

Contents

Example: Configuring Layer 2 EVPN multicast	1
Network configuration	1
Analysis	1
Applicable hardware and software versions.....	1
Restrictions and guidelines	3
IGMP snooping restrictions and guideline	3
Distributed EVPN gateway restrictions and guideline.....	4
Procedures	4
Configuring Leaf 1	4
Configuring Leaf 2	7
Configuring the RR	10
Verifying the configuration	11
Verifying routing information	11
Verifying VSI configuration	12
Verifying IGMP snooping and SMET routes.....	13
Configuration files	14

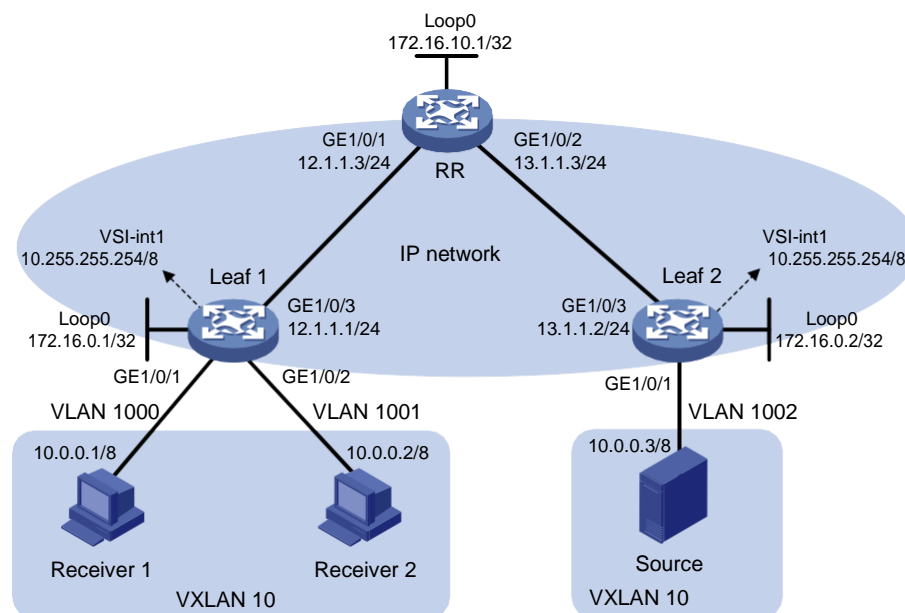
Example: Configuring Layer 2 EVPN multicast

Network configuration

As shown in [Figure 1](#), configure Layer 2 EVPN multicast as follows:

- Configure Leaf 1 and Leaf 2 as distributed EVPN gateways. Assign the multicast receivers attached to Leaf 1 and the multicast source attached to Leaf 2 to VXLAN 10.
- Configure Leaf 1, Leaf 2, and the RR to set up BGP EVPN peer relationships in AS 65000 of the overlay network. Configure the RR to reflect BGP EVPN routes between Leaf 1 and Leaf 2.
- Configure OSPF on Leaf 1, Leaf 2, and the RR for them to have Layer 3 connectivity on the underlay network.

Figure 1 Network diagram



Analysis

To enable Layer 2 multicast forwarding in the EVPN network, perform the following tasks:

- Enable IGMP snooping on the leaf devices for them to snoop the IGMP membership reports sent by the multicast receivers.
- For the leaf devices to create Layer 2 multicast forwarding entries, configure the leaf devices to advertise multicast group join requests through selective multicast Ethernet tag (SMET) routes.

Applicable hardware and software versions

The following matrix shows the hardware and software versions to which this configuration example is applicable:

Hardware	Software version
SC 3570 switch series	Not supported
SC 5525 switch series	Release 65xx, Release 6615Pxx, Release 6628Pxx
SC 5520 switch series	Release 65xx, Release 6615Pxx, Release 6628Pxx
SC 3170 switch series	Not supported
SC 3130 switch series	Not supported

Restrictions and guidelines

IGMP snooping restrictions and guideline

IGMP snooping configuration in a VSI takes effect only on the member ports in the VSI.

In an EVPN VXLAN network, the IGMP snooping querier in a VSI does not include VLAN tags in IGMP general queries. As a best practice, do not enable the IGMP snooping querier in a VSI if the VSI uses the Ethernet access mode.

Distributed EVPN gateway restrictions and guideline

When you configure VSI interfaces on distributed EVPN gateways, follow these restrictions and guidelines:

- Do not assign reserved MAC addresses to VSI interfaces.
- You must assign the same MAC address to the VSI interfaces with L3 VXLAN IDs associated
- If you use the **mac-address** command to modify the MAC address of a L3 VXLAN ID associated VSI interface on a DR system, also modify the MAC address of the other L3 VXLAN ID associated VSI interfaces. These VSI interfaces must use the same MAC address.
- If a distributed EVPN gateway is connected to an IPv6 site, make sure the VSI interfaces with L3 VXLAN IDs associated use the same link-local address.
- On different distributed EVPN gateways, the VSI interface of a VXLAN must use the same IP address and MAC address to provide services.
- The L3 VXLAN ID of a VSI interface cannot be the same as the VXLAN ID specified by using the **mapping vni** command.
- As a best practice, do not use ARP flood suppression and local proxy ARP or ND flood suppression and local ND proxy together on distributed EVPN gateways. If both ARP flood suppression and local proxy ARP are enabled on a distributed EVPN gateway, only local proxy ARP takes effect. If both ND flood suppression and local ND proxy are enabled on a distributed EVPN gateway, only local ND proxy takes effect.

Procedures

Configuring Leaf 1

Setting the system operating mode to VXLAN

Set system operating mode to VXLAN, save the running configuration, and reboot the device.

```
<Sysname> system-view
[Sysname] switch-mode 1
Reboot device to make the configuration take effect.
[Sysname] quit
<Sysname> reboot
Start to check configuration with next startup configuration file, please wait..
.....DONE!
Current configuration may be lost after the reboot, save current configuration?
[Y/N]:y
This command will reboot the device. Continue? [Y/N]:y
```

Assigning IP addresses and configuring unicast routing

Assign IP addresses to loopback interfaces and GigabitEthernet 1/0/3.

```
<Sysname> system-view
[Sysname] sysname Leaf1
[Leaf1] interface loopback 0
[Leaf1-LoopBack0] ip address 172.16.0.1 255.255.255.255
[Leaf1-LoopBack0] quit

[Leaf1] interface gigabitethernet 1/0/3
[Leaf1-GigabitEthernet1/0/3] port link-mode route
[Leaf1-GigabitEthernet1/0/3] ip address 12.1.1.1 24
[Leaf1-GigabitEthernet1/0/3] quit
```

Configure OSPF for the devices to communicate at Layer 3 over the underlay network.

```
[Leaf1] router id 172.16.0.1
[Leaf1] ospf
[Leaf1-ospf-1] area 0
[Leaf1-ospf-1-area-0.0.0.0] network 172.16.0.1 0.0.0.0
[Leaf1-ospf-1-area-0.0.0.0] network 12.1.1.1 0.0.0.255
[Leaf1-ospf-1-area-0.0.0.0] quit
[Leaf1-ospf-1] quit
```

Configuring a VPN instance

Create VPN instance **vpn1** and configure an RD and route targets for it.

```
[Leaf1] ip vpn-instance vpn1
[Leaf1-vpn-instance-vpn1] route-distinguisher 1:1
[Leaf1-vpn-instance-vpn1] address-family ipv4
[Leaf1-vpn-ipv4-vpn1] vpn-target 2:2 import-extcommunity
[Leaf1-vpn-ipv4-vpn1] vpn-target 2:2 export-extcommunity
[Leaf1-vpn-ipv4-vpn1] quit
[Leaf1-vpn-instance-vpn1] address-family evpn
[Leaf1-vpn-evpn-vpn1] vpn-target 1:1 import-extcommunity
[Leaf1-vpn-evpn-vpn1] vpn-target 1:1 export-extcommunity
[Leaf1-vpn-evpn-vpn1] quit
[Leaf1-vpn-instance-vpn1] quit
```

Configuring a VSI interface

Enable L2VPN.

```
[Leaf1] l2vpn enable
```

Configure VSI interface 1.

```
[Leaf1] interface vsi-interface 1
[Leaf1-Vsi-interface1] ip binding vpn-instance vpn1
[Leaf1-Vsi-interface1] ip address 10.255.255.254 255.0.0.0
[Leaf1-Vsi-interface1] mac-address 0000-0001-0001
[Leaf1-Vsi-interface1] distributed-gateway local
[Leaf1-Vsi-interface1] quit
```

Configuring an EVPN instance

Disable remote MAC address learning and remote ARP learning.

```
[Leaf1] vxlan tunnel mac-learning disable
[Leaf1] vxlan tunnel arp-learning disable
```

Create VXLAN 10 on VSI **vsi1**, and specify VSI interface 1 as the gateway for the VXLAN.

```
[Leaf1] vsi vsi1
[Leaf1-vsi-vsi1] gateway vsi-interface 1
[Leaf1-vsi-vsi1] statistics enable
[Leaf1-vsi-vsi1] arp suppression enable
[Leaf1-vsi-vsi1] vxlan 10
[Leaf1-vsi-vsi1-vxlan-10] quit
```

Configure an EVPN instance using VXLAN encapsulation, and configure an RD and route targets for it.

```
[Leaf1-vsi-vsi1] evpn encapsulation vxlan
[Leaf1-vsi-vsi1-evpn-vxlan] route-distinguisher auto
[Leaf1-vsi-vsi1-evpn-vxlan] vpn-target auto export-extcommunity
[Leaf1-vsi-vsi1-evpn-vxlan] vpn-target auto import-extcommunity
[Leaf1-vsi-vsi1-evpn-vxlan] quit
[Leaf1-vsi-vsi1] quit
```

Assigning L3 VXLAN IDs

Assign a L3 VXLAN ID to VSI interface 2.

```
[Leaf1] interface vsi-interface 2
[Leaf1-Vsi-interface2] ip binding vpn-instance vpn1
[Leaf1-Vsi-interface2] l3-vni 10000
[Leaf1-Vsi-interface2] quit
```

Configuring BGP EVPN route advertisement

Configure Leaf 1 to establish a BGP EVPN peer relationship with the RR.

```
[Leaf1] bgp 65000
[Leaf1-bgp-default] peer 172.16.10.1 as-number 65000
[Leaf1-bgp-default] peer 172.16.10.1 connect-interface loopback 0
[Leaf1-bgp-default] peer 172.16.10.1 password simple overlay
[Leaf1-bgp-default] address-family l2vpn evpn
[Leaf1-bgp-default-evpn] peer 172.16.10.1 enable
[Leaf1-bgp-default-evpn] quit
[Leaf1-bgp-default] quit
```

Mapping ACs to the VSI

On GigabitEthernet 1/0/1, create Ethernet service instance 1 and map it to VSI vsi1.

```
[Leaf1] interface gigabitethernet 1/0/1
[Leaf1-GigabitEthernet1/0/1] port link-mode bridge
[Leaf1-GigabitEthernet1/0/1] port link-type trunk
[Leaf1-GigabitEthernet1/0/1] undo port trunk permit vlan 1
[Leaf1-GigabitEthernet1/0/1] port trunk permit vlan 1000
[Leaf1-GigabitEthernet1/0/1] service-instance 1
[Leaf1-GigabitEthernet1/0/1-srv1] encapsulation s-vid 1000
[Leaf1-GigabitEthernet1/0/1-srv1] statistics enable
[Leaf1-GigabitEthernet1/0/1-srv1] xconnect vsi vsi1
[Leaf1-GigabitEthernet1/0/1-srv1] quit
[Leaf1-GigabitEthernet1/0/1] quit
```

On GigabitEthernet 1/0/2, create Ethernet service instance 1 and map it to VSI vsi1.

```
[Leaf1] interface gigabitethernet 1/0/2
[Leaf1-GigabitEthernet1/0/2] port link-mode bridge
[Leaf1-GigabitEthernet1/0/2] port link-type trunk
[Leaf1-GigabitEthernet1/0/2] undo port trunk permit vlan 1
[Leaf1-GigabitEthernet1/0/2] port trunk permit vlan 1001
[Leaf1-GigabitEthernet1/0/2] service-instance 1
[Leaf1-GigabitEthernet1/0/2-srv1] encapsulation s-vid 1001
[Leaf1-GigabitEthernet1/0/2-srv1] statistics enable
[Leaf1-GigabitEthernet1/0/2-srv1] xconnect vsi vsi1
```

```
[Leaf1-GigabitEthernet1/0/2-srv1] quit
[Leaf1-GigabitEthernet1/0/2] quit
```

Configuring IGMP snooping

Enable IGMP snooping globally.

```
[Leaf1] igmp-snooping
[Leaf1-igmp-snooping] global-enable
[Leaf1-igmp-snooping] quit
```

Configure IGMP snooping for VSI vsi1.

```
[Leaf1] vsi vsi1
[Leaf1-vsi-vsi1] igmp-snooping enable
[Leaf1-vsi-vsi1] igmp-snooping drop-unknown
[Leaf1-vsi-vsi1] igmp-snooping proxy enable
```

Configure Leaf 2 as an IGMP querier.

```
[Leaf1-vsi-vsi1] igmp-snooping querier
[Leaf1-vsi-vsi1] quit
```

Configuring Leaf 2

Setting the system operating mode to VXLAN

Set system operating mode to VXLAN, save the running configuration, and reboot the device.

```
<Sysname> system-view
[Sysname] switch-mode 1
Reboot device to make the configuration take effect.
[Sysname] quit
<Sysname> reboot
Start to check configuration with next startup configuration file, please wait..
.....DONE!
Current configuration may be lost after the reboot, save current configuration?
[Y/N]:y
This command will reboot the device. Continue? [Y/N]:y
```

Assigning IP addresses and configuring unicast routing

Assign IP addresses to loopback interfaces and GigabitEthernet 1/0/3.

```
<Sysname> system-view
[Sysname] sysname Leaf2
[Leaf2] interface loopback 0
[Leaf2-LoopBack0] ip address 172.16.0.2 255.255.255.255
[Leaf2-LoopBack0] quit
[Leaf2] interface gigabitethernet 1/0/3
[Leaf2-GigabitEthernet1/0/3] port link-mode route
[Leaf2-GigabitEthernet1/0/3] ip address 13.1.1.2 24
[Leaf2-GigabitEthernet1/0/3] quit
```

Configure OSPF for the devices to communicate at Layer 3 over the underlay network.

```
[Leaf2] router id 172.16.0.2
[Leaf2] ospf
[Leaf2-ospf-1] area 0
[Leaf2-ospf-1-area-0.0.0.0] network 172.16.0.2 0.0.0.0
```



```
[Leaf2-ospf-1-area-0.0.0.0] network 13.1.1.2 0.0.0.255
[Leaf2-ospf-1-area-0.0.0.0] quit
[Leaf2-ospf-1] quit
```

Configuring a VPN instance

Create VPN instance **vpn1** and configure an RD and route targets for it.

```
[Leaf2] ip vpn-instance vpn1
[Leaf2-vpn-instance-vpn1] route-distinguisher 1:1
[Leaf2-vpn-instance-vpn1] address-family ipv4
[Leaf2-vpn-ipv4-vpn1] vpn-target 2:2 import-extcommunity
[Leaf2-vpn-ipv4-vpn1] vpn-target 2:2 export-extcommunity
[Leaf2-vpn-ipv4-vpn1] quit
[Leaf2-vpn-instance-vpn1] address-family evpn
[Leaf2-vpn-evpn-vpn1] vpn-target 1:1 import-extcommunity
[Leaf2-vpn-evpn-vpn1] vpn-target 1:1 export-extcommunity
[Leaf2-vpn-evpn-vpn1] quit
[Leaf2-vpn-instance-vpn1] quit
```

Configuring a VSI interface

Enable L2VPN.

```
[Leaf2] l2vpn enable
```

Configure VSI interface 1.

```
[Leaf2] interface vsi-interface 1
[Leaf2-Vsi-interface1] ip binding vpn-instance vpn1
[Leaf2-Vsi-interface1] ip address 10.255.255.254 255.0.0.0
[Leaf2-Vsi-interface1] mac-address 0000-0001-0001
[Leaf2-Vsi-interface1] distributed-gateway local
[Leaf2-Vsi-interface1] quit
```

Configuring an EVPN instance

Disable remote MAC address learning and remote ARP learning.

```
[Leaf2] vxlan tunnel mac-learning disable
[Leaf2] vxlan tunnel arp-learning disable
```

Create VXLAN 10 on VSI **vsi1**, and specify VSI interface 1 as the gateway for the VXLAN.

```
[Leaf2] vsi vsi1
[Leaf2-vsi-vsi1] gateway vsi-interface 1
[Leaf2-vsi-vsi1] statistics enable
[Leaf2-vsi-vsi1] arp suppression enable
[Leaf2-vsi-vsi1] vxlan 10
[Leaf2-vsi-vsi1-vxlan-10] quit
```

Configure an EVPN instance using VXLAN encapsulation, and configure an RD and route targets for it.

```
[Leaf2-vsi-vsi1] evpn encapsulation vxlan
[Leaf2-vsi-vsi1-evpn-vxlan] route-distinguisher auto
[Leaf2-vsi-vsi1-evpn-vxlan] vpn-target auto export-extcommunity
[Leaf2-vsi-vsi1-evpn-vxlan] vpn-target auto import-extcommunity
[Leaf2-vsi-vsi1-evpn-vxlan] quit
[Leaf2-vsi-vsi1] quit
```

Assigning L3 VXLAN IDs

Assign a L3 VXLAN ID to VSI interface 2.

```
[Leaf2] interface vsi-interface 10000
[Leaf2-Vsi-interface10000] ip binding vpn-instance vpn1
[Leaf2-Vsi-interface10000] l3-vni 10000
[Leaf2-Vsi-interface10000] quit
```

Configuring BGP EVPN route advertisement

Configure Leaf 2 to establish a BGP EVPN peer relationship with the RR.

```
[Leaf2] bgp 65000
[Leaf2-bgp-default] peer 172.16.10.1 as-number 65000
[Leaf2-bgp-default] peer 172.16.10.1 connect-interface loopback 0
[Leaf2-bgp-default] peer 172.16.10.1 password simple overlay
[Leaf2-bgp-default] address-family l2vpn evpn
[Leaf2-bgp-default-evpn] peer 172.16.10.1 enable
[Leaf2-bgp-default-evpn] quit
[Leaf2-bgp-default] quit
```

Mapping ACs to the VSI

On GigabitEthernet 1/0/1, create Ethernet service instance 1 and map it to VSI vsi1.

```
[Leaf2] interface gigabitethernet 1/0/1
[Leaf2-GigabitEthernet1/0/1] port link-mode bridge
[Leaf2-GigabitEthernet1/0/1] port link-type trunk
[Leaf2-GigabitEthernet1/0/1] undo port trunk permit vlan 1
[Leaf2-GigabitEthernet1/0/1] port trunk permit vlan 1002
[Leaf2-GigabitEthernet1/0/1] storm-constrain control shutdown
[Leaf2-GigabitEthernet1/0/1] service-instance 1
[Leaf2-GigabitEthernet1/0/1-srv1] encapsulation s-vid 1002
[Leaf2-GigabitEthernet1/0/1-srv1] statistics enable
[Leaf2-GigabitEthernet1/0/1-srv1] xconnect vsi vsi1
[Leaf2-GigabitEthernet1/0/1-srv1] quit
[Leaf2-GigabitEthernet1/0/1] quit
```

Configuring IGMP snooping

Enable IGMP snooping globally.

```
[Leaf1] igmp-snooping
[Leaf1-igmp-snooping] global-enable
[Leaf1-igmp-snooping] quit
```

Configure IGMP snooping for VSI vsi1.

```
[Leaf2] vsi vsi1
[Leaf2-vsi-vsi1] igmp-snooping enable
[Leaf2-vsi-vsi1] igmp-snooping drop-unknown
[Leaf2-vsi-vsi1] igmp-snooping proxy enable
```

Configure Leaf 2 as an IGMP querier.

```
[Leaf2-vsi-vsi1] igmp-snooping querier
[Leaf2-vsi-vsi1] quit
```

Configuring the RR

Setting the system operating mode to VXLAN

Set system operating mode to VXLAN, save the running configuration, and reboot the device.

```
<Sysname> system-view
[Sysname] switch-mode 1
Reboot device to make the configuration take effect.
[Sysname] quit
<Sysname> reboot
Start to check configuration with next startup configuration file, please wait..
.....DONE!
Current configuration may be lost after the reboot, save current configuration?
[Y/N]:y
This command will reboot the device. Continue? [Y/N]:y
```

Assigning IP addresses and configuring unicast routing

Assign IP addresses to loopback interfaces, GigabitEthernet 1/0/1, and GigabitEthernet 1/0/2.

```
<Sysname> system-view
[Sysname] sysname RR
[RR] interface loopback 0
[RR-LoopBack0] ip address 172.16.10.1 255.255.255.255
[RR-LoopBack0] quit
[RR] interface gigabitethernet 1/0/1
[RR-GigabitEthernet1/0/1] port link-mode route
[RR-GigabitEthernet1/0/1] ip address 12.1.1.3 24
[RR-GigabitEthernet1/0/1] quit
[RR] interface gigabitethernet 1/0/2
[RR-GigabitEthernet1/0/2] port link-mode route
[RR-GigabitEthernet1/0/2] ip address 13.1.1.3 24
[RR-GigabitEthernet1/0/2] quit
```

Configure OSPF for the devices to communicate at Layer 3 over the underlay network.

```
[RR] router id 172.16.10.1
[RR] ospf
[RR-ospf-1] area 0
[RR-ospf-1-area-0.0.0.0] network 172.16.10.1 0.0.0.0
[RR-ospf-1-area-0.0.0.0] network 12.1.1.3 0.0.0.255
[RR-ospf-1-area-0.0.0.0] network 13.1.1.3 0.0.0.255
[RR-ospf-1-area-0.0.0.0] quit
[RR-ospf-1] quit
```

Configuring BGP EVPN route advertisement

Assign Leaf 1 and Leaf 2 to IBGP peer group leaf.

```
[RR] bgp 65000
[RR-bgp-default] group leaf internal
[RR-bgp-default] peer leaf connect-interface loopback 0
[RR-bgp-default] peer leaf password simple overlay
[RR-bgp-default] peer 172.16.0.1 group leaf
[RR-bgp-default] peer 172.16.0.2 group leaf
```

Configure the device as an RR, configure it to establish BGP EVPN peer relationships with IBGP peer group **leaf**, and disable route target filtering of received BGP EVPN routes.

```
[RR-bgp-default] address-family l2vpn evpn
[RR-bgp-default-evpn] undo policy vpn-target
[RR-bgp-default-evpn] peer leaf enable
[RR-bgp-default-evpn] peer leaf reflect-client
[RR-bgp-default-evpn] quit
[RR-bgp-default] quit
```

Verifying the configuration

Verifying routing information

Verify that the leaf devices and the RR have learned one another's OSPF routes and can communicate at Layer 3 over the underlay network.

```
[Leaf1] display ip routing-table
```

Destinations : 16 Routes : 16

Destination/Mask	Proto	Pre	Cost	NextHop	Interface
0.0.0.0/32	Direct	0	0	127.0.0.1	InLoop0
12.1.1.0/24	Direct	0	0	12.1.1.1	GE1/0/3
12.1.1.0/32	Direct	0	0	12.1.1.1	GE1/0/3
12.1.1.1/32	Direct	0	0	127.0.0.1	InLoop0
12.1.1.255/32	Direct	0	0	12.1.1.1	GE1/0/3
13.1.1.0/24	O_INTRA	10	2	12.1.1.3	GE1/0/3
127.0.0.0/8	Direct	0	0	127.0.0.1	InLoop0
127.0.0.0/32	Direct	0	0	127.0.0.1	InLoop0
127.0.0.1/32	Direct	0	0	127.0.0.1	InLoop0
127.255.255.255/32	Direct	0	0	127.0.0.1	InLoop0
172.16.0.1/32	Direct	0	0	127.0.0.1	InLoop0
172.16.0.2/32	O_INTRA	10	2	12.1.1.3	GE1/0/3
172.16.10.1/32	O_INTRA	10	1	12.1.1.3	GE1/0/3
224.0.0.0/4	Direct	0	0	0.0.0.0	NULL0
224.0.0.0/24	Direct	0	0	0.0.0.0	NULL0
255.255.255.255/32	Direct	0	0	127.0.0.1	InLoop0

Verify that the leaf devices and the RR have established BGP EVPN peer relationships with one another.

```
[Leaf1] display bgp peer l2vpn evpn
```

BGP local router ID: 172.16.0.1

Local AS number: 65000

Total number of peers: 1

Peers in established state: 1

* - Dynamically created peer

^ - Peer created through link-local address

Peer	AS	MsgRcvd	MsgSent	OutQ	PrefRcv	Up/Down	State
------	----	---------	---------	------	---------	---------	-------

Verifying VSI configuration

Verify that VXLAN tunnels and ACs are correctly mapped to VSI **vsi1**.

```
[Leaf1] display l2vpn vsi verbose
```

VSI Name: Auto_L3VNI10000_2

```
VSI Index           : 1
VSI State           : Down
MTU                 : 1500
Bandwidth           : -
Broadcast Restrain  : -
Multicast Restrain  : -
Unknown Unicast Restrain: -
MAC Learning        : Enabled
MAC Table Limit     : -
MAC Learning rate   : -
Drop Unknown        : -
Flooding            : Enabled
Statistics          : Disabled
Gateway Interface   : VSI-interface 2
VXLAN ID            : 10000
```

VSI Name: vsi1

```
VSI Index           : 0
VSI State           : Up
MTU                 : 1500
Bandwidth           : -
Broadcast Restrain  : -
Multicast Restrain  : -
Unknown Unicast Restrain: -
MAC Learning        : Enabled
MAC Table Limit     : -
MAC Learning rate   : -
Drop Unknown        : -
Flooding            : Enabled
Statistics          : Enabled
Input Statistics     :
  Octets            :0
  Packets           :0
  Errors            :0
  Discards          :0
Output Statistics    :
  Octets            :0
  Packets           :0
  Errors            :0
  Discards          :0
Gateway Interface   : VSI-interface 1
```

VXLAN ID	: 10			
Tunnels:				
Tunnel Name	Link ID	State	Type	Flood proxy
Tunnel0	0x5000000	UP	Auto	Disabled
ACs:				
AC		Link ID	State	Type
GE1/0/1 srv1		0	Up	Manual
GE1/0/2 srv1		1	Up	Manual

Verifying IGMP snooping and SMET routes

Verify that IGMP snooping is enabled on a per-VSI basis on the leaf devices.

```
[Leaf1] display igmp-snooping vsi vsi1
IGMP snooping information: VSI vsi1
IGMP snooping: Enabled
Drop-unknown: Enabled
Version: 2
Host-aging-time: 260s
Router-aging-time: 260s
Max-response-time: 10s
Last-member-query-interval: 1s
Querier: Enabled (IP:10.255.255.254, Expires: 00:01:39)
Querier-election: Disabled
Query-interval: 125s
General-query source IP: 10.255.255.254
Special-query source IP: 10.255.255.254
Report source IP: 10.255.255.254
Leave source IP: 10.255.255.254
Proxy: Enabled
IPP: -(Link ID: 0xffff)
```

Verify that Leaf 1 has a dynamic IGMP snooping group entry for multicast group (0.0.0.0, 225.0.0.1).

```
[Leaf1] display igmp-snooping group
Total 1 entries.

VSI vsi1: Total 1 entries.
(0.0.0.0, 225.0.0.1)
Host ports (1 in total):
GE1/0/1 (Link ID 0) (00:03:42)
```

Verify that Leaf 1 has created an SMET route.

```
[Leaf1] display evpn route smet
VSI name: vsi1
Source address :
Group address : 225.0.0.1
Local version : v2
ACs :
AC Link ID Flags
GE1/0/1 srv1 0 Local
```

Verify that Leaf 2 has received the SMET route created by Leaf 1.

```
[Leaf2] display evpn route smet
```

VSI name: vsi1

Source address :

Group address : 225.0.0.1

Local version : -

Peers :

Nexthop	Tunnel name	Link ID	Remote version
172.16.0.1	Tunnel0	0x50000000	v2

Verify that Leaf 1 has a dynamic IGMP snooping group entry for multicast group (0.0.0.0, 225.0.0.1).

```
[Leaf2] display igmp-snooping evpn-group
```

Total 1 entries.

VSI vsi1: Total 1 entries.

(0.0.0.0, 225.0.0.1)

Host ports (1 in total):

Tun0 (VXLAN ID 10)

Configuration files

- Leaf 1:

```
#
sysname Leaf1
#
ip vpn-instance vpn1
route-distinguisher 1:1
#
address-family ipv4
vpn-target 2:2 import-extcommunity
vpn-target 2:2 export-extcommunity
#
address-family evpn
vpn-target 1:1 import-extcommunity
vpn-target 1:1 export-extcommunity
#
vxlan tunnel mac-learning disable
#
router id 172.16.0.1
#
ospf 1
area 0.0.0.0
network 12.1.1.0 0.0.0.255
network 172.16.0.1 0.0.0.0
#
igmp-snooping
global-enable
#
```

```

l2vpn enable
vxlan tunnel arp-learning disable
#
vsi vsi1
gateway vsi-interface 1
statistics enable
arp suppression enable
vxlan 10
evpn encapsulation vxlan
route-distinguisher auto
vpn-target auto export-extcommunity
vpn-target auto import-extcommunity
igmp-snooping enable
igmp-snooping drop-unknown
igmp-snooping querier
igmp-snooping proxy enable
#
interface GigabitEthernet1/0/1
port link-mode bridge
port link-type trunk
undo port trunk permit vlan 1
port trunk permit vlan 1000
#
service-instance 1
encapsulation s-vid 1000
statistics enable
xconnect vsi vsi1
#
interface GigabitEthernet1/0/2
port link-mode bridge
port link-type trunk
undo port trunk permit vlan 1
port trunk permit vlan 1001
#
service-instance 1
encapsulation s-vid 1001
statistics enable
xconnect vsi vsi1
#
interface LoopBack0
ip address 172.16.0.1 255.255.255.255
#
interface GigabitEthernet1/0/3
port link-mode route
combo enable copper
ip address 12.1.1.1 255.255.255.0
#
interface Vsi-interface1

```



```

ip binding vpn-instance vpn1
ip address 10.255.255.254 255.0.0.0
mac-address 0000-0001-0001
distributed-gateway local
#
interface Vsi-interface2
ip binding vpn-instance vpn1
l3-vni 10000
#
bgp 65000
peer 172.16.10.1 as-number 65000
peer 172.16.10.1 connect-interface LoopBack0
peer 172.16.10.1 password cipher $c$3$cLxsbhBfj0xOTCgIQD1N6k3oJBamRAhZ5d8=
#
address-family l2vpn evpn
peer 172.16.10.1 enable
#
return

```

- **Leaf 2:**

```

#
sysname Leaf2
#
ip vpn-instance vpn1
route-distinguisher 1:1
#
address-family ipv4
vpn-target 2:2 import-extcommunity
vpn-target 2:2 export-extcommunity
#
address-family evpn
vpn-target 1:1 import-extcommunity
vpn-target 1:1 export-extcommunity
#
vxlan tunnel mac-learning disable
#
router id 172.16.0.2
#
ospf 1
area 0.0.0.0
network 13.1.1.0 0.0.0.255
network 172.16.0.2 0.0.0.0
#
igmp-snooping
global-enable
#
l2vpn enable
vxlan tunnel arp-learning disable
#

```

```

vsi vsi1
 gateway vsi-interface 1
 statistics enable
 arp suppression enable
 vxlan 10
 evpn encapsulation vxlan
   route-distinguisher auto
   vpn-target auto export-extcommunity
   vpn-target auto import-extcommunity
 igmp-snooping enable
 igmp-snooping drop-unknown
 igmp-snooping querier
 igmp-snooping proxy enable
#
interface LoopBack0
 ip address 172.16.0.2 255.255.255.255
#
interface GigabitEthernet1/0/1
 port link-mode bridge
 port link-type trunk
 undo port trunk permit vlan 1
 port trunk permit vlan 1002
 storm-constrain control shutdown
#
 service-instance 1
   encapsulation s-vid 1002
   statistics enable
   xconnect vsi vsi1
#
interface GigabitEthernet1/0/3
 port link-mode route
 ip address 13.1.1.1 255.255.255.0
#
interface Vsi-interface1
 ip binding vpn-instance vpn1
 ip address 10.255.255.254 255.0.0.0
 mac-address 0000-0001-0001
#
interface Vsi-interface2
 ip binding vpn-instance vpn1
 l3-vni 10000
#
bgp 65000
 peer 172.16.10.1 as-number 65000
 peer 172.16.10.1 connect-interface LoopBack0
 peer 172.16.10.1 password cipher $c$3$saE3frSy9IuWBpPlFJT7L952YRagb0D9Ioo=
#
 address-family l2vpn evpn

```

```

        peer 172.16.10.1 enable
    #
    return

```

- **RR:**

```

    #
    sysname RR
    #
    router id 172.16.10.1
    #
    ospf 1
    area 0.0.0.0
    network 12.1.1.0 0.0.0.255
    network 13.1.1.0 0.0.0.255
    network 172.16.10.1 0.0.0.0
    #
    interface LoopBack0
    ip address 172.16.10.1 255.255.255.255
    #
    interface GigabitEthernet1/0/1
    port link-mode route
    ip address 12.1.1.3 255.255.255.0
    #
    interface GigabitEthernet1/0/2
    port link-mode route
    ip address 13.1.1.3 255.255.255.0
    #
    bgp 65000
    group leaf internal
    peer leaf connect-interface LoopBack0
    peer leaf password cipher $c$3$91PuaavWEYHlqhaILQV5i5G828J3vG+g67I=
    peer 172.16.0.1 group leaf
    peer 172.16.0.2 group leaf
    #
    address-family l2vpn evpn
    undo policy vpn-target
    peer leaf enable
    peer leaf reflect-client
    #
    return

```