de type 1.
- Détection automatique des points d'extrémité de tunnel de multidiffusion et du type de tunnel MCAST à l'aide de routes de type 3.

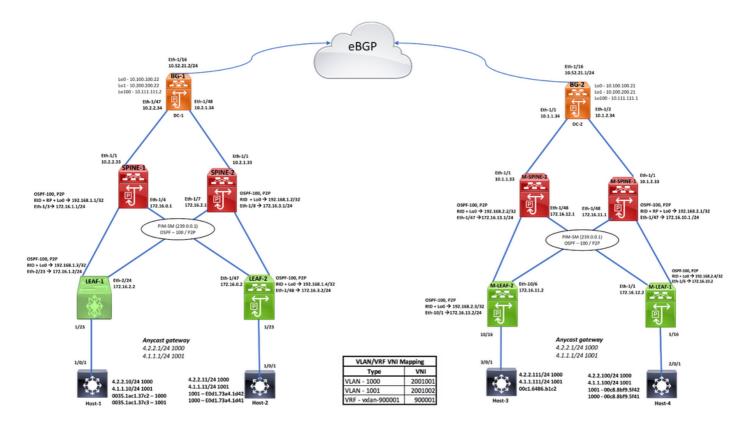
Autres avantages

- · Équilibrage de la charge de travail entre les data centers et les clouds.
- · Réponse proactive aux perturbations réduit les risques de catastrophes imminentes, notamment les ouragans, les inondations, etc.
- · Maintenance et migrations du data center : événements planifiés sur une période donnée, intégration avec les anciens réseaux.
- · Sauvegarde et reprise après sinistre aaS.

Topologies prises en charge

- · Modèle BGW-to-Cloud
- BGW entre le modèle Spine et Super-Spine
- BGW sur le modèle Spine
- · BGWs modèle dos à dos

Topologie



Configurer

		DC-1, LEAF-1 CONFIGURATION				
Enable Features	VLAN-VNI Mapping	VTEP Config	LEAF to SPINE interfaces/OSPF Config	BGP Config		
	vlan 1	interface nve1	interface Ethernet2/23	router bgp 200		
install feature-set fabric	vlan 101	no shutdown	no switchport	router-id 192.168.1.3		
feature-set fabric	vn-segment 900001	source-interface loopback0	ip address 172.16.1.2/24	address-family ipv4 unicast		
hostname leaf1	vlan 1000	host-reachability protocol bgp	ip ospf network point-to-point	address-family I2vpn evpn		
feature fabric forwarding	vn-segment 2001002	member vni 900001 associate-vrf	ip router ospf 100 area 0.0.0.0	neighbor 192.168.1.1		
nv overlay evpn	vlan 1001	member vni 2001001	ip pim sparse-mode	remote-as 200		
feature ospf	vn-segment 2001001	suppress-arp		update-source loopback0		
feature bgp		mcast-group 239.0.0.1	interface Ethernet2/24	address-family ipv4 unicast		
feature pim	VLAN Config	member vni 2001002	no switchport	address-family I2vpn evpn		
feature interface-vlan	interface Vlan101	suppress-arp	ip address 172.16.2.2/24	send-community extended		
feature fabric access	no shutdown	mcast-group 239.0.0.1	ip ospf network point-to-point	neighbor 192.168.1.2		
feature nv overlay	vrf member vxlan-900001		ip router ospf 100 area 0.0.0.0	remote-as 200		
feature vn-segment-vlan-based	ip forward		ip pim sparse-mode	update-source loopback0		
				address-family ipv4 unicast		
	interface Vlan1000		interface loopback0	address-family I2vpn evpn		
Enabling Store-and-Forward Switching	no shutdown		ip address 192.168.1.3/24	send-community extended		
switching-mode store-forward	mtu 9216		ip router ospf 100 area 0.0.0.0			
	vrf member vxlan-900001		ip pim sparse-mode	evpn		
	ip address 4.2.2.1/24			vni 2001001 2		
Interface towards HOST	ipv6 address 4:2:0:1::1/64			rd auto		
interface Ethernet1/23	fabric forwarding mode anycast-gateway		router ospf 100	route-target import auto		
switchport mode trunk			router-id 192.168.1.3	route-target export auto		
switchport trunk allowed vlan 1000-1001	interface Vlan1001			vni 2001002 I2		
speed 1000	no shutdown			rd auto		
	mtu 9216			route-target import auto		
	vrf member vxlan-900001			route-target export auto		
	ip address 4.1.1.1/24					
	ipv6 address 4:1:0:1::1/64			vrf context vxlan-900001		
	fabric forwarding mode anycast-gateway			vni 900001 <<<<< L3VNI Config		
				rd auto		
	Anycast GW mapping			address-family ipv4 unicast		
	fabric forwarding anycast-gateway-mac 0000.2	222.3333		route-target both auto		
				route-target both auto evpn		
	Static RP Config			address-family ipv6 unicast		
	ip pim rp-address 192.168.1.1 group-list 224.0.	0.0/4		route-target both auto		
	ip pim rp-address 192.168.1.2 group-list 224.0.			route-target both auto evpn		
	ip pim ssm range 232.0.0.0/8					
	ip multicast multipath none					

DC-1 SPINE -1 Configuration								
Enabling Features, RP Config	OSPF Configuration	BGP/EVPN Configuration						
hostname spine1	interface (thernet1/1	router bgp 200						
boot risos bootflash:/risos.9.2.3.bin	no switchport	router-id 192.168.1.1						
	ip address 10.2.2.33/30	address-family lpv4 unicast						
nv overlay evpn	ip out network point-to-point	address-family (2vpn evpn						
eature ospf	ip router ospf 100 area 0.0.0.0	neighbor 10.100.100.22						
eature bgp	ip pim sparse-mode	remote-as 200						
eature pim	no shutdown	update-source (oopbackD						
sature interface-vlan		address-family ipv4 unicast						
eature vn-segment-vlan-based	interface Ethernet1/3	address-family (2vpn evpn						
eature ny overlay	no switchport	send-community						
	ip address 172.16.1.1/24	send-community extended						
	ip out network point-to-point	route-reflector-client						
p pim rp-address 192.168.1.1 group-list 224.0.0.0/4	ip router cspf 100 area 0.0.0.0	neighbor 192.168.1.3						
•	lg pim sparse-mode	remote-as 200						
	no shutdown	update-source loopback®						
		address-family lgv4 unicast						
	interface Ethernet1/4	send-community extended						
	no switchport	route-reflector-client						
	ip address 172.16.0.1/24	address-family (2vpn evpn						
	ip ospf network point to point	send-community extended						
	ip router capf 100 area 0.0.0.0	route-reflector-client						
	lo pim sparse-mode	neighbor 192.168.1.4						
	no shutdown	remote-as 200						
		update-source loopback0						
	interface loopback0	address-family lové unicast						
	lg address 192.168.1.1/32	send-community extended						
	ig router ospf 100 area 0.0.0.0	route-reflector-client						
	ig pim sparse-mode	address-family IZvpn evpn						
		send-community extended						
	router ospf 100	route-reflector-client						
	router-id 192.168.1.1							

DC-1 Border Gateway-1 Configuration										
Enabling Features, RouteMap, B-G Config	VLAN,VNI,VTEP Config	OSPF Configuration	BGP/EVPN Configuration							
	VLAN-VNI Mapping	interface Ethernet1/47	router bgp 200							
	vlan 101	ip address 10.2.2.34/30	router-id 10.100.100.22							
	vn-segment 900001	ip ospf network point-to-point	address-family ipv4 unicast							
	vlan 1000	ip router ospf 100 area 0.0.0.0	redistribute direct route-map RMAP-REDIST-DIRECT							
	vn-segment 2001002	ip pim sparse-mode	neighbor 10.52.21.1							
	vlan 1001	evpn multisite fabric-tracking	remote-as 100							
hostname MultisiteBG1	vn-segment 2001001	no shutdown	update-source Ethernet1/16							
boot nxos bootflash:/nxos.9.2.3.bin			address-family ipv4 unicast							
nv overlay evpn	interface Vlan101	interface Ethernet1/48	neighbor 10.100.100.21							
feature ospf	no shutdown	ip address 10.2.1.34/30	remote-as 100							
feature bgp	mtu 9192	ip ospf network point-to-point	update-source loopback0							
feature pim	vrf member vxlan-900001	ip router ospf 100 area 0.0.0.0	ebgp-multihop 5							
feature fabric forwarding	ip forward	ip pim sparse-mode	peer-type fabric-external							
feature interface-vlan		evpn multisite fabric-tracking	address-family I2vpn evpn							
feature vn-segment-vlan-based	VTEP Config	no shutdown	send-community							
feature Ildp	interface nve1		send-community extended							
feature nv overlay	no shutdown		rewrite-evpn-rt-asn							
	host-reachability protocol bgp	interface loopback0	neighbor 192.168.1.1							
	source-interface loopback1	ip address 10.100.100.22/32 tag 54321	remote-as 200							
evpn multisite border-gateway 200	multisite border-gateway interface loopback100	ip router ospf 100 area 0.0.0.0	update-source loopback0							
delay-restore time 300	member vni 900001 associate-vrf	ip pim sparse-mode	address-family I2vpn evpn							
	member vni 2001001		send-community							
	multisite ingress-replication	interface loopback1	send-community extended							
	ingress-replication protocol bgp	ip address 10.200.200.22/32 tag 54321	neighbor 192.168.1.2							
	member vni 2001002	ip router ospf 100 area 0.0.0.0	remote-as 200							
	multisite ingress-replication	ip pim sparse-mode	update-source loopback0							
route-map RMAP-REDIST-DIRECT permit 10	ingress-replication protocol bgp		address-family I2vpn evpn							
match tag 54321		interface loopback100	send-community							
		ip address 10.111.111.2/32 tag 54321	send-community extended							
	Core-Facing Interface Config	ip router ospf 100 area 0.0.0.0	evpn <==L2VNI Config							
	interface Ethernet1/16		vni 2001001 l2							
	mtu 9216	router ospf 100	rd auto							
	ip address 10.52.21.2/30 tag 54321	router-id 10.100.100.22	route-target import auto							
	evpn multisite dci-tracking no shutdown		route-target export auto vni 2001002 2							
	no snutdown		vni 2001002 12 rd auto							
			route-target import auto							
			route-target import auto							
			vrf context vxlan-900001 <==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							

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	interface Vlan101	interface Ethernet1/1	router bgp 100							
hostname MultisiteBG2	no shutdown	description SITE-INTERNAL INTERFACE	router-id 10.100.100.21							
nv overlay evpn	vrf member vxlan-900001	mtu 9216	address-family ipv4 unicast							
feature ospf	ip forward	medium p2p	redistribute direct route-map RMAP-REDIST-DIRECT							
feature bgp		ip address 10.1.1.34/30	maximum-paths 4							
feature pim		ip ospf network point-to-point	neighbor 10.52.21.2							
feature fabric forwarding	interface nve1	ip router ospf 100 area 0.0.0.0	remote-as 200							
feature interface-vlan	no shutdown	ip pim sparse-mode	update-source Ethernet1/16							
feature vn-segment-vlan-based	host-reachability protocol bgp	evpn multisite fabric-tracking	address-family ipv4 unicast							
feature Ildp	source-interface loopback1	no shutdown	neighbor 10.100.100.22							
feature nv overlay	multisite border-gateway interface loopback100		remote-as 200							
	member vni 900001 associate-vrf	interface Ethernet1/2	update-source loopback0							
evpn multisite border-gateway 100	member vni 2001001	description SITE-INTERNAL INTERFACE	ebgp-multihop 5							
delay-restore time 300	multisite ingress-replication	mtu 9216	peer-type fabric-external							
	ingress-replication protocol bgp	medium p2p	address-family I2vpn evpn							
	member vni 2001002	ip address 10.1.2.34/30	send-community							
	multisite ingress-replication	ip ospf network point-to-point	send-community extended							
	ingress-replication protocol bgp	ip router ospf 100 area 0.0.0.0	rewrite-evpn-rt-asn							
vlan 1,101,1000-1001		ip pim sparse-mode	neighbor 192.168.2.1							
vlan 101	vrf context vxlan-900001	evpn multisite fabric-tracking	remote-as 100							
vn-segment 900001	vni 900001	no shutdown	update-source loopback0							
vlan 1000	rd auto		address-family I2vpn evpn							
vn-segment 2001002	address-family ipv4 unicast	interface loopback0	send-community							
vlan 1001	route-target both auto	description RID AND BGP PEERING	send-community extended							
vn-segment 2001001	route-target both auto evpn	ip address 10.100.100.21/32 tag 54321	neighbor 192.168.2.2							
	address-family ipv6 unicast	ip router ospf 100 area 0.0.0.0	remote-as 100							
route-map RMAP-REDIST-DIRECT permit 10	route-target both auto	ip pim sparse-mode	update-source loopback0							
match tag 54321	route-target both auto evpn		address-family I2vpn evpn							
		interface loopback1	send-community							
interface Ethernet1/16		description NVE INTERFACE (PIP VTEP)	send-community extended							
mtu 9216		ip address 10.200.200.21/32 tag 54321	evpn							
ip address 10.52.21.1/30 tag 54321		ip router ospf 100 area 0.0.0.0	vni 2001001 l2							
evpn multisite dci-tracking		ip pim sparse-mode	rd auto							
no shutdown			route-target import auto							
		interface loopback100	route-target export auto							
		description MULTI-SITE INTERFACE (VIP VTEP)	vni 2001002 I2							
		ip address 10.111.111.1/32 tag 54321	rd auto							
		ip router ospf 100 area 0.0.0.0	route-target import auto							
			route-target export auto							
		router ospf 100								
		router-id 10.100.100.21								

DC-2 SPINE -1 Configuration							
Enabling Features, RP Config	OSPF Configuration	BGP/EVPN Configuration					
	interface (thernet1/1	router bea 100					
boot rups bootflash:/nxps.9.2.3.bin	mtu 9216	router-id 192,168,2,1					
boot risos bootriasný risos 9.2.3.bin hostname Multistespine1	io address 10.1.2.33/30						
	The second second second second second	address-family ipv4 unicast					
nv overlay evon	ip aspf network point-to-point	address-family l2vgn evpn					
feature oupf	ip router ospf 100 area 0.0.0.0	neighbor 10.100.100.21					
feature bgp	ip pim sparse mode	remote-as 100					
feature pim	no shutdown	update-source loopbackO					
feature interface-vlan		address-family I2xpn expn					
feature vn-segment-vlan-based	Interface Ethermet1/47	send-community					
feature nv overlay	ip address 172.16.10.1/24	send-community extended					
	ip ospf network point-to-point	route-reflector-client					
	ip router ospf 100 area 0.0.0.0	neighbor 192.168.2.3					
	ip pim sparse-mode	remote-as 100					
ip pirm rp-address 192.168.2.1 group-list 224.0.0.0/4	no shutdown	update-source loopback®					
		address-family ipv4 unicast					
	Interface Ethernet1/48	send-community extended					
	ip address 172.16.11.1/24	route-reflector-client					
	ip ospf network point-to-point	address-family I2vpn evpn					
	ip router capf 100 area 0.0.0.0	send-community extended					
	ip pim sparse-mode	route-reflector-client					
	no shutdown	neighbor 192.168.2.4					
		remote-as 100					
		update-source looobackO					
	interface (cooback0	address-family lpv4 unicast					
	io address 192,168.2.1/32	send-community extended					
	ip router ospf 100 area 0.0.0.0	route-reflector-client					
	ig pim sparse-mode	address-family Dyon eyon					
	-th-facility advantages constant	send-community extended					
	router out 100	route reflector client					
	muter id 192.168.2.1	TOURS TETROLOGY GREETS					
	-west-in the tooles						

	DC-2, LEAF -1 Configur	ation				
nabling Features, RP, VTEP Config	VLAN,VNI Configuration	OSPF Configuration	BGP/EVPN Configuration			
oot nxos bootflash:/nxos.7.0.3.I7.5.bin	vlan 101	interface Ethernet1/1	router bgp 100			
ostname MultisteLeaf1	vn-segment 900001	ip address 172.16.12.2/24	router-id 192.168.2.4			
v overlay evpn	vlan 1000	ip ospf network point-to-point	address-family ipv4 unicast			
eature ospf		ip router ospf 100 area 0.0.0.0	address-family I2vpn evpn			
eature ospr eature bgp	vn-segment 2001002 vlan 1001	ip router ospr 100 area 0.0.0.0 ip pim sparse-mode	neighbor 192.168.2.1			
		no shutdown	remote-as 100			
eature pim	vn-segment 2001001	no snutdown				
eature fabric forwarding	l-1-510101	later from Estate and IC	update-source loopback0			
eature interface-vlan	interface Vlan101	interface Ethernet1/6	address-family ipv4 unicast			
eature vn-segment-vlan-based	no shutdown	ip address 172.16.10.2/24	address-family l2vpn evpn			
eature IIdp	vrf member vxlan-900001	ip ospf network point-to-point	send-community extended			
eature nv overlay	ip forward	ip router ospf 100 area 0.0.0.0	neighbor 192.168.2.2			
		ip pim sparse-mode	remote-as 100			
	interface Vlan1000	no shutdown	update-source loopback0			
abric forwarding anycast-gateway-mac 0000.2222.3333	no shutdown		address-family ipv4 unicast			
p pim rp-address 192.168.2.1 group-list 224.0.0.0/4	vrf member vxlan-900001	interface Ethernet1/16	address-family I2vpn evpn			
	ip address 4.2.2.1/24	switchport	send-community extended			
	ipv6 address 4:2:0:1::1/64	switchport mode trunk	evpn			
nterface nve1	fabric forwarding mode anycast-gateway	no shutdown	vni 2001001 l2			
no shutdown			rd auto			
host-reachability protocol bgp	interface Vlan1001	interface loopback0	route-target import auto			
source-interface loopback0	no shutdown	ip address 192.168.2.4/32	route-target export auto			
member vni 900001 associate-vrf	vrf member vxlan-900001	ip router ospf 100 area 0.0.0.0	vni 2001002 I2			
member vni 2001001	ip address 4.1.1.1/24	ip pim sparse-mode	rd auto			
suppress-arp	ipv6 address 4:1:0:1::1/64		route-target import auto			
mcast-group 239.0.0.1	fabric forwarding mode anycast-gateway		route-target export auto			
member vni 2001002		router ospf 100				
suppress-arp		router-id 192.168.2.4				
mcast-group 239.0.0.1	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					

Vérifier

					LEAF-1 VERIFICATION								
leafl# show cdp nei	ghbors				leafl# show ip pim rp	leafl# sh	nve peer	5					
Capability Codes: R	- Router, T -	Trans-B	ridge, B -	- Source-Route-	PIM RP Status Information for VRF "default"	Interface	Peer-IP		State	LearnType	Uptime	Router-Mac	
s	- Switch, H -	Host, I	- IGMP, 1	r - Repeater,	BSR disabled								
v	- VoIP-Phone,	D - Remo	otely-Mana	ged-Device,	Auto-RP disabled	nve1	10.111.1	11.2	Up	CP	3wld	0200.0a6f.6f02	
8	- Supports-ST	P-Dispute	e		BSR RP Candidate policy: None	nvel	10.200.2	00.22	Up	CP	3wld	n/a	
					BSR RP policy: None	nvel	192.168.	1.4	Up	CP	3wld	7079.b33e.8123	3
					Auto-RP Announce policy: None	l .							
Device-ID	Local Intrf	ce Hldtme	e Capabili	ity Platform	Auto-RP Discovery policy: None	leaf1#							
MX066-H-01-SW.cisco	.com					l .							
	mgmt0	142	SI	WS-C2960X-48T	RP: 192.168.1.1, (0),	leafl# sho	w nve vn	i					
					uptime: 3wld priority: 0,	Codes: CP	- Contro	l Plane		DP - Data	Plane		
ToLeafl	Eth1/23	163	SI	WS-C3750X-24S	RP-source: (local),	UC	- Unconf	igured		SA - Supp	cess ARP		
					group ranges:	SU	- Suppre	ss Unknow	n Unic	ast			
spinel(SAL1948U4Y1)					224.0.0.0/4	l .							
	Eth2/23	156	R S s	N9K-C9396PX	RP: 192.168.1.2, (0),	Interface	VNI	Multicas	st-grou	p State	Mode Typ	e [BD/VRF]	Flags
					uptime: 3wld priority: 0,								
spine2(SAL1949UELD)					RP-source: (local),	nve1		n/a		Up	CP L3	[vxlan-900001]	
	Eth2/24	152	RSs	N9K-C9396PX	group ranges:	nvel	2001001	239.0.0.	1	Up	CP L2	[1001]	SA
					224.0.0.0/4	nve1	2001002	239.0.0.	1	Up	CP L2	[1000]	SA
leaf1#					leaf1#								
						leaf1#							
leafl# sh ip int br	ief exclude	down											
IP Interface Status					leafl# sh nye interface	l .							
Interface	IP Address		rface Stat	tus	Interface: nvel, State: Up, encapsulation: VXLAN	leafl# sh	vrf vxla	n-900001	DETail				
Lo0	192,168,1,3	prote	ocol-up/li	ink-up/admin-up	VPC Capability: VPC-VIP-Only [not-notified]	VRF-Name:	vxlan-90	0001. VR	P-ID: 3	. State: U	Jp.		
Eth2/23	172.16.1.2	prote	ocol-up/li	ink-up/admin-up	Local Router MAC: 00de.fb01.9fc1	VPNID:	unknown						
Eth2/24	172.16.2.2			ink-up/admin-up	Host Learning Mode: Control-Plane	RD: 19	2.168.1.	3:3					
leaf1#					Source-Interface: loopback0 (primary: 192.168.1.3, secondary: 0.	VNI: 9	000001, S	tate: Up					
							utes: 0	Mid-Thre	shold:	0			
leafl# sh nve vrf					leaf1#	Table-	ID: 0x80	000003, 2	F: IPv	6, Fwd-ID:	0x80000	0003, State: Up	
VRF-Name VNI	Interface	Gateway-	-MAC			Table-	ID: 0x00	000003, 1	AF: IPv	4, Fwd-ID	0x00000	0003, State: Up	
vxlan-900001 900001	nvel	00de.fb	01.9fc1										
leafl# sh nve vxlan	-params												
VxLAN Dest. UDP Por						l							

CONTROL PL	ANE LEARNING: Destination Prefix is 4.2.2.100 <===> 00c8.8bf9.5f41 <===>	Vlan1000 <===> VNI2001002
Destination Prefix is learnt on host-connected LEAF 192.168.2.4	Host-Connected Leaf is advertising this prefix to its SPINE (192.168.2.1)	SPINE is advertising the same prefix to Border Gateway (BG-2 === 10.100.100.21)
MultisteLeafl# sh ip route 4.2.2.100 wrf vxlan-900001	MultisteLeaf1# sh bgp 12vpn evpn neighbors 192.168.2.1 advertised-routes	Multistespine1# sh bgp 12vpn evpn neighbors 10.100.100.21 advertised-routes
IP Route Table for VRF "vxlan-900001"		
*** denotes best ucast next-hop	Peer 192.168.2.1 routes for address family L2VFN EVFN:	Peer 10.100.100.21 routes for address family L2VPN EVPN:
**** denotes best moast next-hop	BGP table version is 56, Local Router ID is 192.168.2.4	BGP table version is 26, Local Router ID is 192.168.2.1
'[x/y]' denotes [preference/metric]	Status: s-suppressed, x-deleted, S-stale, d-dampened, h-history, *-valid, >-bes	t Status: s-suppressed, x-deleted, S-stale, d-dampened, h-history, *-valid, >-best
'% <string>' in via output denotes VRF <string></string></string>	Path type: i-internal, e-external, c-confed, 1-local, a-aggregate, r-redist, I- njected	iPath type: i-internal, e-external, c-confed, l-local, a-aggregate, r-redist, I-i njected
4.2.2.100/32, ubest/mbest: 1/0, attached	Origin codes: i - IGP, e - EGP, ? - incomplete, - multipath, & - backup	Origin codes: i - IGP, e - EGP, ? - incomplete, - multipath, 4 - backup, 2 - b
*via 4.2.2.100, Vlan1000, [190/0], 4w2d, hmm		est2
MultisteLeafl#	Network Next Hop Metric LocPrf Weight Path	
MultisteLeafl# sh bgp 12vpn evpn summary	Route Distinguisher: 10.100.100.21:33767	Network Next Hop Metric LocPrf Weight Path
BGP summary information for VRF default, address family L2VPN EVPN		Route Distinguisher: 10.100.100.21:27001
BGP router identifier 192.168.2.4, local AS number 100	Route Distinguisher: 10.100.100.21:33768	
BGP table version is 56, L2VPN EVPN config peers 2, capable peers 2		Route Distinguisher: 10.100.100.21:33767
36 network entries and 50 paths using 7968 bytes of memory	Route Distinguisher: 10.100.100.22:33767	
BGP attribute entries [26/4160], BGP AS path entries [1/6]		Route Distinguisher: 10.100.100.21:33768
BGP community entries [0/0], BGP clusterlist entries [2/8]	Route Distinguisher: 10.100.100.22:33768	
		Route Distinguisher: 10.100.100.22:33767
Neighbor V AS MagRoyd MagSent TblVer InQ OutQ Up/Down State/PfxRod	Route Distinguisher: 192.168.1.3:33767	
192,168,2,1 4 100 44038 44029 56 0 0 4w2d 14		Route Distinguisher: 10.100.100.22:33768
192.168.2.2 4 100 44037 44030 56 0 0 4w2d 14	Route Distinguisher: 192,168,1,3:33768	
MultisteLeafl#		Route Distinguisher: 192,168.1.3:33767
MultisteLeafl# sh nve peers	Route Distinguisher: 192,168,1,4:33767	
Interface Peer-IP State LearnType Uptime Router-Mac		Route Distinguisher: 192,168.1.3:33768
	Route Distinguisher: 192,168,1,4:33768	
nvel 10.111.111.1 Up CP 4w2d 0200.0a6f.6f01		Route Distinguisher: 192.168.1.4:33767
nvel 10.200.200.21 Up CP 4w2d n/a	Route Distinguisher: 192.168.2.4:33767 (L2VNI 2001002)	
•	*>1[2]:[0]:[0]:[48]:[00c8.8bf9.5f41]:[0]:[0.0.0.0]/216	Route Distinguisher: 192.168.1.4:33768
MultisteLeafl# show nve vni	192.168.2.4 100 32768 i	
Codes: CP - Control Plane DP - Data Plane	*>1[2]:[0]:[0]:[48]:[00c8.8bf9.5f41]:[32]:[4.2.2.100]/272	Route Distinguisher: 192.168.2.4:33767
UC = Unconfigured SA = Suppress ARP	192.168.2.4 100 32768 i	*>i[2]:[0]:[0]:[48]:[00c8.8bf9.5f41]:[0]:[0.0.0.0]/216
SU = Suppress Unknown Unicast		192.168.2.4 100 0 i
Xconn = Crossconnect	Route Distinguisher: 192.168.2.4:33768 (L2VNI 2001001)	*>i[2]:[0]:[0]:[48]:[00c8.8bf9.5f41]:[32]:[4.2.2.100]/272
MS-IR - Multisite Ingress Replication	*>1[2]:[0]:[0]:[48]:[00c8.8bf9.5f42]:[0]:[0.0.0.0]/216	192.168.2.4 100 0 1
	192.168.2.4 100 32768 i	
Interface VNI Multicast-group State Mode Type (80/VRF) Flags	*>1(2):(0):(0):(48):(00c8.8bf9.5f42):(32):(4.1.1.100)/272	Route Distinguisher: 192.168.2.4:33768
	192,168,2,4 100 32768 i	*>i[2]:[0]:[0]:[48]:[00c8.8bf9.5f42]:[0]:[0.0.0.0]/216
nvel 900001 n/a Up CP L3 (vxlan-900001)		192.168.2.4 100 0 i
nvel 2001001 239.0.0.1 Up CP L2 [1001] SA	Route Distinguisher: 192,168,2,4:3 (L3VNI 900001)	*>i[2]:[0]:[0]:[48]:[00c8.8bf9.5f42]:[32]:[4.1.1.100]/272
nvel 2001002 239.0.0.1 Up CP L2 [1000] SA		192.168.2.4 100 0 i
MultisteLeafl#	MultisteLeaf1#	Multistespinel#

eBGP Neighborship between Border Gateways

									CDOI HEIGH	Jorship between Border C	utt	·uy3									
MultisiteBG2#	sh bgp	12v	pn evpn	summary						MultisiteBG1#	sh bo	gp 12	vpn evpn	summary							
BGP summary information for VRF default, address family L2VPN EVPN									BGP summary in	forma	ation	for VRF	default, ad	idress	family	LŽVPN E	VPN				
BGP router identifier 10.100.100.21, local AS number 100									BGP router ide	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 vers	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 ent													
BGP attribute entries [37/6068], BGP AS path entries [1/6]								BGP attribute													
BGP community										BGP community											
por community	OHERE	0 10	, 0,, 501	010000111	oc oner	200 (6)	, 0,			bor community	onexa		0,0,, 501	CEGOCOLERO		1400 (41	,				
Neighbor	v	a.c.	MeaRoud	MsgSent	Th l Wer	TRO O	ato IIn	Down	State/PfxRcd	Neighbor	ν	20	MsqRcvd	MagSant 7	Th l Wer	Teo O	stO Up/D	love	State/PfxRcd		
10.100.100.22		200	44066	44039	60	0	0	4w2d		10.100.100.21	4			44106	82	0		4w2d			
192.168.2.1	-	100	44050	44037	60	0	0	4w2d		192.168.1.1	4			44104	82	0	-	4w2d	-		
192.168.2.1		100	44048	44037	60	0	0	4w2d		192.168.1.2	4	200		44104	82	0		4w2d			
192.168.2.2	4	100	44048	44037	60	0	0	4MZG	4	192.168.1.2	9	200	99121	44104	82	0	0	4w2d	8		
	T		PfxRcd				_				_		PfxRcd		_						
Neighbor				Type-2	Typ-	e-3	Type-		Type-5	Neighbor	T			Type-2	2	e-3	Type-4		Type-5		
10.100.100.22		200			_				•	10.100.100.21	_			-	_		•		•		
192.168.2.1	_	100		4	0		0		0	192.168.1.1	_	200	-	8	0		0		0		
192.168.2.2	I	100	4	4	0		0		0	192.168.1.2	1	200	8	8	0		0		0		
MultisiteBG2#										MultisiteBG1#											
MultisiteBG2#										MultisiteBG1#											
BGP summary in								Inicast			BGP summary information for VRF default, address family IPv4 Unicast										
BGP router ide											BGP router identifier 10.100.100.22, local AS number 200										
BGP table vers								peers	1		BGP table version is 11, IPv4 Unicast config peers 1, capable peers 1										
7 network entr											7 network entries and 8 paths using 1692 bytes of memory										
BGP attribute	entrie	s [2	/328], B	BGP AS path	entrie	8 [1/6]]			BGP attribute	BGP attribute entries [2/328], BGP AS path entries [1/6]										
BGP community	entrie	s [0	/0], BGP	clusterli c	st entr	ies [2,	/8]			BGP community	BGP community entries [0/0], BGP clusterlist entries [4/16]										
Neighbor	v								State/PfxRcd	Neighbor	v		MsgRcvd 1						State/PfxRcd		
10.52.21.2	4	200	44043	44041	11	0	0	4w2d	4	10.52.21.1	4	100	44106	44105	11	0	0	4w2d	4		
MultisiteBG2#										MultisiteBG1#											
MultisiteBG2#										MultisiteBG1#											
Peer 10.52.21.							adverti	sed-ro	utes									rsed-	routes		
										Peer 10.52.21.											
BGP table vers										BGP table vers											
Status: s-supp											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-injecte										
Path type: i-i	nterna	1, e	-externa	il, c-confe	d, 1-10	cal, a	-aggreq	jate, r	-redist, I-i												
njected										Origin codes:	1 - 1	IGP,	e - EGP,	? - incompl	lete,	- mul	tipath,	e - p	ackup, 2 - best2		
Origin codes:	1 - IG	Р, е	- EGP,	? - incomp	lete,	- mult	tipath,	6 - E	ackup, 2 - b												
est2										Network			ext Hop	P.	Metric		cPrf		ht Path		
										*>r10.52.21.0/			.0.0.0		0		100		68 ?		
Network		Ne:	xt Hop		Metric	Loc	cPrf	Weig	ht Path	*>r10.100.100.			.0.0.0		0		100	327	68 ?		
*>r10.52.21.0/	30	0.	0.0.0		0		100	327	68 ?	*>r10.111.111.	2/32	0	.0.0.0		0		100	327	68 ?		
*>r10.100.100.	21/32	0.	0.0.0		0		100	327	68 ?	*>r10.200.200.	22/32	2 0	.0.0.0		0		100	327	68 ?		
*>r10.111.111.	1/32	0.	0.0.0		0		100	327	68 ?	MultisiteBG1#											
*>r10.200.200.	21/32	0.	0.0.0		0		100	327	68 ?												
MultisiteBG2#										l l											

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 12vpn evpn neighbors 10.100.100.22	advertised-routes	MultisiteBG1# sh bgp 12vpn 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-histor	y, *-valid, >-best					
Path type: i-internal, e-external, c-confed, 1-local, a	-aggregate, r-redist, I-i	Path type: i-internal, e-external, c-confed, l-local, a-aggregate, r-redist, I-injected						
njected		Origin codes: i - IGP, e - EGP, ? - incomplete, - multipath,	& - backup, 2 - best2					
Origin codes: i - IGP, e - EGP, ? - incomplete, - mul	tipath, & - backup, 2 - b							
est2		Network Next Hop Metric LocPrf	Weight Path					
		Route Distinguisher: 10.100.100.21:33767						
Network Next Hop Metric Lo	cPrf Weight Path	*>e[2]:[0]:[0]:[48]:[005d.738e.a337]:[0]:[0.0.0.0]/216						
Route Distinguisher: 10.100.100.21:27001 (ES [0300.00	00.0000.6400.0309 0])	10.200.200.21	0 100 i					
*>1[4]:[0300.0000.0000.6400.0309]:[32]:[10.200.200.21]/	136							
10.200.200.21	100 32768 i	Route Distinguisher: 10.100.100.21:33768						
		*>e[2]:[0]:[0]:[48]:[005d.738e.a337]:[0]:[0.0.0.0]/216						
Route Distinguisher: 10.100.100.21:33767 (L2VNI 2001	002)	10.200.200.21	0 100 i					
*>1[2]:[0]:[0]:[48]:[005d.738e.a337]:[0]:[0.0.0.0]/216								
10.200.200.21	100 32768 i	Route Distinguisher: 10.100.100.22:27001 (ES [0300.0000.0000	.c800.0309 0])					
*>1[3]:[0]:[32]:[10.200.200.21]/88		*>1[4]:[0300.0000.0000.c800.0309]:[32]:[10.200.200.22]/136						
10.200.200.21	100 32768 i	10.200.200.22 100	32768 i					
Route Distinguisher: 10.100.100.21:33768 (L2VNI 2001	001)	Route Distinguisher: 10.100.100.22:33767 (L2VNI 2001002)						
*>1[2]:[0]:[0]:[48]:[005d.738e.a337]:[0]:[0.0.0.0]/216		*>1[2]:[0]:[0]:[48]:[6cb2.ae91.38bf]:[0]:[0.0.0.0]/216						
10.200.200.21	100 32768 i	10.200.200.22 100	32768 i					
*>1[3]:[0]:[32]:[10.200.200.21]/88		*>1[3]:[0]:[32]:[10.200.200.22]/88						
10.200.200.21	100 32768 i	10.200.200.22 100	32768 i					
Route Distinguisher: 10.100.100.22:33767								
Route Distinguisher: 10.100.100.22:33768		Route Distinguisher: 10.100.100.22:33768 (L2VNI 2001001)						
Route Distinguisher: 192.168.1.3:33767		*>1[2]:[0]:[0]:[48]:[6cb2.ae91.38bf]:[0]:[0.0.0.0]/216						
Route Distinguisher: 192.168.1.3:33768		10.200.200.22 100	32768 i					
Route Distinguisher: 192.168.1.4:33767		*>1[3]:[0]:[32]:[10.200.200.22]/88						
Route Distinguisher: 192.168.1.4:33768		10.200.200.22 100	32768 i					
Route Distinguisher: 192.168.2.4:33767		Route Distinguisher: 192.168.1.3:33767						
*>i[2]:[0]:[0]:[48]:[00c8.8bf9.5f41]:[0]:[0.0.0.0]/216		Route Distinguisher: 192.168.1.3:33768						
192.168.2.4	100 0 i	Route Distinguisher: 192.168.1.4:33767						
*>i[2]:[0]:[0]:[48]:[00c8.8bf9.5f41]:[32]:[4.2.2.100]/2		Route Distinguisher: 192.168.1.4:33768						
192.168.2.4	100 0 i	Route Distinguisher: 192.168.2.4:33767						
Route Distinguisher: 192.168.2.4:33768		*>e[2]:[0]:[0]:[48]:[00c8.8bf9.5f41]:[0]:[0.0.0.0]/216						
*>1[2]:[0]:[0]:[48]:[00c8.8bf9.5f42]:[0]:[0.0.0.0]/216		10.111.111.1 2000	0 100 i					
192.168.2.4	100 0 i	*>e[2]:[0]:[0]:[48]:[00c8.8bf9.5f41]:[32]:[4.2.2.100]/272						
*>i[2]:[0]:[0]:[48]:[00c8.8bf9.5f42]:[32]:[4.1.1.100]/2		10.111.111.1 2000	0 100 i					
192.168.2.4	100 0 i	Route Distinguisher: 192.168.2.4:33768						
		*>e[2]:[0]:[0]:[48]:[00c8.8bf9.5f42]:[0]:[0.0.0.0]/216						
Route Distinguisher: 10.100.100.21:3 (L3VNI 900001)		10.111.111.1 2000	0 100 i					
MultisiteBG2#		*>e[2]:[0]:[0]:[48]:[00c8.8bf9.5f42]:[32]:[4.1.1.100]/272						
		10.111.111.1 2000	0 100 i					
		MultisiteBG1#						

CONTROL PLANE VERIFICATIION AT DC-1 (Spine-1, Leaf-1): Destination Prefix is 4.2.2.100 <===> 00c8.8bf9.5f41 <===> Vian1000 <===> VNI2001002

```
epinel# 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

O network entries and 0 paths using 0 bytes of memory
BGP attribute entries [070], BGP AS path entries [070]

BGP community entries [070], BGP clusterlist entries [070]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           leaf18 sh bgp 12vps evpn summary

NCP summary information for VSP default, address family 12vPH EVPN

RCP router identifies 123.164.1.3, local AS number 200

RCP table version is 52, 12vPH VVNN contip peers 2, capable peers 2

36 network entries and 50 paths using 4646 bytes of memory

RCP attribute entries 12x4608, NCP AS path entries (1x46)

RCP community entries [0/0], RCP AS that Entries (4x16)
                                                                                                                                                                                                                                                 BUF routing table information for VRF default, address family L2VFN EVFN Route Distinguisher: 192.168.2.4:33767 BBGF routing table entry for [2]:[0]:[0]:[0]:[0.008.8hf9.5f41]:[0]:[0.0.0.0]/216, version 27
                                                                                                                                                                                                                                                   version 27
aths: (1 available, best #1)
lags: (0x00202) (high)2 0000000) on xmit-list, is not in 12rib/evpn, is not :
    Neighbor V AS MagRovd MagSent TblVer Ing OutQ Up/Down Sta
192.168.1.1 4 200 42565 42592 52 0 0 4wld 14
192.168.1.2 4 200 42565 42552 52 0 0 4wld 14
                                                                                                                                                                                                                                                    iltipath: 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
10.11.111.2 (metric 41) from 10.100.100.22 (10.100.100.22)
Origin 101, MED 2000, localpref 100, weight 0
Received label 2001002
Extcommunity: RT:200:2001002 EMCAP:8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            leafi# show bgp ip unicast 4.2.2.100 vrf vxlan-900001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                OF routing table information for VBF valua-#00001, address family IPv4 U

OF routing table entry for 4.2.2.100/32, version 7

tabs: (1 available, best #1)

lags: (0x000143) on anti-list, is in urib, is best urib route, is in NM,

vynn version 7. (0x100002) on anti-list
   spinel# sh ip route 10.100.100.22
       P Route Table for VRF "default"

'' denotes best ucast next-hop

*'' denotes best mcast next-hop

[x/y]' denotes [preference/metric]

k<string>' in via output denotes VRF <string>
                                                                                                                                                                                                                                                 Path-id 1 advertised to peers:
192.166.1.3 192.168.1.4
BDF routing table entry for [2]:[0]:[0]:[48]:[00c8.8bf9.5f41]:[32]:[4.2.2.100]/2
72, version 29
Paths: (1 available, best 41)
Plage: (0x002022) (high32 00000000) on xmit-list, is not in 12rib/evpn, is not in IRM
NULTipath: IRDDP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                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]:[40]:[00e8.8bc9.5c41]:[
2]:[4.2.2.100]/272
   10.100.100.22/32, ubest/mbest: 1/0
*via 10.2.2.34, Eth1/1, [110/41], 4w2d, ospf-100, intra
spinel#
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2][4.2.2.100]/272
AS-Path: 100 , path sourced external to AS
10.111.111.2 (metric 45) from 192.168.1.1 (192.168.1.1)
Origin 10P. MED 2000, localpref 100, weight 0
Received label 2001002 500001
Ext.community:
BF1200:500001
BF1200:2001002
 spinel# sh bgp 12vpn evpn summary
    epineii sh bgp 12Vpn evpn summary

DDF summary information for VRF default, address family 12VTN EVFN
BDF router identifier 192.168.1.1, local AS number 200
BDF table version is 31, 12VTN EVFN config peers 3, capable peers 3
19 network entries and 19 paths using 4256 bytes of memory
BDF attribute entries [17/2788], BDF AB path entries [1/6]
BDF community entries [0/0], BDF clusterlist entries [0/0]
                                                                                                                                                                                                                                                   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 EMCAP:8 Router MAC:0200.046f.6f
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Router MAC:0200.0a6f.6f02
Originator: 10.100.100.22 Cluster list: 192.168.1.1
   Neighbor V AS MsgRcvd MsgSent TblVer InO OutQ Dp/Down St
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
spinel#
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VRF advertise information:
Path-id 1 not advertised to any peer
                                                                                                                                                                                                                                                   Path-id 1 advertised to peers: 192.168.1.3 192.168.1.4
```

						Reachability Verificati	on from DC-1 Leaf-1					
				leafl# show mac address-table i 00c8.8bf9.5f41 "+" Type								
				VLAN MAC Address Type age Secure NTFY Ports/SWID.SSID.LID								
Host Reachability	Verification	on from DC-1 to	DC-2	* 1000 00c8.8bf	.5f41 dynamic	0 F F nvel/10.11	1.111.2					
ToLeafl@show ip int br	e down			leaf1#								
Interface I	P-Address	OK? Method Statu	s Protocol									
Vlan1000 4	.2.2.10	YES NVRAM up	up	1								
Vlan1001 4	.1.1.10	YES NVRAM up	up	leafl# show ip inter	face bri vrf all		leafl# show ip route vrf	vxlan-900001 4.2.2	.100			
GigabitEthernet1/0/1 u	nassigned	YES unset up	up	IP Interface Status	for VRF "default	*(1)	IP Route Table for VRF "v	xlan-900001=				
ToLeaf1#				Interface	IP Address	Interface Status	'*' denotes best ucast ne	xt-hop				
1				Le0	192.168.1.3	protocol-up/link-up/admin-up	'**' denotes best moast n	ext-hop				
ToLeafl#ping 4.2.2.100				Eth1/18	1.1.1.1	protocol-down/link-down/admin-down/admin-down/admin-down/link-down/admin-down	('[x/y]' denotes [preferen	ce/metric]				
Type escape sequence to	abort.			Eth2/23	172.16.1.2	protocol-up/link-up/admin-up	'% <string>' in via output</string>	denotes VRF <stri< td=""><td>ıg></td><td></td><td></td><td></td></stri<>	ıg>			
Sending 5, 100-byte ICMP	Echos to 4.2.	2.100, timeout is	2 seconds:	Eth2/24	172.16.2.2	protocol-up/link-up/admin-up						
11111							4.2.2.100/32, ubest/mbest					
Success rate is 100 perc	ent (5/5), rou	ind-trip min/avg/m	ax = 1/4/9 ms	IP Interface Status	for VRF "managem	ent*(2)	*via 10.111.111.2%def	ault, [200/2000],	w2d, bgp-201	, internal	, tag 1	00, (m
ToLeaf1#				Interface	IP Address	Interface Status	pls-vpn)segid 900001 tunn	el: 175075074 encay	o: 1			
l				mgmt0	10.31.121.19	protocol-up/link-up/admin-up						
				1			leaf1#					
ToLeafl#show ip arp 4.2.	2.100			IP Interface Status	for VRF "vxlan-9	00001"(3)						
Protocol Address	Age (min)	Hardware Addr T	ype Interface	Interface	IP Address	Interface Status	leafl# traceroute 10.111.	111.2				
Internet 4.2.2.100	54	00c8.8bf9.5f41 A	RPA Vlan1000	Vlan101	forward-enabled	protocol-up/link-up/admin-up	traceroute to 10.111.111.2 (10.111.111.2), 30 hops max, 40 byte packets					
ToLeaf1#		Vlam1000 4.2.2.1 protocol-up/link-up/admin-up 1 172.16.1.1 (172.16.1.1) 1.066 ms 0.816 ms 0.664										
				Vlan1001	4.1.1.1	protocol-up/link-up/admin-up	2 10.111.111.2 (10.111.	111.2) 1 ms 0.74	ms 0.693 m	1		
				1			leaf1#					
l				leaf1#								
L L				leaf1# show 12route evpn								
toMultisiteLeafl#sh ip i				leafl# show ip arp	rf vxlan-900001		Mac Address Prod Host			Next H		
	P-Address	OK? Method Statu										
	.2.2.100	YES NVRAM up	up	Flags: * - Adjacenc:			0035.lac1.37c2 HMM 4.2.2			N/A		
	.1.1.100	YES NVRAM up	up		es synced via CF		00c8.8bf9.5f41 BGP 4.2.2			10.111		
GigabitEthernet2/0/1 u	inassigned	YES unset up	up		es Throttled for		e0d1.73a4.1d41 BGP 4.2.2	1.11		192.16	8.1.4	
	- 400100			D - Static Ad	jacencies attach	ed to down interface	leaf1#					
toMultisiteLeafl#sh ip a												
Protocol Address Internet 4.2.2.100		Hardware Addr T 00c8.8bf9.5f41 A	ype Interface RPA Vlan1000	IP ARP Table for cos		1						
	-	UUCB.BDI9.5141 A	KPA VIBRIOUD	Total number of entries: 2		leafl# show nve internal						
toMultisiteLeaf1#				Address Age	MAC Addres		VNI Peer-IP	Peer-MAC	Tunnel-ID			Flags
					3:56 0035.lacl.		900001 10.111.111.2	0200.0a6f.6f02	0xa6f6f02		(1/0)	0
					3:10 0035.lac1.	37c2 Vlan1000	200100110.111.111.2	0000.0000.0000	0x0	vxlan	(1/0)	0
				leaf1#			200100210.111.111.2	0000.0000.0000	0x0	vxlan	(1/0)	0
							leaf1#					

```
Leaf-1 MAC Address Verification
                                                                                                                                     leaf1# show mac address-table vlan 1001
  egend:
                                                                                                                                     Legend:
         age - seconds since last seen,+ - primary entry using vPC Peer-Link
MAC Address Type age Secure NTFY Ports/SWID.SSID.LID
                                                                                                                                               age - seconds since last seen,+ - primary entry using vPC Peer-Link
                                                                                                                                                   MAC Address Type
                                                                                                                                                                                   age Secure NTFY Ports/SWID.SSID.LID
                      .____
                                                                                                                                                           -----
 * 1000 0000.2222.3333 static 0 F F sup-eth2

* 1000 0035.lacl.37c2 dynamic 730 F F Eth1/23

* 1000 005d.738e.a337 static 0 F F nvel/10.111.111.2

* 1000 00c8.8bf9.5f41 dynamic 0 F F nvel/10.111.111.2

* 1000 6cb2.ae91.38bf static 0 F F nvel/10.200.200.22

* 1000 e0d1.73a4.1d41 dynamic 0 F F nvel/192.168.1.4
                                                                                                                                                 0000.2222.3333 static 0 F F sup-eth2
0035.lacl.37c3 dynamic 630 F F Eth1/23
005d.738e.a337 static 0 F F nvel/10.111.111.2
00c8.8bf9.5f42 dynamic 0 F F nvel/10.111.111.2
6cb2.ae91.38bf static 0 F F nvel/10.200.200.22
e0d1.73a4.ld42 dynamic 0 F F nvel/192.168.1.4
                                                                                                                                     * 1001
                                                                                                                                     * 1001
                                                                                                                                     * 1001
 leaf1#
                                                                                                                                     leaf1#
 leafl# sh system internal 12rib event-history mac | i 0035.lac1.37c2 [04/24/20 13:10:09.721 UTC 3 4173] Received MAC ROUTE msg: addr: (1000-0035.lac1.37c2) 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.lacl.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.lacl.37c2,3):Encoding MAC best route (ADD, client id 4)
 [04/24/20 13:10:09.871 UTC e 4173] (1000,0035.lac1.37c2):Bound MAC-IP(4.2.2.10) to MAC, Total MAC-IP linked: 1
leaf1# show system internal 12rib event-history mac | i 0035.1acl.37c3 [04/24/20 13:10:09.721 UTC 8 4173] Received MAC ROUTE msg: addr:
                                                                                     tr: (1001-0035.lac1.37c3) 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.lacl.37c3,3):MAC route created with seq num:0, flags:1 (), soo:0, peerid:0
 [04/24/20 13:10:09.732 UTC d 4173] (1001,0035.1ac1.37c3,3):Encoding MAC best route (ADD, client id 4)
 [04/24/20 13:10:09.871 UTC f 4173] (1001,0035.lacl.37c3):Bound MAC-IP(4.1.1.10) to MAC, Total MAC-IP linked: 1
 leaf1# sh system internal 12rib event-history mac-ip | i 0035.1ac1.37c2
 [04/24/20 13:10:09.871 UTC 2 4173] Received MAC-IP ROUTE msg: addr: (1000-0035.1acl.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] (1000,0035.1acl.37c2,4.2.2.10):MAC-IP entry created
 [04/24/20 13:10:09.871 UTC 4 4173] (1000,0035.1acl.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] (1000,0035.1ac1.37c2,4.2.2.10,12):Encoding MAC-IP best route (ADD, client id 4)
leaf1# show system internal 12rib event-history mac-ip | i 0035.1ac1.37c3
 [04/24/20 13:10:09.871 UTC 6 4173] Received MAC-IP ROUTE msg: addr: (1001-0035.1acl.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] (1001,0035.1acl.37c3,4.1.1.10):MAC-IP entry created
 [04/24/20 13:10:09.871 UTC 8 4173] (1001,0035.1acl.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.lacl.37c3,4.1.1.10,12):Encoding MAC-IP best route (ADD, client id 4)
```

Dépannage

Afin de dépanner, référez-vous à Dépanner EVPN/VxLAN dans un environnement multisite

Informations connexes

- Livre blanc sur la conception et le déploiement multisite de VXLAN EVPN
- Configuration de VXLAN EVPN multisite

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