Configuring Tenant Routed Multicast over BGP EVPN VXLANv6

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Restrictions for Tenant Routed Multicast over BGP EVPN VXLANv6

- TRM over IPv6 underlay does not support multicast distribution tree (MDT) for handoff to external MPLS MVPN networks at the border.
- In the IPv6 underlay network, the underlay IPv6 default MDT on PIM source specific multicast (SSM) mode is not supported. The overlay IPv4 and IPv6 multicast supports PIM ASM and SSM.
- Auto RP and PIM BSR are not supported for IPv4 and IPv6 overlays with IPv6 underlay. Only static RP is supported.
- TRM with IPv6 underlay is not interoperable with TRM with IPv4 underlay within a single fabric domain.

Information about Tenant Routed Multicast over BGP EVPN VXLANv6

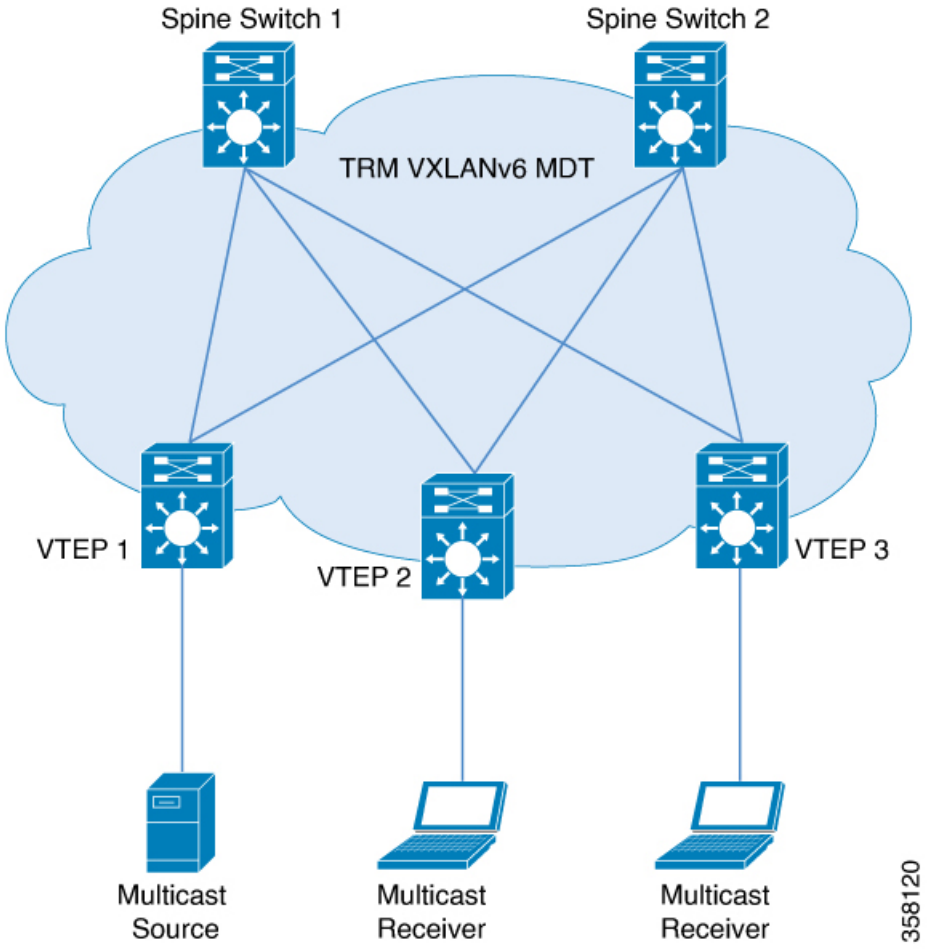
TRM over IPv6 underlay follows the industry standard IETF RFCs 6513 and 6514 to support rich multicast applications over the BGP EVPN VXLAN fabric network. The Cisco Catalyst 9000 series switches provide flexibility to transport IPv4 multicast applications in overlay networks while the underlay network can be built on single-stack IPv6 only.

TRM over IPv6 underlay enables the delivery of a customer's IPv4 and IPv6 multicast host traffic in a multi-tenant fabric in an efficient and resilient manner. The delivery of TRM improves Layer 3 overlay multicast functionality in the networks. With TRM enabled, multicast forwarding in the underlay is leveraged

to replicate VXLAN-encapsulated routed multicast traffic over native IPv6 network. A default MDT is built per-VRF. This is in addition to the existing multicast groups for broadcast and unknown unicast traffic in a Layer 2 virtual network instance (VNI), and for Layer 2 multicast replication group. The individual multicast group addresses in the overlay are mapped to the respective underlay multicast address for replication and transport. The advantage of using a BGP-based approach is that it allows the BGP EVPN VXLAN fabric with TRM to operate as fully distributed overlay rendezvous point (RP), with the RP presence on every edge device or VTEP.

A multicast-enabled data center fabric is typically part of an overall multicast network. Multicast sources, receivers, and multicast rendezvous points, might reside inside the data center but might also be inside the campus or externally reachable via the WAN. Thus, TRM allows a seamless integration with existing multicast networks with newer enterprise fabric.

Figure 1: Tenant Routed Multicast Topology



For IPv4 and IPv6 multicast traffic, TRM uses BGP EVPN and multicast virtual private network (MVPN) routes to perform multicast routing. All the VTEPs in the network do not need to be BGP peers. There can be BGP peering between the VTEPs and the spine switches with the spine switches acting as route reflectors. Source reachability is distributed via EVPN route type 2 and EVPN route type 5 in the fabric. RPF is installed based on these routes. Source-active and receiver-join information is carried in the MVPN address family using route types 5, 6, and 7.

In an EVPN VXLAN network, TRM is supported in the overlay network in PIM sparse mode and PIM source specific multicast (SSM) mode. VTEPs have IPv6 BGP peering in MVPN as well as EVPN address families to exchange routes for TRM.

TRM in PIM Sparse Mode

PIM-SM distributes information about active sources by forwarding data packets on the shared tree. Because PIM-SM uses shared trees, it requires the use of a rendezvous point (RP). An RP is used for the initial convergence of multicast traffic between sources and receivers.

The following section describes the different ways the RP can be configured for TRM in PIM sparse mode.

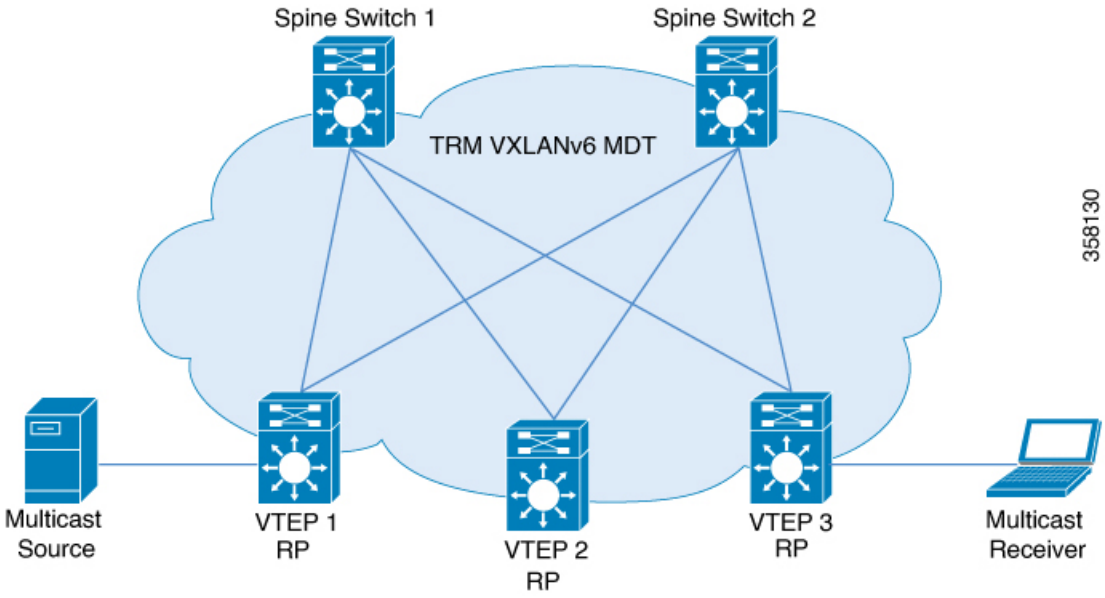
RP Placement

For TRM in PIM sparse mode, the overlay RP can be configured either within the BGP EVPN VXLAN fabric, or outside of the fabric.

Anycast RP in the Overlay Network

In Anycast RP in the overlay network, every VTEP acts as an RP.

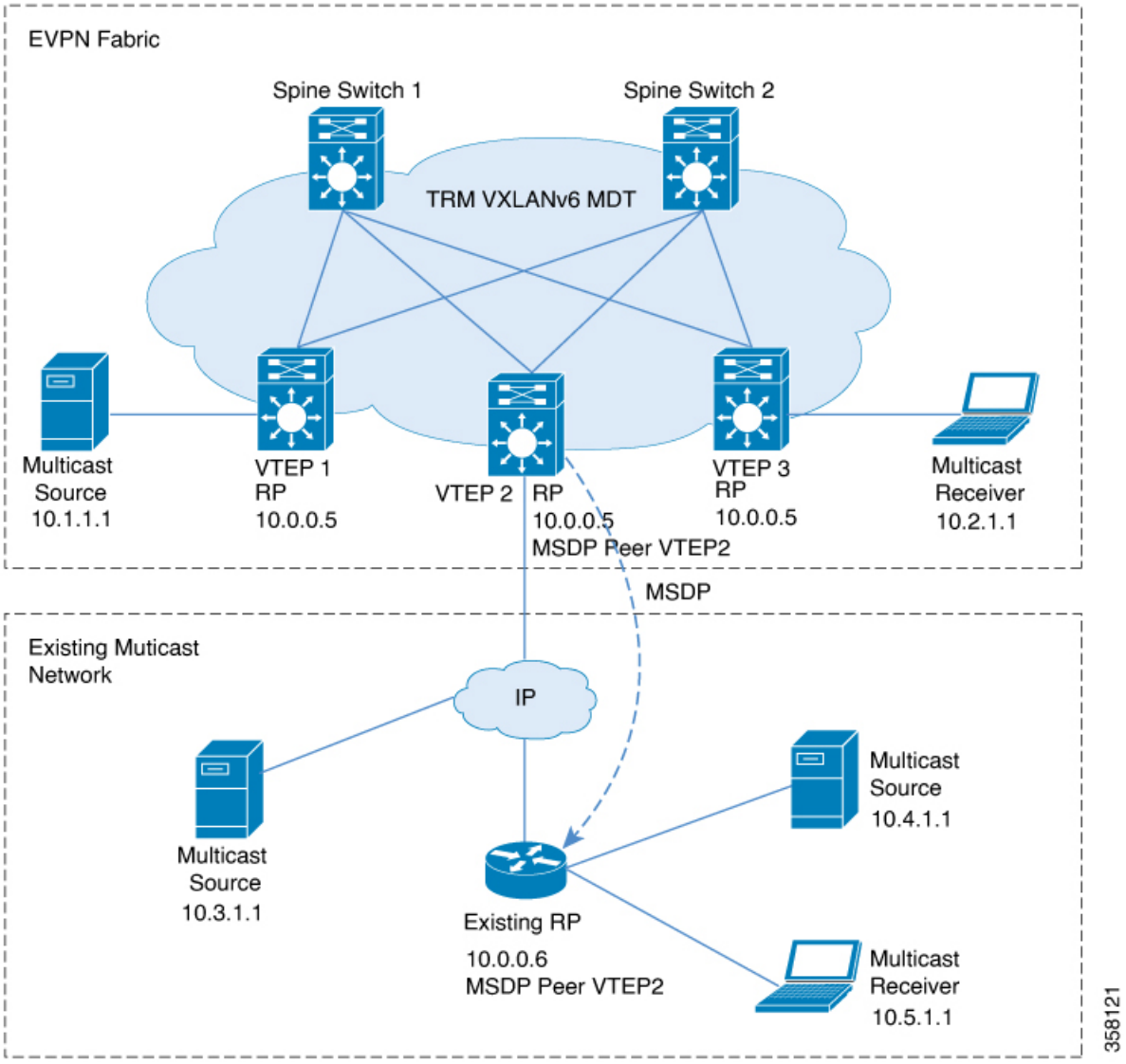
Figure 2: Anycast RP in the Overlay Network



Anycast RP can also inter-operate with existing multicast networks and RP as shown below. Refer the *Configuring MSDP* chapter of the *IP Multicast Routing Configuration Guide* for information on how to configure MSDP.

Note MSDP is an IPv4 protocol and the MSDP originator IP loopback configuration is mandatory.

Figure 3: Anycast RP with IPv4 Overlay in an Existing Multicast Network



RP Inside the BGP EVPN VXLAN Fabric

In a TRM scenario where all sources and receivers are within the EVPN VXLAN network, the overlay RP can be placed on a border spine or on a VTEP.

Figure 4: Border Spine Switch as an RP for IPv4 and IPv6 Overlay

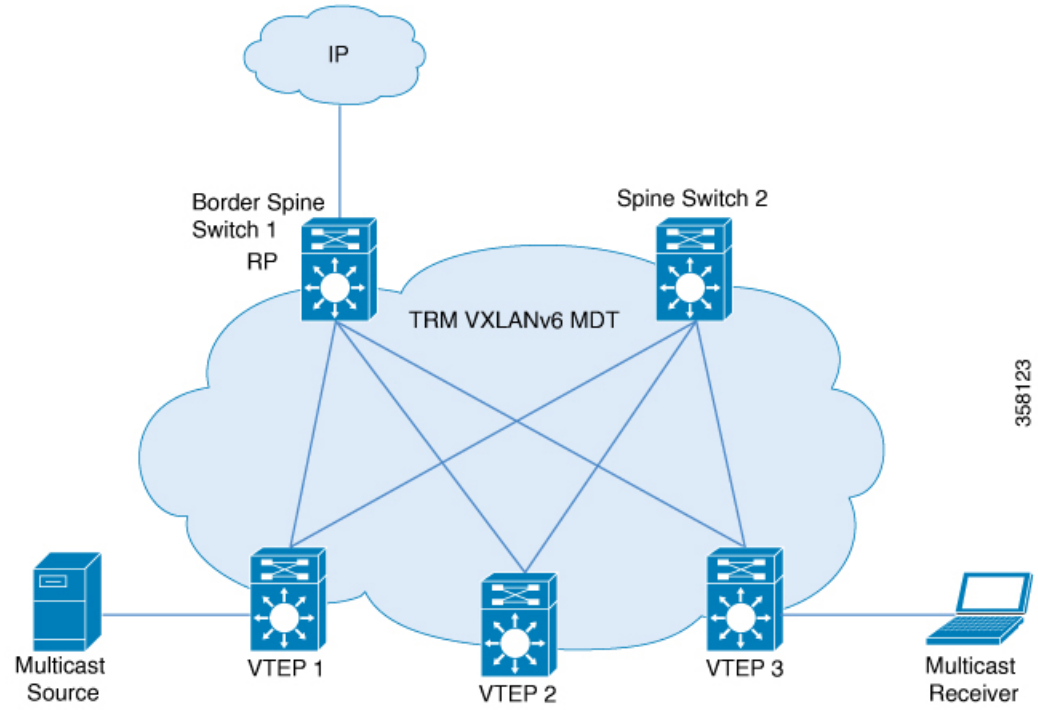


Figure 5: VTEP as an RP for IPv4 and IPv6 Overlay

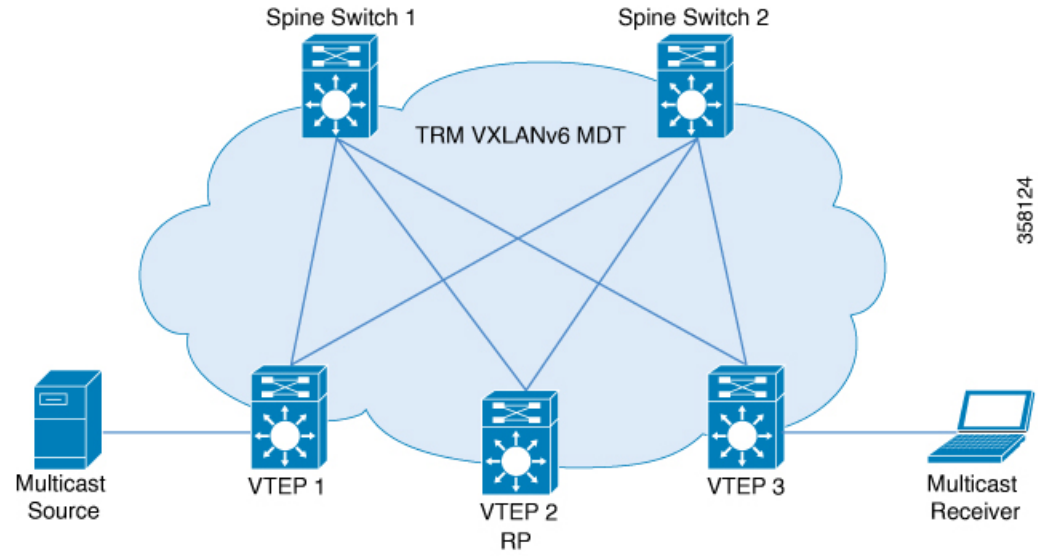
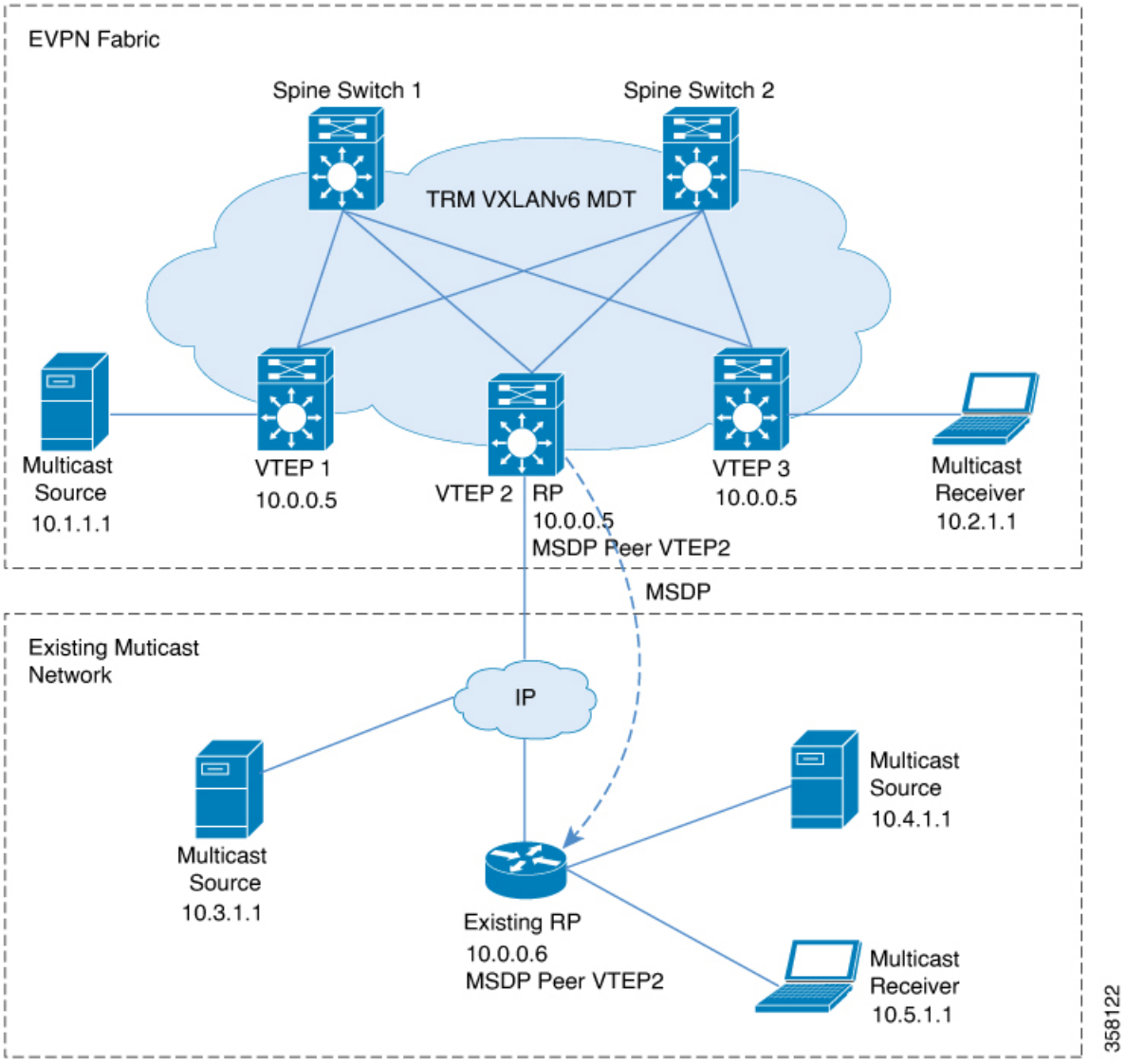


Figure 6: Fabric RP with IPv4 Overlay in existing Multicast Network



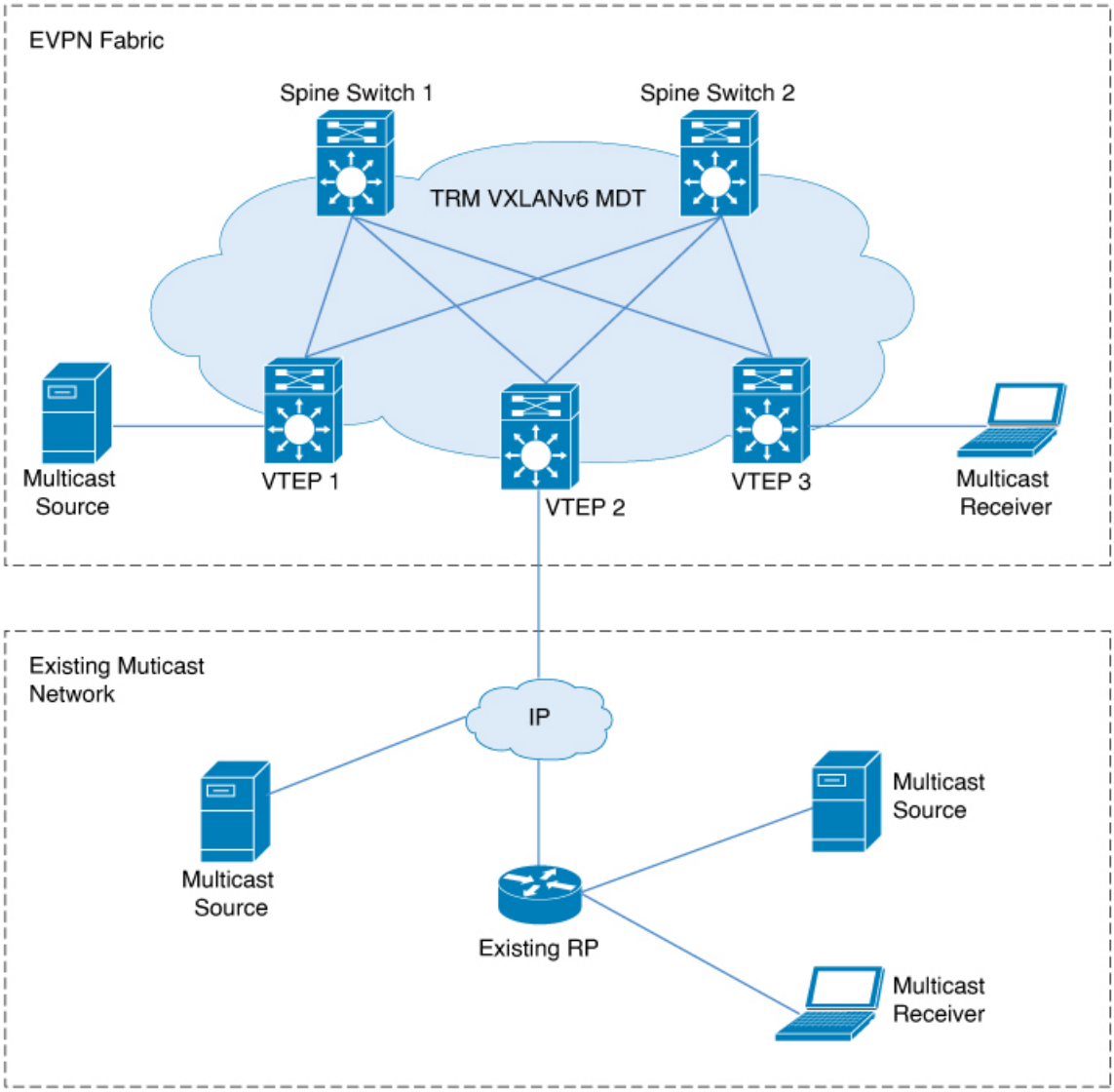
Fabric RP (VTEP as RP) can also inter-operate with existing multicast networks and RP as shown below. Refer the *Configuring MSDP* chapter of the *IP Multicast Routing Configuration Guide* for information on how to configure MSDP.

Note MSDP is an IPv4 protocol and the MSDP originator IP loopback configuration is mandatory.

RP Outside the BGP EVPN VXLAN Fabric

In a TRM scenario where sources and receivers need to interwork with the overlay network and the EVPN VXLAN network, the RP can be placed on an external router connected to a VTEP.

Figure 7: RP Outside the BGP EVPN VXLAN Fabric with an Existing Multicast Network for IPv4 and IPv6 Overlay



In PIM sparse mode, TRM can be configured in three different ways depending on how the RP is configured:

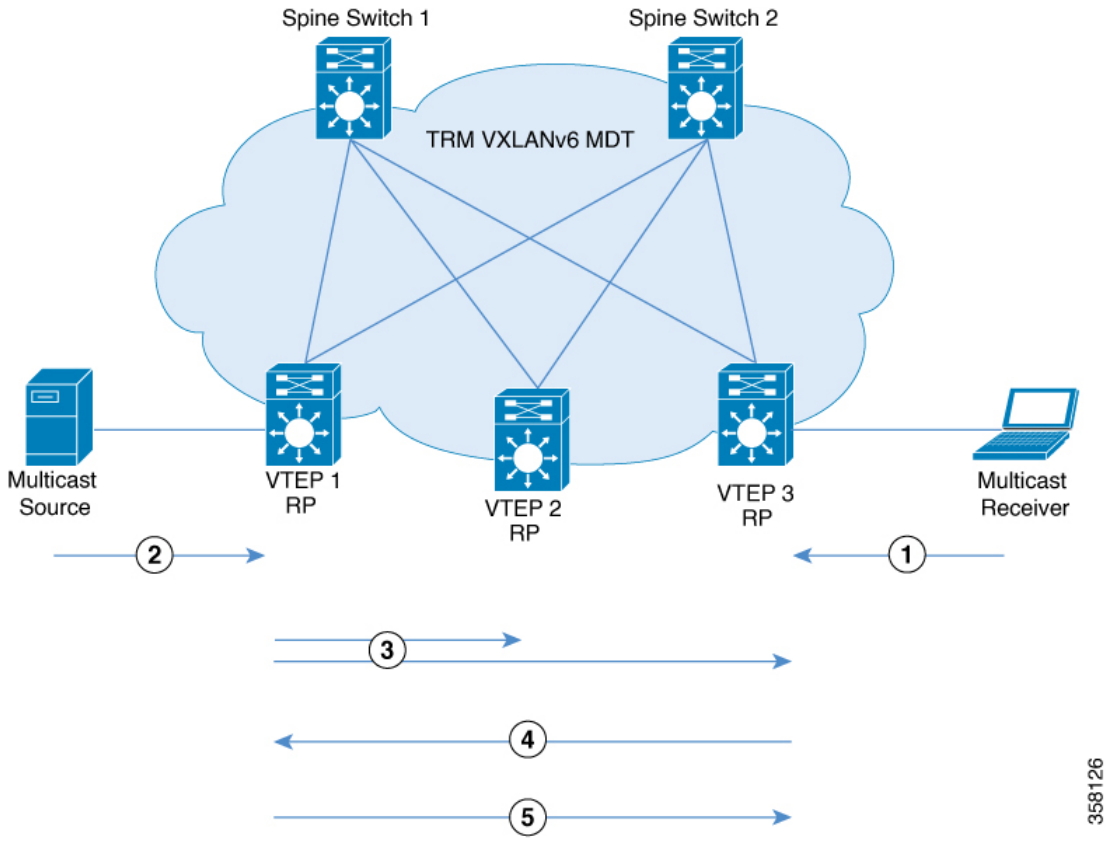
- PIM Sparse Mode with Anycast RP
- PIM Sparse Mode with RP Inside the BGP EVPN VXLAN Fabric
- PIM Sparse Mode with RP Outside the BGP EVPN VXLAN Fabric

PIM Sparse Mode with Anycast RP

In PIM sparse mode with anycast RP, every VTEP in the EVPN VXLAN network acts as an RP in the overlay network for its respective multicast group. The RPs in the underlay network must be configured on the spine switches.

When a VTEP discovers a source device, it sends Source A-D Routes (MVPN route type 5) to all the other VTEPs. Based on these Source A-D routes, the other VTEPs send (S,G) join requests as MVPN route type 7 to the source VTEP.

Figure 8: PIM Sparse Mode with Anycast RP



In PIM sparse mode with anycast RP, the following sequence of events occurs:

1. Receiver sends (*,G) IGMP Join to VTEP 3. Since VTEP 3 is an RP, (*,G) is created at VTEP 3.
2. The source device starts streaming data and (S,G) is created on VTEP 1.
3. VTEP 1 performs self-source-registration since it is also an RP.

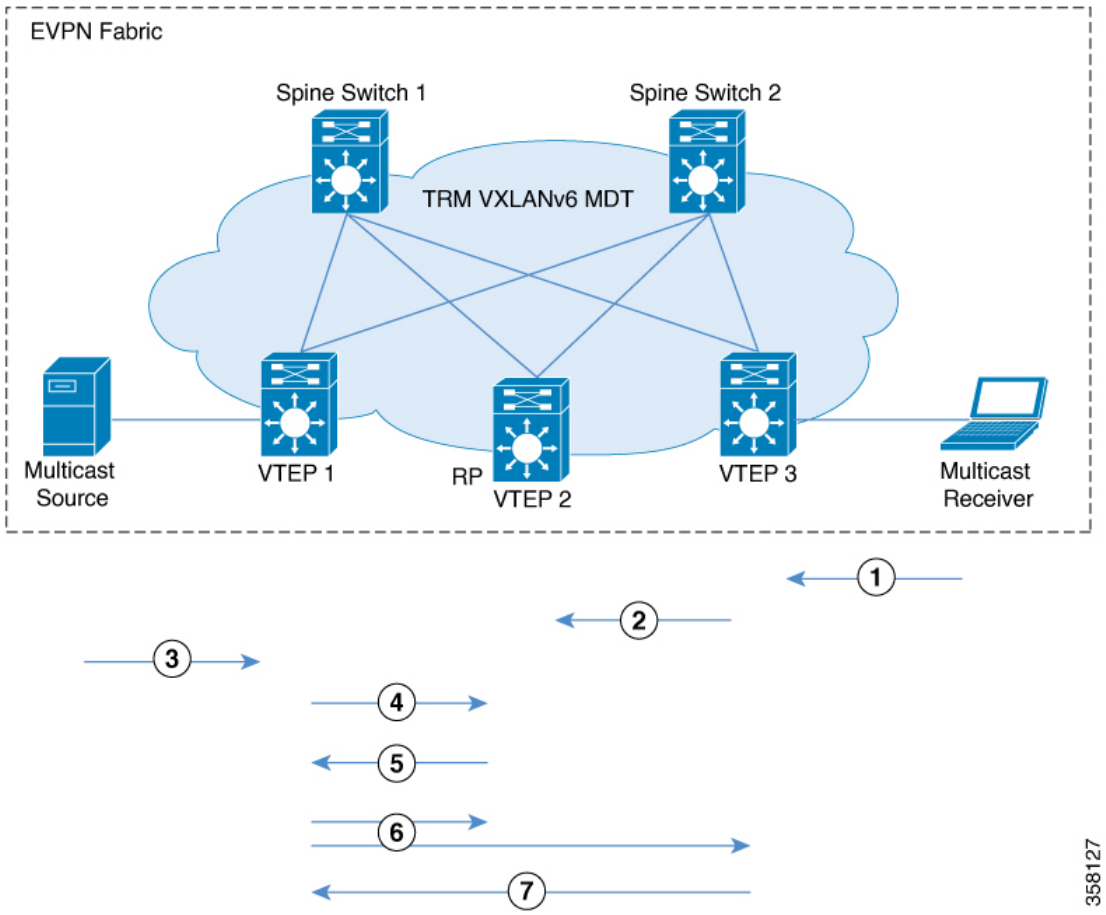
   The source VTEP (VTEP 1) advertises Source A-D Routes (also called MVPN route type 5) for the (S,G) to all the other VTEPs which are BGP peers in the MVPN address family.
4. VTEP 2 and VTEP 3 receive and install the Source A-D Route for the (S,G).

   (S,G) is created at VTEP 3. VTEP 3 now has an overlay route for the (S,G) and also has a unicast route to the source device from the EVPN Control plane. It then sends an MVPN route type 7 (S,G) BGP join to VTEP 1 and starts accepting traffic.
5. VTEP 1 receives and installs MVPN route type 7 from VTEP 3. It uses the Layer 3 VNI's SVI as the forwarding interface for the (S,G) and starts forwarding traffic.

PIM Sparse Mode with RP Inside the BGP EVPN VXLAN Fabric

In PIM sparse mode with RP inside the BGP EVPN VXLAN Fabric, the RP can be any VTEP in the EVPN VXLAN network.

Figure 9: PIM Sparse Mode with RP Inside the BGP EVPN VXLAN Fabric



The following sequence of events occurs when TRM is enabled in PIM sparse mode with the RP inside the fabric:

1. Receiver sends (*,G) IGMP Join to VTEP 3. (*,G) is created at VTEP 3.
2. VTEP 3 sends MVPN route type 6 to VTEP 2 which is the RP. (*,G) is created at VTEP 2.
3. The source device starts streaming data and (S,G) is created on VTEP 1.
4. VTEP 1 performs source-registration at VTEP 2 since it is the RP. (S,G) is created at VTEP 2.
5. Since the RP has a receiver for (S,G), it sends an MVPN route type 7 to VTEP 1 and forwards PIM-register traffic towards receivers in the (*,G) tree.
6. VTEP 1 receives and installs MVPN route type 7 from VTEP 2. It uses the Layer 3 VNI's SVI as the forwarding interface for (S,G).

The source VTEP (VTEP 1) advertises Source A-D Routes for (S,G) to all the other VTEPs which are BGP peers in the MVPN address family.

VTEP 2 and VTEP 3 receive and install the Source A-D Routes for (S,G).

7. (S,G) is created at VTEP 3. VTEP 3 now has an overlay route for (S,G) and also has a unicast route to the source device from the EVPN Control plane. It then sends an MVPN route type 7 to VTEP 1 and starts accepting traffic.

   VTEP 1 receives and installs MVPN route type 7 from VTEP 3 and starts forwarding traffic.

Note For the receiver VTEP to be able to send an MVPN route type 7 to the source VTEP, there can be two triggers:

- The (*,G) packets being forwarded to the receiver VTEP from the RP.
- The Source A-D route received from the source VTEP.

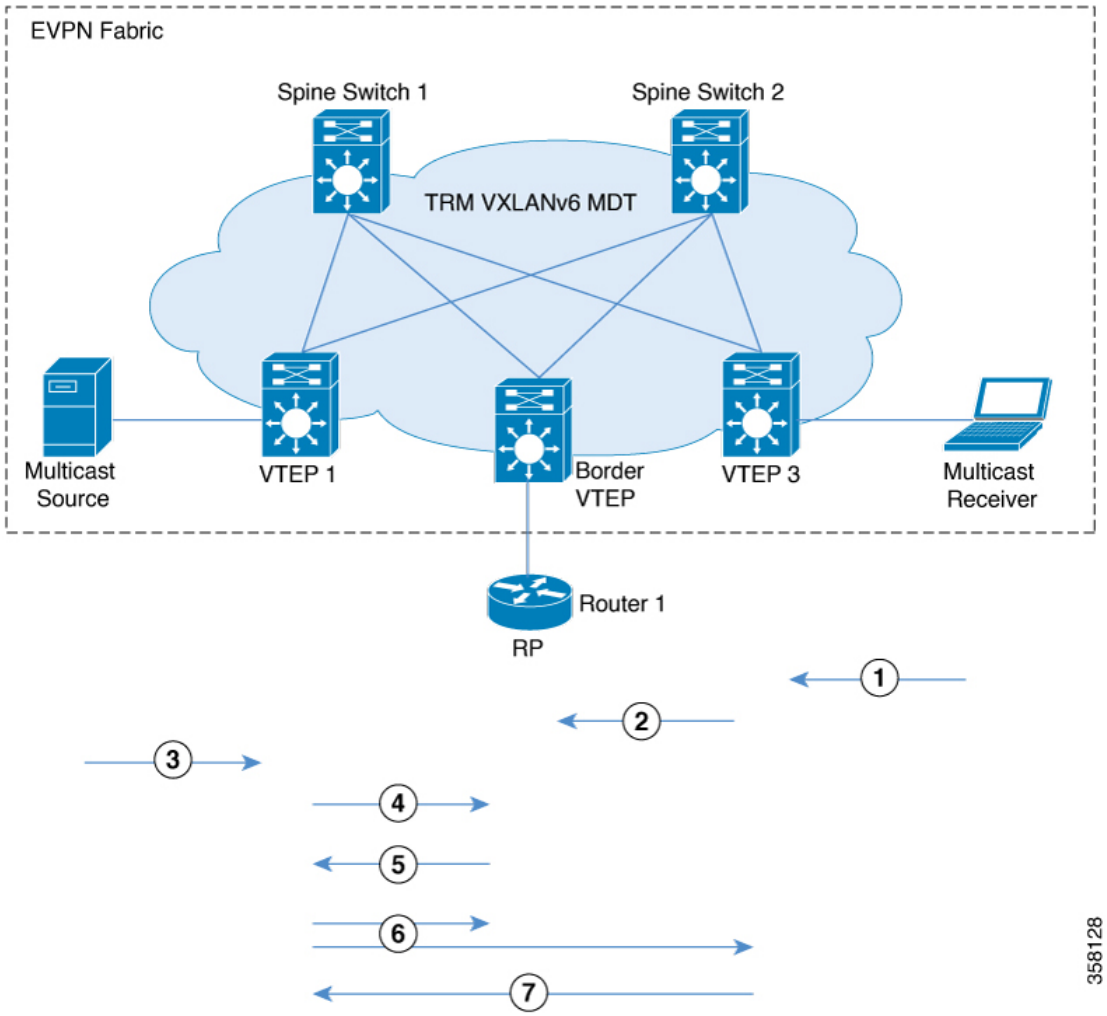
Once either of these are received, the receiver VTEP sends MVPN route type 7 to the source VTEP.

PIM Sparse Mode with RP Outside the BGP EVPN VXLAN Fabric

In PIM sparse mode with RP outside the BGP EVPN VXLAN Fabric, the RP can be a PIM router behind any VTEP in the EVPN VXLAN network.

Note When the RP is configured outside the BGP EVPN VXLAN fabric, TRM in PIM sparse mode functions the same way as it does when the RP is inside the fabric.

Figure 10: PIM Sparse Mode with RP Outside the BGP EVPN VXLAN Fabric



The chronological traffic flow from the image above is as follows:

1. Receiver sends (*,G) IGMP Join to VTEP 3. (*,G) is created at VTEP 3.
2. VTEP3 sends and MVPN route type 6 to VTEP 2 which has the RP in its overlay network. This route is converted to a (*,G) join towards the RP by VTEP2.
3. The source device starts streaming data and (S,G) is created on VTEP 1.
4. VTEP1 performs source registration with RP. (S,G) join from RP creates (S,G) state at VTEP 2.
5. Since the RP has a receiver for (S,G), it sends an MVPN route type 7 to VTEP 1 and forwards PIM-register traffic towards receivers in the (*,G) tree.
6. VTEP 1 receives and installs MVPN route type 7 from VTEP 2. It uses the Layer 3 VNI's SVI as the forwarding interface for (S,G).

   The source VTEP (VTEP 1) advertises Source A-D Routes for (S,G) to all the other VTEPs which are BGP peers in the MVPN address family.

VTEP 2 and VTEP 3 receive and install the Source A-D Routes for (S,G).

7. (S,G) is created at VTEP 3. VTEP 3 now has an overlay route for (S,G) and also has a unicast route to the source device from the EVPN Control plane. It then sends an MVPN route type 7 to VTEP 1 and starts accepting traffic.

   VTEP 1 receives and installs MVPN route type 7 from VTEP 3 and starts forwarding traffic.

Note For the receiver VTEP to be able to send an MVPN route type 7 to the source VTEP, there can be two triggers:

- The (*,G) packets being forwarded to the receiver VTEP from the RP.
- The Source A-D route received from the source VTEP.

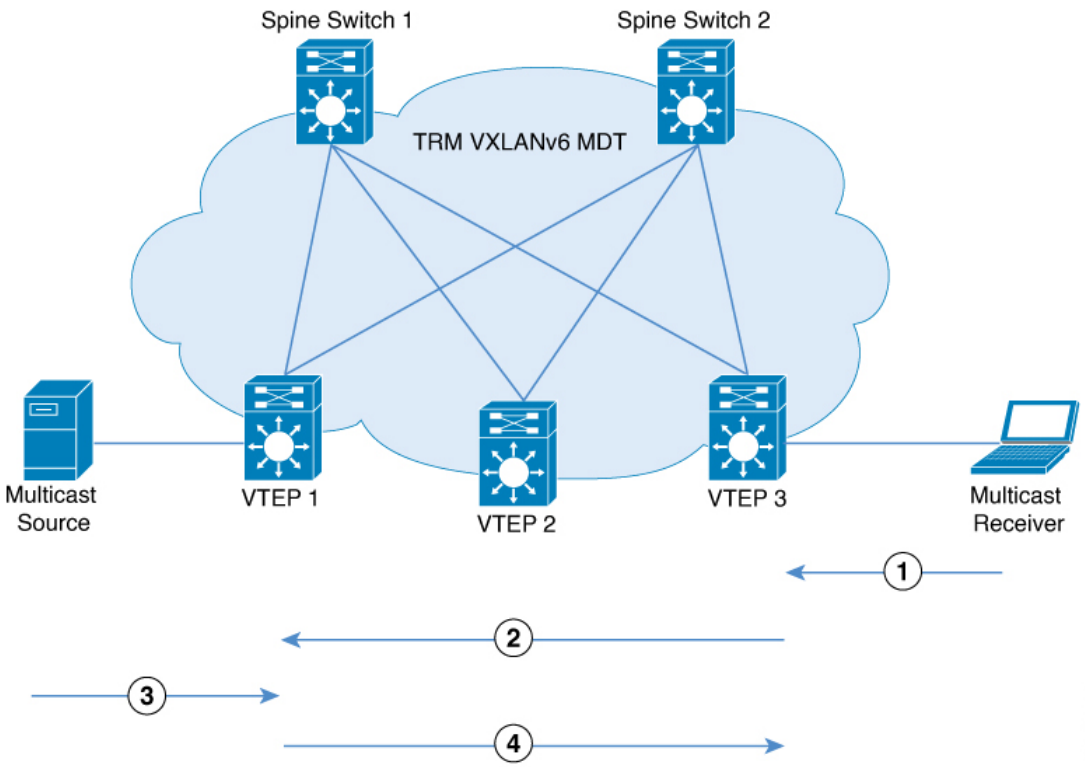
Once either of these are received, the receiver VTEP sends MVPN route type 7 to the source VTEP.

See PIM Sparse Mode with RP Inside the BGP EVPN VXLAN Fabric, on page 9 for the sequence of events that happen when TRM is enabled in PIM sparse mode with the RP inside the fabric.

TRM in PIM Source Specific Mode

In PIM source specific mode, the Source A-D route (MVPN route type 5) is not needed for the multicast convergence to happen. The receiver VTEP does not wait to receive the Source A-D route to send the MVPN route type 7.

Figure 11: PIM Source Specific Mode



In PIM Source Specific Mode, the following sequence of events occurs:

1. When the source device sends a unicast packet, VTEP 1 sends out EVPN routes to all the other VTEPs, letting them know that the packet is from the source device.

   The receiver sends an (S,G) IGMP join towards VTEP 3 and an (S,G) entry is created.

2. VTEP 3 performs an RPF lookup for the source device. If the SVI of the Layer 3 VNI is found to be the RPF interface, VTEP 3 sends MVPN route type 7 towards VTEP 1.

3. VTEP 1 receives and installs the MVPN route type 7. VTEP 1 creates an (S,G) entry, using the Layer 3 VNI's SVI as the forwarding interface for (S,G).

   The source device sends (S,G) data to VTEP 1.

4. VTEP 1 starts forwarding the traffic to VTEP 3.

How to Configure Tenant Routed Multicast over BGP EVPN VXLANv6

Prerequisites to Configuring TRM

Before configuring TRM, ensure that VXLANv6 and EVPN VXLAN Layer 2 and Layer 3 Overlay networks have been configured. See Configuring BGP EVPN VXLANv6 for detailed steps to configure VXLANv6.

See How to Configure EVPN VXLAN Integrated Routing and Bridging for detailed steps to configure Layer 2 and Layer 3 overlay networks.

Perform the following set of procedures to configure TRM in an EVPN VXLAN network:

Configuring TRM with PIM Sparse Mode

To configure TRM with PIM Sparse Mode, perform the following tasks:

Configuring the TRM Multicast Distribution Tree in the VRF

To configure the TRM MDT, perform the following steps:

Procedure

	Command or Action	Purpose
Step 1	**enable** **Example:** `Device> enable`	Enables privileged EXEC mode. Enter your password, if prompted.
Step 2	**configure terminal** **Example:** `Device# configure terminal`	Enters global configuration mode.
Step 3	**vrf definition** *vrf-name* **Example:** `Device(config)# vrf definition green`	Names the VRF and enters VRF configuration mode.
Step 4	**address-family** { **ipv4** | **ipv6** } **Example:** `Device(config-vrf)# address-family ipv6`	Specifies the VRF and enters VRF address family configuration mode. • Use the **ipv4** keyword to configure IPv4 address family. • Use the **ipv6** keyword to configure IPv6 address family.
Step 5	**mdt default vxlan** *ipv6-group-address* **Example:** `Device(config-vrf-af)# mdt default vxlan FF55::1`	Configures the multicast group address for default MDT groups for a VRF in a VXLAN.
Step 6	**mdt auto-discovery vxlan** [**inter-as**] **Example:** `Device(config-vrf-af)# mdt auto-discovery vxlan`	Enables VXLAN with BGP auto-discovery. Use the **inter-as** keyword for the MVPN address family routes to cross the BGP autonomous system (AS) boundaries.

	Command or Action	Purpose
Step 7	**mdt overlay use-bgp** [**spt-only**] **Example:** `Device(config-vrf-af)# mdt overlay use-bgp spt-only`	Configures the mechanism that is used by TRM in PIM sparse mode to operate within the BGP EVPN VXLAN fabric. Specifies BGP as the overlay protocol. • Use the **mdt overlay use-bgp spt-only** command to configure PIM sparse mode with anycast RP. • Use the **mdt overlay use-bgp** command to configure PIM sparse mode with a single RP either inside or outside the BGP EVPN VXLAN fabric.
Step 8	**exit-address-family** **Example:** `Device(config-vrf-af)# exit-address-family`	Exits VRF address family configuration mode and returns to VRF configuration mode.
Step 9	**end** **Example:** `Device(config-vrf)# end`	Returns to privileged EXEC mode.

Configuring Multicast Routing on the Overlay VRF

To enable multicast routing on the overlay VRF, perform the following steps:

Procedure

	Command or Action	Purpose
Step 1	**enable** **Example:** `Device> enable`	Enables privileged EXEC mode. Enter your password, if prompted.
Step 2	**configure terminal** **Example:** `Device# configure terminal`	Enters global configuration mode.
Step 3	**ip multicast-routing vrf** *vrf-name* **Example:** `Device(config)# ip multicast-routing vrf green`	Enables IP multicast forwarding on the overlay VRF.
Step 4	**ipv6 multicast-routing** **Example:**	Enables IPv6 multicast forwarding on the underlay VRF.

	Command or Action	Purpose
	`Device(config)# ipv6 multicast-routing`	
Step 5	**ipv6 multicast-routing vrf** *vrf-name* **Example:** `Device(config)# ipv6 multicast-routing vrf green`	Enables IPv6 multicast forwarding on the overlay VRF.
Step 6	**end** **Example:** `Device(config)# end`	Returns to privileged EXEC mode.

Configuring Multicast on Switch Virtual Interfaces for Core-facing and Access-facing VLANs

To configure multicast on SVIs for the core-facing and access-facing VLANs on the VTEP, perform the following steps:

Procedure

	Command or Action	Purpose
Step 1	**enable** **Example:** `Device> enable`	Enables privileged EXEC mode. Enter your password, if prompted.
Step 2	**configure terminal** **Example:** `Device# configure terminal`	Enters global configuration mode.
Step 3	**interface vlan** *core-facing-vlan-id* **Example:** `Device(config)# interface vlan 200`	Enters interface configuration mode for the specified VLAN.
Step 4	**ip pim sparse-mode** **Example:** `Device(config-if) # ip pim sparse-mode`	Enables IPv4 multicast on the core-facing SVI.
Step 5	**exit** **Example:** `Device(config-if)# end`	Returns to privileged EXEC mode.
Step 6	**interface vlan** *access-facing-vlan-id* **Example:** `Device(config)# interface vlan 202`	Enters interface configuration mode for the specified VLAN.

	Command or Action	Purpose
Step 7	**ip pim sparse-mode** **Example:** `Device(config-if) # ip pim sparse-mode`	Enables IPv4 multicast on the access-facing SVI where sources or receivers are connected. Repeat this step for all the access-facing SVIs that are part of the Layer 2 VNI where sources and receivers are connected.
Step 8	**end** **Example:** `Device(config-if)# end`	Returns to privileged EXEC mode.

Configuring BGP with MVPN Address Family on VTEP

To configure BGP on a VTEP with MVPN address family, perform the following steps:

Procedure

	Command or Action	Purpose
Step 1	**enable** **Example:** `Device> enable`	Enables privileged EXEC mode. Enter your password, if prompted.
Step 2	**configure terminal** **Example:** `Device# configure terminal`	Enters global configuration mode.
Step 3	**router bgp** *autonomous-system-number* **Example:** `Device(config)# router bgp 1`	Enables a BGP routing process, assigns it an autonomous system number, and enters router configuration mode.

Step 4	**address-family** {**ipv4** | **ipv6** } **mvpn**
	Example:
	`Device(config-router)# address-family ipv4 mvpn`
	`Device(config-router)# address-family ipv6 mvpn`
		Specifies the MVPN address family and enters address family configuration mode.
		• Use the **ipv4** keyword to configure IPv4 MVPN address family.
		• Use the **ipv6** keyword to configure IPv6 MVPN address family.

Step 5	**neighbor** *ip-address* **activate** **Example:** `Device(config-router-af)# neighbor 2000::1 activate`	Enables the exchange of information with a BGP neighbor. Use the IP address of the spine switch as the neighbor IP address.
Step 6	**neighbor** *ip-address* **send-community extended**	Specifies the communities attribute sent to a BGP neighbor.

	Command or Action	Purpose
	Example: `Device(config-router-af)# neighbor 2000::1 send-community both`	Use the IP address of the spine switch as the neighbor IP address.
Step 7	**neighbor** *ip-address* **advertisement-interval** *seconds* **Example:** `Device(config-router-af)# neighbor 2000::1 advertisement-interval 10`	(Optional) Sets the minimum route advertisement interval (MRAI) between the sending of BGP routing updates.
Step 8	**exit-address-family** **Example:** `Device(config-router-af)# exit-address-family`	Exits address family configuration mode and returns to router configuration mode.
Step 9	**end** **Example:** `Device(config-router)# end`	Returns to privileged EXEC mode.

Configuring RP for Underlay Network

To configure RP for the underlay network, perform the following steps:

Note We recommend that you configure the Spine Switch as the RP for the underlay network.

Procedure

	Command or Action	Purpose
Step 1	**enable** **Example:** `Device> enable`	Enables privileged EXEC mode. Enter your password, if prompted.
Step 2	**configure terminal** **Example:** `Device# configure terminal`	Enters global configuration mode.
Step 3	**ipv6 pim rp-address** *ipv6-address-of-rp* **Example:** `Device(config)# ipv6 pim rp-address 4444::4`	Configures the RP in the underlay network. For information about RP redundancy, see *IP Multicast Routing Configuration Guide*.
Step 4	**end** **Example:**	Returns to privileged EXEC mode.

	Command or Action	Purpose
	`Device(config)# end`	

Configuring RP for Overlay Network

To configure RP for the overlay network, perform the following steps:

Procedure

	Command or Action	Purpose
Step 1	**enable** **Example:** `Device> enable`	Enables privileged EXEC mode. Enter your password, if prompted.
Step 2	**configure terminal** **Example:** `Device# configure terminal`	Enters global configuration mode.
Step 3	**interface** *loopback-interface* **Example:** `Device(config)# interface Loopback 901`	Enters interface configuration mode for the specified Loopback interface.
Step 4	**vrf forwarding** *vrf-name* **Example:** `Device(config-if)# vrf forwarding green`	Configures forwarding table for the Loopback interface.

Step 5	{**ip** | **ipv6**} **address** *ip/ipv6-address*
	Example:
	`Device(config-if)# ip address 10.1.13.13 255.255.255.255`
	`Device(config-if)# ipv6 address 2000::1`
		Configures the IPv4 or IPv6 address for the Loopback interface.

Step 6	**ip pim sparse-mode** **Example:** `Device(config-if)# ip pim sparse-mode`	Enables IPv4 multicast on the Loopback interface. **Note** Enable PIM sparse mode only if EVPN VXLAN Layer 2 overlay network is also configured on the VTEP with underlay multicast as the mechanism for forwarding BUM traffic.
Step 7	**exit** **Example:** `Device(config-if)# exit`	Returns to global configuration mode.

	Command or Action	Purpose

Step 8	{**ip** | **ipv6** } **pim vrf** *vrf-name* **rp-address** *rp-address*
	Example:
	`Device(config)# ip pim vrf green rp-address 10.1.13.13`
	`Device(config)# ipv6 pim vrf green rp-address 2000::1`
		Configures the address of the local VTEP as the PIM RP for the multicast group.
		• In PIM-SM with Anycast RP mode, use the address of the loopback interface of the local VTEP.
		• In PIM-SM with RP either inside or outside the BGP EVPN VXLAN fabric, use the IP address of the RP.
		Note The loopback interface specified must be part of the same VRF.

Step 9	{**ip** | **ipv6** } **pim vrf** *vrf-name* **register-source** *loopback-address-of-vtep*
	Example:
	`Device(config)# ip pim vrf green register-source loopback902`
	`Device(config)# ipv6 pim vrf green register-source loopback902`
		Configures a unique IPv6 address for the loopback interface of the VTEP that acts as the first hop router to multicast traffic.

Step 10	**end** **Example:** `Device(config)# end`	Returns to privileged EXEC mode.

Configuring TRM with PIM Source Specific Mode

To configure TRM with PIM Source Specific Mode, perform the following tasks:

- Configure the TRM Multicast Distribution Tree in the VRF
- Configure Multicast Routing on the Overlay VRF
- Configure Multicast on Switch Virtual Interfaces for the Core-facing and Access-facing VLANs
- Configure BGP with MVPN Address Family on VTEP
- Configuring RP for Underlay Network

Configuring SSM for Overlay Network

To configure SSM for the overlay network, perform the following steps:

Procedure

	Command or Action	Purpose
Step 1	**enable** **Example:** `Device> enable`	Enables privileged EXEC mode. Enter your password, if prompted.
Step 2	**configure terminal** **Example:** `Device# configure terminal`	Enters global configuration mode.
Step 3	**ip pim vrf** *vrf-name* **ssm** { **default** | **range** *access-list* } **Example:** `Device(config)# ip pim vrf green ssm default`	Configures an SSM range for TRM. The **default** keyword defines the SSM range access list as 232/8. The **range** keyword specifies the standard IP access list number or name that defines the SSM range.
Step 4	**end** **Example:** `Device(config)# end`	Returns to privileged EXEC mode.

Verifying Tenant Routed Multicast over BGP EVPN VXLANv6

The following table lists the **show** commands that are used to verify TRM:

Command	Purpose
show nve peers	Displays NVE interface state information for peer leaf switches.
show l2vpn evpn peers vxlan	Displays Layer 2 EVPN peer route counts in the VXLAN and up time.
show ip igmp vrf green groups	Displays the multicast groups with receivers that are directly connected to the router pertaining to the specific Multicast Virtual Routing and Forwarding (MVRF) instance and that were learned through IGMP.
show bgp ipv4 mvpn all	Displays the IPv4 MVPN options for BGP MVPN C-route signaling.
show bgp ipv6 mvpn all	Displays the IPv6 MVPN options for BGP MVPN C-route signaling.

Command	Purpose
show ip mroute vrf green	Displays the contents of the IPv4 mroute table that pertain to a specific MVRF instance.
show ipv6 mroute vrf green	Displays the contents of the IPv6 mroute table that pertain to a specific MVRF instance.
show ip mfib vrf green	Displays forwarding entries and interfaces in the IPv4 Multicast Forwarding Information Base (MFIB) associated with MVRF instances.
show ipv6 mfib vrf green	Displays forwarding entries and interfaces in the IPv6 Multicast Forwarding Information Base (MFIB) associated with MVRF instances.
show ipv6 mroute	Displays multicast routing table information.
show ipv6 mfib	Displays the forwarding entries and interfaces in the IPv6 MFIB.

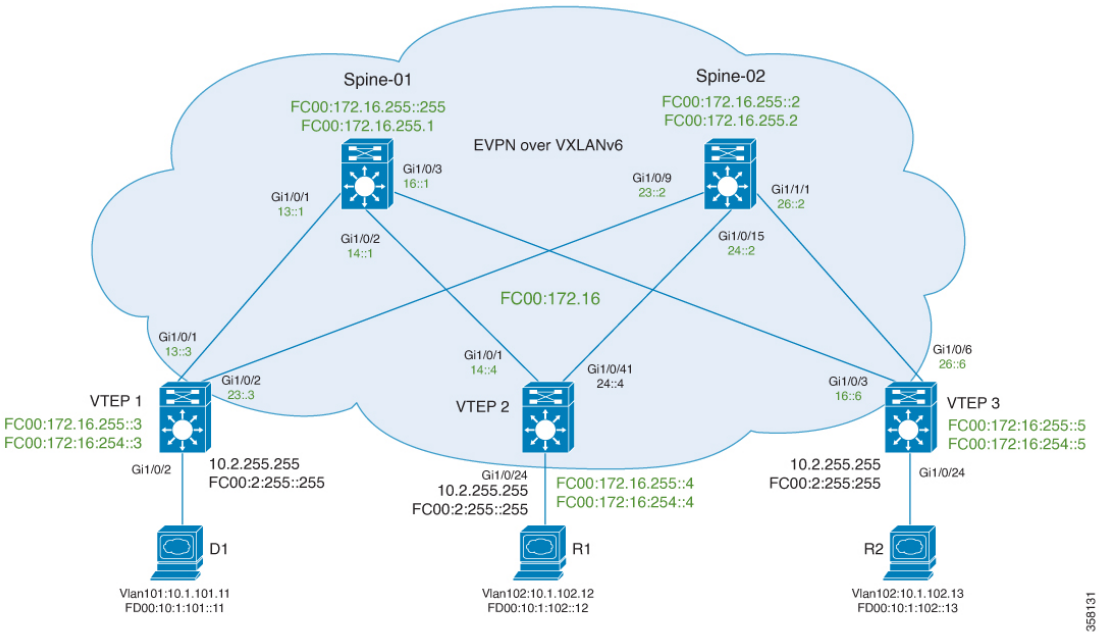
Configuration Examples for Tenant Routed Multicast over BGP EVPN VXLANv6

The following sections provide configuration examples for TRM over BGP EVPN VXLANv6 in different scenarios.

Example: Configuring TRM in PIM Sparse Mode with Anycast RP for IPv4 and IPv6 Multicast Traffic over VXLANv6

This example shows how to configure and verify Layer 3 TRM with PIM-SM for IPv4 and IPv6 multicast traffic when every VTEP is an anycast RP.

Figure 12: TRM with PIM-SM with Anycast RP over VXLANv6 Fabric



The topology shows an EVPN VXLANv6 network with a receiver device connected to VTEP2 and VTEP3 and a source device connected to VTEP 1. The IPv4 multicast group is 226.1.1.1 and the IPv6 multicast group is FF06:1::1 in this topology. The following tables provide sample configurations for the devices in this topology:

Table 1: Configuring VTEP 1, VTEP 2, and VTEP 3 to Configure TRM in PIM-SM with Anycast RP for IPv4 and IPv6 Multicast Traffic over VXLANv6

VTEP 1

```
VTEP1# show running-config
hostname VTEP1
!
vrf definition red
 rd 1002:1
 vpn id 10:1
 route-target export 10:1
 route-target import 10:1
 !
 address-family ipv4
  mdt auto-discovery vxlan inter-as
  mdt default vxlan FF07::9
  mdt overlay use-bgp spt-only
  route-target export 10:1
  route-target import 10:1
  route-target export 10:1 stitching

  route-target import 10:1 stitching

 exit-address-family
 !
 address-family ipv6
  mdt auto-discovery vxlan inter-as
  mdt default vxlan FF07::9
  mdt overlay use-bgp spt-only
  route-target export 10:1
  route-target import 10:1
  route-target export 10:1 stitching

  route-target import 10:1 stitching

 exit-address-family
!
ipv6 multicast-routing
ipv6 multicast-routing vrf red
vtp version 1
ip multicast-routing vrf red

l2vpn evpn
 replication-type static
 router-id Loopback1
 default-gateway advertise
 !
!
l2vpn evpn instance 101 vlan-based
 encapsulation vxlan
!
l2vpn evpn instance 102 vlan-based
 encapsulation vxlan
!
vlan configuration 101
 member evpn-instance 101 vni 10101
vlan configuration 102
 member evpn-instance 102 vni 10102
vlan configuration 500
 member vni 50002
!
```

VTEP 2

```
VTEP2# show running-config
hostname VTEP2
!
vrf definition red
 rd 1001:1
 vpn id 10:1
 route-target export 10:1
 route-target import 10:1
 !
 address-family ipv4
  mdt auto-discovery vxlan
  mdt default vxlan FF07::9
  mdt overlay use-bgp spt-only
  route-target export 10:1
  route-target import 10:1
  route-target export 10:1 stitching

  route-target import 10:1 stitching

 exit-address-family
 !
 address-family ipv6
  mdt auto-discovery vxlan
  mdt default vxlan FF07::9
  mdt overlay use-bgp spt-only
  route-target export 10:1
  route-target import 10:1
  route-target export 10:1 stitching

  route-target import 10:1 stitching

 exit-address-family
!
ip multicast-routing vrf red
ipv6 multicast-routing
ipv6 multicast-routing vrf red
l2vpn evpn
 replication-type static
 router-id Loopback1
 default-gateway advertise
 !
!
l2vpn evpn instance 101 vlan-based
 encapsulation vxlan
!
l2vpn evpn instance 102 vlan-based
 encapsulation vxlan
!
vlan configuration 101
 member evpn-instance 101 vni 10101
vlan configuration 102
 member evpn-instance 102 vni 10102
vlan configuration 500
 member vni 50002
!
```

VTEP 3

```
VTEP3# show running-config
hostname VTEP3
!
vrf definition red
 rd 1003:1
 vpn id 10:1
 route-target export 10:1
 route-target import 10:1
 !
 address-family ipv4
  mdt auto-discovery vxlan
  mdt default vxlan FF07::9
  mdt overlay use-bgp spt-only
  route-target export 10:1
  route-target import 10:1
  route-target export 10:1 stitching

  route-target import 10:1 stitching

 exit-address-family
 !
 address-family ipv6
  mdt auto-discovery vxlan
  mdt default vxlan FF07::9
  mdt overlay use-bgp spt-only
  route-target export 10:1
  route-target import 10:1
  route-target export 10:1 stitching

  route-target import 10:1 stitching

 exit-address-family
!
ip multicast-routing vrf red
ipv6 multicast-routing
ipv6 multicast-routing vrf red
l2vpn evpn
 replication-type static
 router-id Loopback1
 default-gateway advertise
 !
!
l2vpn evpn instance 101 vlan-based
 encapsulation vxlan
!
l2vpn evpn instance 102 vlan-based
 encapsulation vxlan
!
vlan configuration 101
 member evpn-instance 101 vni 10101
vlan configuration 102
 member evpn-instance 102 vni 10102
vlan configuration 500
 member vni 50002
!
```

VTEP 1	VTEP 2	VTEP 3
interface Loopback0 no ip address ipv6 address FC00:172:16:255::3/128 ipv6 enable ipv6 ospf 10 area 2 ! interface Loopback1 ip address 172.16.254.3 255.255.255.255 ipv6 address FC00:172:16:254::3/128 ipv6 enable ipv6 ospf 10 area 2 ! interface Loopback2 vrf forwarding red ip address 10.2.255.255 255.255.255.255 ip pim sparse-mode ipv6 address FC00:2:255::255/128 ipv6 enable ! interface GigabitEthernet1/0/1 no switchport no ip address ipv6 address FC00:172:16:13::3/64 ipv6 enable ipv6 ospf 10 area 2 ! interface GigabitEthernet1/0/4 no switchport no ip address ipv6 address FC00:172:16:23::3/64 ipv6 enable ipv6 ospf 10 area 2 !	interface Loopback0 no ip address ipv6 address FC00:172:16:255::4/128 ipv6 enable ipv6 ospf 10 area 2 ! interface Loopback1 ip address 172.16.254.4 255.255.255.255 ipv6 address FC00:172:16:254::4/128 ipv6 enable ipv6 ospf 10 area 2 ! interface Loopback2 vrf forwarding red ip address 10.2.255.255 255.255.255.255 ip pim sparse-mode ipv6 address FC00:2:255::255/128 ipv6 enable ! interface GigabitEthernet1/0/1 no switchport no ip address ipv6 address FC00:172:16:14::4/64 ipv6 enable ipv6 ospf 10 area 2 ! interface GigabitEthernet1/0/41 no switchport no ip address speed nonegotiate ipv6 address FC00:172:16:24::4/64 ipv6 enable ipv6 ospf 10 area 2 !	interface Loopback0 no ip address ipv6 address FC00:172:16:255::5/128 ipv6 enable ipv6 ospf 10 area 2 ! interface Loopback1 ip address 172.16.254.5 255.255.255.255 ipv6 address FC00:172:16:254::5/128 ipv6 enable ipv6 ospf 10 area 2 ! interface Loopback2 vrf forwarding red ip address 10.2.255.255 255.255.255.255 ip pim sparse-mode ipv6 address FC00:2:255::255/128 ipv6 enable ! interface GigabitEthernet1/0/3 no switchport no ip address ipv6 address FC00:172:16:16::6/64 ipv6 enable ipv6 ospf 10 area 2 ! interface GigabitEthernet1/0/6 no switchport no ip address ipv6 address FC00:172:16:26::6/64 !

VTEP 1	VTEP 2	VTEP 3
interface Vlan101 vrf forwarding red ip address 10.1.101.1 255.255.255.0 ip pim dr-priority 3 ip pim sparse-mode ipv6 address FD00:10:1:101::1/64 ipv6 enable ! interface Vlan102 vrf forwarding red ip address 10.1.102.1 255.255.255.0 ip pim dr-priority 3 ip pim sparse-mode ipv6 address FD00:10:1:102::1/64 ipv6 enable ! interface Vlan500 vrf forwarding red ip unnumbered Loopback1 ip pim sparse-mode ipv6 unnumbered Loopback1 ipv6 enable no autostate ! interface nve1 no ip address ip pim sparse-mode source-interface Loopback1 host-reachability protocol bgp vxlan encapsulation ipv6 member vni 50002 vrf red member vni 10101 mcast-group FF0E::11 member vni 10102 mcast-group FF0E::12 ! router bgp 1001 bgp router-id 1.1.1.1 bgp log-neighbor-changes bgp graceful-restart no bgp default ipv4-unicast neighbor FC00:172:16:255::1 remote-as 1001 neighbor FC00:172:16:255::1 update-source Loopback0 neighbor FC00:172:16:255::2 remote-as 1001 neighbor FC00:172:16:255::2 update-source Loopback0 !	interface Vlan101 vrf forwarding red ip address 10.1.101.1 255.255.255.0 ip pim dr-priority 3 ip pim sparse-mode ipv6 address FD00:10:1:101::1/64 ipv6 enable ! interface Vlan102 vrf forwarding red ip address 10.1.102.1 255.255.255.0 ip pim dr-priority 3 ip pim sparse-mode ipv6 address FD00:10:1:102::1/64 ipv6 enable ! interface Vlan201 no ip address ! interface Vlan500 vrf forwarding red ip unnumbered Loopback1 ip pim sparse-mode ipv6 unnumbered Loopback1 ipv6 enable no autostate ! interface nve1 no ip address ip pim sparse-mode source-interface Loopback1 host-reachability protocol bgp vxlan encapsulation ipv6 member vni 50002 vrf red member vni 10101 mcast-group FF0E::11 member vni 10102 mcast-group FF0E::12 ! router bgp 1001 bgp router-id 2.2.2.2 bgp log-neighbor-changes bgp graceful-restart no bgp default ipv4-unicast neighbor FC00:172:16:255::1 remote-as 1001 neighbor FC00:172:16:255::1 update-source Loopback0 neighbor FC00:172:16:255::2 remote-as 1001 neighbor FC00:172:16:255::2 update-source Loopback0 !	interface Vlan101 vrf forwarding red ip address 10.1.101.1 255.255.255.0 ip pim dr-priority 3 ip pim sparse-mode ipv6 address FD00:10:1:101::1/64 ipv6 enable ! interface Vlan102 vrf forwarding red ip address 10.1.102.1 255.255.255.0 ip pim dr-priority 3 ip pim sparse-mode ipv6 address FD00:10:1:102::1/64 ipv6 enable ! interface Vlan500 vrf forwarding red ip unnumbered Loopback1 ip pim sparse-mode ipv6 unnumbered Loopback1 ipv6 enable no autostate ! interface nve1 no ip address ip pim sparse-mode source-interface Loopback1 host-reachability protocol bgp vxlan encapsulation ipv6 member vni 50002 vrf red member vni 10101 mcast-group FF0E::11 member vni 10102 mcast-group FF0E::12 ! router bgp 1001 bgp router-id 3.3.3.3 bgp log-neighbor-changes bgp graceful-restart no bgp default ipv4-unicast neighbor FC00:172:16:255::1 remote-as 1001 neighbor FC00:172:16:255::1 update-source Loopback0 neighbor FC00:172:16:255::2 remote-as 1001 neighbor FC00:172:16:255::2 update-source Loopback0 !

VTEP 1	VTEP 2	VTEP 3

VTEP 1	VTEP 2	VTEP 3
address-family ipv4 neighbor FC00:172:16:255::1 activate neighbor FC00:172:16:255::1 send-community both neighbor FC00:172:16:255::2 activate neighbor FC00:172:16:255::2 send-community both exit-address-family ! address-family ipv4 multicast exit-address-family ! address-family ipv4 mvpn neighbor FC00:172:16:255::1 activate neighbor FC00:172:16:255::1 send-community both neighbor FC00:172:16:255::2 activate neighbor FC00:172:16:255::2 send-community both exit-address-family ! address-family ipv6 mvpn neighbor FC00:172:16:255::1 activate neighbor FC00:172:16:255::1 send-community both neighbor FC00:172:16:255::2 activate neighbor FC00:172:16:255::2 send-community both exit-address-family ! address-family l2vpn evpn rewrite-evpn-rt-asn neighbor FC00:172:16:255::1 activate neighbor FC00:172:16:255::1 send-community both neighbor FC00:172:16:255::2 activate neighbor FC00:172:16:255::2 send-community both neighbor FC00:172:16:255::2 next-hop-unchanged allpaths exit-address-family ! address-family ipv4 vrf red advertise l2vpn evpn redistribute connected exit-address-family ! address-family ipv6 vrf red redistribute connected advertise l2vpn evpn exit-address-family ! ip pim vrf red rp-address 10.2.255.255	address-family ipv4 neighbor FC00:172:16:255::1 activate neighbor FC00:172:16:255::1 send-community both neighbor FC00:172:16:255::2 activate neighbor FC00:172:16:255::2 send-community both exit-address-family ! address-family ipv4 multicast exit-address-family ! address-family ipv4 mvpn neighbor FC00:172:16:255::1 activate neighbor FC00:172:16:255::1 send-community both neighbor FC00:172:16:255::2 activate neighbor FC00:172:16:255::2 send-community both exit-address-family ! address-family ipv6 mvpn neighbor FC00:172:16:255::1 activate neighbor FC00:172:16:255::1 send-community both neighbor FC00:172:16:255::2 activate neighbor FC00:172:16:255::2 send-community both exit-address-family ! address-family l2vpn evpn rewrite-evpn-rt-asn neighbor FC00:172:16:255::1 activate neighbor FC00:172:16:255::1 send-community both neighbor FC00:172:16:255::2 activate neighbor FC00:172:16:255::2 send-community both exit-address-family ! address-family ipv4 vrf red advertise l2vpn evpn redistribute connected exit-address-family ! address-family ipv6 vrf red redistribute connected advertise l2vpn evpn exit-address-family ! ip pim vrf red rp-address 10.2.255.255 ipv6 pim vrf red rp-address FC00:2:255::255	address-family ipv4 neighbor FC00:172:16:255::1 activate neighbor FC00:172:16:255::1 send-community both neighbor FC00:172:16:255::2 activate neighbor FC00:172:16:255::2 send-community both exit-address-family ! address-family ipv4 multicast exit-address-family ! address-family ipv4 mvpn neighbor FC00:172:16:255::1 activate neighbor FC00:172:16:255::1 send-community both neighbor FC00:172:16:255::2 activate neighbor FC00:172:16:255::2 send-community both exit-address-family ! address-family ipv6 mvpn neighbor FC00:172:16:255::1 activate neighbor FC00:172:16:255::1 send-community both neighbor FC00:172:16:255::2 activate neighbor FC00:172:16:255::2 send-community both exit-address-family ! address-family l2vpn evpn rewrite-evpn-rt-asn neighbor FC00:172:16:255::1 activate neighbor FC00:172:16:255::1 send-community both neighbor FC00:172:16:255::2 activate neighbor FC00:172:16:255::2 send-community both exit-address-family ! address-family ipv4 vrf red advertise l2vpn evpn redistribute connected exit-address-family ! address-family ipv6 vrf red redistribute connected advertise l2vpn evpn exit-address-family ! ip pim vrf red rp-address 10.2.255.255 ipv6 pim vrf red rp-address FC00:2:255::255

VTEP 1	VTEP 2	VTEP 3
ipv6 pim vrf red rp-address FC00:2:255::255 ipv6 pim rp-address FC00:172:16:255::255 ipv6 pim register-source Loopback0 ! end VTEP1#	ipv6 pim rp-address FC00:172:16:255::255 ipv6 pim register-source Loopback0 ! end VTEP2#	ipv6 pim rp-address FC00:172:16:255::255 ipv6 pim register-source Loopback0 ! end VTEP3#

Table 2: Configuring Spine Switch 1 and Spine Switch 2 to Configure TRM in PIM-SM with Anycast RP for IPv4 and IPv6 Multicast Traffic over VXLANv6

Spine Switch 1

```
Spine-01# show running-config
hostname Spine-01
!
ipv6 multicast-routing
interface Loopback0
 no ip address
 ipv6 address FC00:172:16:255::1/128
 ipv6 enable
 ipv6 ospf 10 area 2
!
interface Loopback1
 no ip address
 ipv6 address FC00:172:16:254::1/128
 ipv6 ospf 10 area 2
!
interface Loopback2
 no ip address
 ipv6 address FC00:172:16:255::255/128
 ipv6 enable
 ipv6 ospf 10 area 2
!
interface GigabitEthernet1/0/1
 no switchport
 no ip address
 ipv6 address FC00:172:16:13::1/64
 ipv6 enable
 ipv6 ospf 10 area 2
!
interface GigabitEthernet1/0/2
 no switchport
 no ip address
 ipv6 address FC00:172:16:14::1/64
 ipv6 enable
 ipv6 ospf 10 area 2
!
interface GigabitEthernet1/0/3
 no switchport
 no ip address
 ipv6 address FC00:172:16:16::1/64
 ipv6 enable
 ipv6 ospf 10 area 2
!
router bgp 1001
 bgp router-id 4.4.4.4
 bgp log-neighbor-changes
 bgp graceful-restart
 no bgp default ipv4-unicast
 neighbor FC00:172:16:255::3 remote-as 1001
 neighbor FC00:172:16:255::3 update-source Loopback0
 neighbor FC00:172:16:255::4 remote-as 1001
 neighbor FC00:172:16:255::4 update-source Loopback0
 neighbor FC00:172:16:255::5 remote-as 1001
 neighbor FC00:172:16:255::5 update-source Loopback0
 !
```

Spine Switch 2

```
Spine-02# show running-config
hostname Spine-02
!
ipv6 multicast-routing
interface Loopback0
 no ip address
 ipv6 address FC00:172:16:255::2/128
 ipv6 enable
 ipv6 ospf 10 area 2
!
interface Loopback1
 no ip address
 ipv6 address FC00:172:16:254::2/128
 ipv6 enable
 ipv6 ospf 10 area 2
!
interface Loopback2
 no ip address
 ipv6 address FC00:172:16:255::255/128
 ipv6 enable
 ipv6 ospf 1 area 0
!
interface TenGigabitEthernet1/0/9
 no switchport
 no ip address
 ipv6 address FC00:172:16:23::2/64
 ipv6 enable
 ipv6 ospf 10 area 2
!
interface TenGigabitEthernet1/0/15
 no switchport
 no ip address
 ipv6 address FC00:172:16:24::2/64
 ipv6 enable
 ipv6 ospf 10 area 2
!
interface TenGigabitEthernet1/0/16
!
interface TenGigabitEthernet1/1/1
 no switchport
 no ip address
 ipv6 address FC00:172:16:26::2/64
 ipv6 ospf 10 area 2
!
router bgp 1001
 bgp router-id 14.14.14.14
 bgp log-neighbor-changes
 bgp graceful-restart
 no bgp default ipv4-unicast
 neighbor FC00:172:16:255::3 remote-as 1001
 neighbor FC00:172:16:255::3 update-source Loopback0
 neighbor FC00:172:16:255::4 remote-as 1001
 neighbor FC00:172:16:255::4 update-source Loopback0
 neighbor FC00:172:16:255::5 remote-as 1001
 neighbor FC00:172:16:255::5 update-source Loopback0
 !
```

Spine Switch 1	Spine Switch 2
address-family ipv4 neighbor FC00:172:16:255::3 activate neighbor FC00:172:16:255::3 send-community both neighbor FC00:172:16:255::4 activate neighbor FC00:172:16:255::4 send-community both neighbor FC00:172:16:255::5 activate neighbor FC00:172:16:255::5 send-community both exit-address-family ! address-family ipv4 multicast exit-address-family ! address-family ipv4 mvpn neighbor FC00:172:16:255::3 activate neighbor FC00:172:16:255::3 send-community both neighbor FC00:172:16:255::3 route-reflector-client neighbor FC00:172:16:255::4 activate neighbor FC00:172:16:255::4 send-community both neighbor FC00:172:16:255::4 route-reflector-client neighbor FC00:172:16:255::5 activate neighbor FC00:172:16:255::5 send-community both neighbor FC00:172:16:255::5 route-reflector-client exit-address-family ! address-family ipv6 mvpn neighbor FC00:172:16:255::3 activate neighbor FC00:172:16:255::3 send-community both neighbor FC00:172:16:255::3 route-reflector-client neighbor FC00:172:16:255::4 activate neighbor FC00:172:16:255::4 send-community both neighbor FC00:172:16:255::4 route-reflector-client neighbor FC00:172:16:255::5 activate neighbor FC00:172:16:255::5 send-community both neighbor FC00:172:16:255::5 route-reflector-client exit-address-family ! address-family l2vpn evpn neighbor FC00:172:16:255::3 activate neighbor FC00:172:16:255::3 send-community both neighbor FC00:172:16:255::3 route-reflector-client neighbor FC00:172:16:255::4 activate neighbor FC00:172:16:255::4 send-community both neighbor FC00:172:16:255::4 route-reflector-client neighbor FC00:172:16:255::5 activate neighbor FC00:172:16:255::5 send-community both neighbor FC00:172:16:255::5 route-reflector-client exit-address-family ! ipv6 pim rp-address FC00:172:16:255::255 ipv6 pim anycast-rp FC00:172:16:255::255 FC00:172:16:254::2 ! end Spine-01#	address-family ipv4 neighbor FC00:172:16:255::3 activate neighbor FC00:172:16:255::3 send-community both neighbor FC00:172:16:255::4 activate neighbor FC00:172:16:255::4 send-community both neighbor FC00:172:16:255::5 activate neighbor FC00:172:16:255::5 send-community both exit-address-family ! address-family ipv4 multicast exit-address-family ! address-family ipv4 mvpn neighbor FC00:172:16:255::3 activate neighbor FC00:172:16:255::3 send-community both neighbor FC00:172:16:255::3 route-reflector-client neighbor FC00:172:16:255::4 activate neighbor FC00:172:16:255::4 send-community both neighbor FC00:172:16:255::4 route-reflector-client neighbor FC00:172:16:255::5 activate neighbor FC00:172:16:255::5 send-community both neighbor FC00:172:16:255::5 route-reflector-client exit-address-family ! address-family ipv6 mvpn neighbor FC00:172:16:255::3 activate neighbor FC00:172:16:255::3 send-community both neighbor FC00:172:16:255::3 route-reflector-client neighbor FC00:172:16:255::4 activate neighbor FC00:172:16:255::4 send-community both neighbor FC00:172:16:255::4 route-reflector-client neighbor FC00:172:16:255::5 activate neighbor FC00:172:16:255::5 send-community both neighbor FC00:172:16:255::5 route-reflector-client exit-address-family ! address-family l2vpn evpn neighbor FC00:172:16:255::3 activate neighbor FC00:172:16:255::3 send-community both neighbor FC00:172:16:255::3 route-reflector-client neighbor FC00:172:16:255::4 activate neighbor FC00:172:16:255::4 send-community both neighbor FC00:172:16:255::4 route-reflector-client neighbor FC00:172:16:255::5 activate neighbor FC00:172:16:255::5 send-community both neighbor FC00:172:16:255::5 route-reflector-client exit-address-family ! ipv6 pim rp-address FC00:172:16:255::255 ipv6 pim anycast-rp FC00:172:16:255::255 FC00:172:16:254::1 ! end Spine-02#

Verifying TRM in PIM-SM with Anycast RP for IPv4 and IPv6 Multicast Traffic over VXLANv6

The following sections provide sample outputs for **show** commands to verify TRM with PIM-SM on the devices in the topology configured above:

- Outputs to Verify the Configuration on VTEP 1, on page 32
- Outputs to Verify the Configuration on VTEP 2, on page 47
- Outputs to Verify the Configuration on VTEP 3, on page 60
- Outputs to Verify the Configuration on Spine Switch 1, on page 75
- Outputs to Verify the Configuration on Spine Switch 2, on page 82

Outputs to Verify the Configuration on VTEP 1

The following example shows the output for the **show nve peers** command on VTEP 1:

```
Leaf-01# show nve peers

'M' - MAC entry download flag  'A' - Adjacency download flag
'4' - IPv4 flag  '6' - IPv6 flag

Interface  VNI      Type Peer-IP          RMAC/Num_RTs   eVNI     state flags UP time
nve1       50002    L3CP FC00:172:16:254::4 \
                                         6026.aabd.1542 50002      UP  A/-/4 00:46:22
nve1       50002    L3CP FC00:172:16:254::5 \
                                         a03d.6ea7.e550 50002      UP  A/-/4 00:46:34
nve1       50002    L3CP FC00:172:16:254::4 \
                                         6026.aabd.1542 50002      UP  A/M/6 00:46:22
nve1       50002    L3CP FC00:172:16:254::5 \
                                         a03d.6ea7.e550 50002      UP  A/M/6 00:46:34
nve1       10101    L2CP FC00:172:16:254::4 \
                                         3              10101      UP   N/A  00:52:03
nve1       10101    L2CP FC00:172:16:254::5 \
                                         3              10101      UP   N/A  00:52:03
nve1       10102    L2CP FC00:172:16:254::4 \
                                         8              10102      UP   N/A  00:52:03
nve1       10102    L2CP FC00:172:16:254::5 \
                                         8              10102      UP   N/A  00:52:03
Leaf-01#
```

The following example shows the output for the **show l2vpn evpn peers vxlan** command on VTEP 1:

```
Leaf-01# show l2vpn evpn peers vxlan

Interface VNI      Peer-IP                                 Num routes eVNI     UP time
--------- -------- --------------------------------------- ---------- -------- --------
nve1      10101    FC00:172:16:254::4                      3          10101    00:51:59
nve1      10101    FC00:172:16:254::5                      3          10101    00:51:59
nve1      10102    FC00:172:16:254::4                      8          10102    00:51:59
nve1      10102    FC00:172:16:254::5                      8          10102    00:51:59

Leaf-01#
```

The following example shows the output for the **show bgp ipv6 mvpn all** command on VTEP 1:

```
Leaf-01# show bgp ipv6 mvpn all

BGP table version is 37, local router ID is 1.1.1.1
Status codes: s suppressed, d damped, h history, * valid, > best, i - internal,
              r RIB-failure, S Stale, m multipath, b backup-path, f RT-Filter,
              x best-external, a additional-path, c RIB-compressed,
```

```
              t secondary path, L long-lived-stale,
Origin codes: i - IGP, e - EGP, ? - incomplete
RPKI validation codes: V valid, I invalid, N Not found

     Network          Next Hop            Metric LocPrf Weight Path
Route Distinguisher: 1002:1 (default for vrf red)
 *>   [5][1002:1][FD00:10:1:101::11][FF06:1::1]/42
                      ::                                    32768 ?
 *>i  [7][1002:1][1001][FD00:10:1:101::11][FF06:1::1]/46
                      FC00:172:16:255::4
                                                 0    100      0 ?
Route Distinguisher: 172.16.254.3:101
 * i  [7][172.16.254.3:101][1001][FD00:10:1:101::11][FF06:1::1]/46
                      FC00:172:16:255::4
                                                 0    100      0 ?
 *>i                   FC00:172:16:255::4
                                                 0    100      0 ?
Leaf-01#
```

The following example shows the output for the **show bgp ipv4 mvpn all** command on VTEP 1:

```
Leaf-01# show bgp ipv4 mvpn all

BGP table version is 51, local router ID is 1.1.1.1
Status codes: s suppressed, d damped, h history, * valid, > best, i - internal,
              r RIB-failure, S Stale, m multipath, b backup-path, f RT-Filter,
              x best-external, a additional-path, c RIB-compressed,
              t secondary path, L long-lived-stale,
Origin codes: i - IGP, e - EGP, ? - incomplete
RPKI validation codes: V valid, I invalid, N Not found

     Network          Next Hop            Metric LocPrf Weight Path
Route Distinguisher: 1002:1 (default for vrf red)
 *>   [5][1002:1][10.1.101.11][226.1.1.1]/18
                      0.0.0.0                               32768 ?
 *>i  [7][1002:1][1001][10.1.101.11/32][226.1.1.1/32]/22
                      FC00:172:16:255::4
                                                 0    100      0 ?
Route Distinguisher: 172.16.254.3:101
 * i  [7][172.16.254.3:101][1001][10.1.101.11/32][226.1.1.1/32]/22
                      FC00:172:16:255::4
                                                 0    100      0 ?
 *>i                   FC00:172:16:255::4
                                                 0    100      0 ?

Leaf-01#
```

The following example shows the output for the **show bgp l2vpn evpn** command on VTEP 1:

```
Leaf-01# show bgp l2vpn evpn

BGP table version is 832, local router ID is 1.1.1.1
Status codes: s suppressed, d damped, h history, * valid, > best, i - internal,
              r RIB-failure, S Stale, m multipath, b backup-path, f RT-Filter,
              x best-external, a additional-path, c RIB-compressed,
              t secondary path, L long-lived-stale,
Origin codes: i - IGP, e - EGP, ? - incomplete
RPKI validation codes: V valid, I invalid, N Not found

     Network          Next Hop            Metric LocPrf Weight Path
Route Distinguisher: 172.16.254.3:101
 *>   [2][172.16.254.3:101][0][48][001101000001][0][*]/20
```

```
                    ::                                    32768 ?
 *>   [2][172.16.254.3:101][0][48][001101000001][32][10.1.101.11]/24
                    ::                                    32768 ?
 *>   [2][172.16.254.3:101][0][48][001101000001][128][FD00:10:1:101::11]/36
                    ::                                    32768 ?
 *>   [2][172.16.254.3:101][0][48][001101000001][128][FD00:10:1:101:211:1FF:FE00:1]/36
                    ::                                    32768 ?
 *>   [2][172.16.254.3:101][0][48][001101000001][128][FE80::211:1FF:FE00:1]/36
                    ::                                    32768 ?
 *>i  [2][172.16.254.3:101][0][48][6026AABD1542][32][10.1.101.1]/24
                    FC00:172:16:254::4
    Network          Next Hop            Metric LocPrf Weight Path
                                                 0    100      0 ?
 *>i  [2][172.16.254.3:101][0][48][6026AABD1542][128][FD00:10:1:101::1]/36
                    FC00:172:16:254::4
                                                 0    100      0 ?
 *>   [2][172.16.254.3:101][0][48][682C7B9A5B41][32][10.1.101.1]/24
                    ::                                    32768 ?
 *>   [2][172.16.254.3:101][0][48][682C7B9A5B41][128][FD00:10:1:101::1]/36
                    ::                                    32768 ?
 *>i  [2][172.16.254.3:101][0][48][A03D6EA7E541][32][10.1.101.1]/24
                    FC00:172:16:254::5
                                                 0    100      0 ?
 *>i  [2][172.16.254.3:101][0][48][A03D6EA7E541][128][FD00:10:1:101::1]/36
                    FC00:172:16:254::5
                                                 0    100      0 ?
Route Distinguisher: 172.16.254.3:102
 *>i  [2][172.16.254.3:102][0][48][001301000001][0][*]/20
                    FC00:172:16:254::5
                                                 0    100      0 ?
 *>i  [2][172.16.254.3:102][0][48][001301000001][32][10.1.102.13]/24
                    FC00:172:16:254::5
                                                 0    100      0 ?
 *>i  [2][172.16.254.3:102][0][48][001301000001][128][FD00:10:1:102::13]/36
    Network          Next Hop            Metric LocPrf Weight Path
                    FC00:172:16:254::5
                                                 0    100      0 ?
 *>i  [2][172.16.254.3:102][0][48][001301000001][128][FD00:10:1:102:213:1FF:FE00:1]/36
                    FC00:172:16:254::5
                                                 0    100      0 ?
 *>i  [2][172.16.254.3:102][0][48][001301000001][128][FE80::213:1FF:FE00:1]/36
                    FC00:172:16:254::5
                                                 0    100      0 ?
 *>i  [2][172.16.254.3:102][0][48][001501000001][0][*]/20
                    FC00:172:16:254::4
                                                 0    100      0 ?
 *>i  [2][172.16.254.3:102][0][48][001501000001][32][10.1.102.12]/24
                    FC00:172:16:254::4
                                                 0    100      0 ?
 *>i  [2][172.16.254.3:102][0][48][001501000001][128][FD00:10:1:102::12]/36
                    FC00:172:16:254::4
                                                 0    100      0 ?
 *>i  [2][172.16.254.3:102][0][48][001501000001][128][FD00:10:1:102:215:1FF:FE00:1]/36
                    FC00:172:16:254::4
                                                 0    100      0 ?
    Network          Next Hop            Metric LocPrf Weight Path
 *>i  [2][172.16.254.3:102][0][48][001501000001][128][FE80::215:1FF:FE00:1]/36
                    FC00:172:16:254::4
                                                 0    100      0 ?
 *>i  [2][172.16.254.3:102][0][48][6026AABD1542][32][10.1.102.1]/24
                    FC00:172:16:254::4
                                                 0    100      0 ?
 *>i  [2][172.16.254.3:102][0][48][6026AABD1542][128][FD00:10:1:102::1]/36
                    FC00:172:16:254::4
```

```
                                                    0    100      0 ?
 *>   [2][172.16.254.3:102][0][48][682C7B9A5B4D][32][10.1.102.1]/24
                      ::                                    32768 ?
 *>   [2][172.16.254.3:102][0][48][682C7B9A5B4D][128][FD00:10:1:102::1]/36
                      ::                                    32768 ?
 *>i  [2][172.16.254.3:102][0][48][A03D6EA7E54D][32][10.1.102.1]/24
                      FC00:172:16:254::5
                                                    0    100      0 ?
 *>i  [2][172.16.254.3:102][0][48][A03D6EA7E54D][128][FD00:10:1:102::1]/36
                      FC00:172:16:254::5
                                                    0    100      0 ?
Route Distinguisher: 172.16.254.4:101
 * i  [2][172.16.254.4:101][0][48][6026AABD1542][32][10.1.101.1]/24
                      FC00:172:16:254::4
    Network           Next Hop            Metric LocPrf Weight Path
                                                    0    100      0 ?
 *>i                   FC00:172:16:254::4
                                                    0    100      0 ?
 * i  [2][172.16.254.4:101][0][48][6026AABD1542][128][FD00:10:1:101::1]/36
                      FC00:172:16:254::4
                                                    0    100      0 ?
 *>i                   FC00:172:16:254::4
                                                    0    100      0 ?
Route Distinguisher: 172.16.254.4:102
 * i  [2][172.16.254.4:102][0][48][001501000001][0][*]/20
                      FC00:172:16:254::4
                                                    0    100      0 ?
 *>i                   FC00:172:16:254::4
                                                    0    100      0 ?
 * i  [2][172.16.254.4:102][0][48][001501000001][32][10.1.102.12]/24
                      FC00:172:16:254::4
                                                    0    100      0 ?
 *>i                   FC00:172:16:254::4
                                                    0    100      0 ?
 * i  [2][172.16.254.4:102][0][48][001501000001][128][FD00:10:1:102::12]/36
                      FC00:172:16:254::4
                                                    0    100      0 ?
    Network           Next Hop            Metric LocPrf Weight Path
 *>i                   FC00:172:16:254::4
                                                    0    100      0 ?
 * i  [2][172.16.254.4:102][0][48][001501000001][128][FD00:10:1:102:215:1FF:FE00:1]/36
                      FC00:172:16:254::4
                                                    0    100      0 ?
 *>i                   FC00:172:16:254::4
                                                    0    100      0 ?
 * i  [2][172.16.254.4:102][0][48][001501000001][128][FE80::215:1FF:FE00:1]/36
                      FC00:172:16:254::4
                                                    0    100      0 ?
 *>i                   FC00:172:16:254::4
                                                    0    100      0 ?
 * i  [2][172.16.254.4:102][0][48][6026AABD1542][32][10.1.102.1]/24
                      FC00:172:16:254::4
                                                    0    100      0 ?
 *>i                   FC00:172:16:254::4
                                                    0    100      0 ?
 * i  [2][172.16.254.4:102][0][48][6026AABD1542][128][FD00:10:1:102::1]/36
                      FC00:172:16:254::4
                                                    0    100      0 ?
 *>i                   FC00:172:16:254::4
    Network           Next Hop            Metric LocPrf Weight Path
                                                    0    100      0 ?
Route Distinguisher: 172.16.254.5:101
 * i  [2][172.16.254.5:101][0][48][A03D6EA7E541][32][10.1.101.1]/24
                      FC00:172:16:254::5
```

```
                                                    0    100      0 ?
 *>i                   FC00:172:16:254::5
                                                    0    100      0 ?
 * i  [2][172.16.254.5:101][0][48][A03D6EA7E541][128][FD00:10:1:101::1]/36
                       FC00:172:16:254::5
                                                    0    100      0 ?
 *>i                   FC00:172:16:254::5
                                                    0    100      0 ?
Route Distinguisher: 172.16.254.5:102
 * i  [2][172.16.254.5:102][0][48][001301000001][0][*]/20
                       FC00:172:16:254::5
                                                    0    100      0 ?
 *>i                   FC00:172:16:254::5
                                                    0    100      0 ?
 * i  [2][172.16.254.5:102][0][48][001301000001][32][10.1.102.13]/24
                       FC00:172:16:254::5
                                                    0    100      0 ?
 *>i                   FC00:172:16:254::5
    Network          Next Hop            Metric LocPrf Weight Path
                                                    0    100      0 ?
 * i  [2][172.16.254.5:102][0][48][001301000001][128][FD00:10:1:102::13]/36
                       FC00:172:16:254::5
                                                    0    100      0 ?
 *>i                   FC00:172:16:254::5
                                                    0    100      0 ?
 * i  [2][172.16.254.5:102][0][48][001301000001][128][FD00:10:1:102:213:1FF:FE00:1]/36
                       FC00:172:16:254::5
                                                    0    100      0 ?
 *>i                   FC00:172:16:254::5
                                                    0    100      0 ?
 * i  [2][172.16.254.5:102][0][48][001301000001][128][FE80::213:1FF:FE00:1]/36
                       FC00:172:16:254::5
                                                    0    100      0 ?
 *>i                   FC00:172:16:254::5
                                                    0    100      0 ?
 * i  [2][172.16.254.5:102][0][48][A03D6EA7E54D][32][10.1.102.1]/24
                       FC00:172:16:254::5
                                                    0    100      0 ?
 *>i                   FC00:172:16:254::5
                                                    0    100      0 ?
    Network          Next Hop            Metric LocPrf Weight Path
 * i  [2][172.16.254.5:102][0][48][A03D6EA7E54D][128][FD00:10:1:102::1]/36
                       FC00:172:16:254::5
                                                    0    100      0 ?
 *>i                   FC00:172:16:254::5
                                                    0    100      0 ?
Route Distinguisher: 1001:1
 * i  [5][1001:1][0][24][10.1.101.0]/17
                       FC00:172:16:254::4
                                                    0    100      0 ?
 *>i                   FC00:172:16:254::4
                                                    0    100      0 ?
 * i  [5][1001:1][0][24][10.1.102.0]/17
                       FC00:172:16:254::4
                                                    0    100      0 ?
 *>i                   FC00:172:16:254::4
                                                    0    100      0 ?
 * i  [5][1001:1][0][32][10.2.255.255]/17
                       FC00:172:16:254::4
                                                    0    100      0 ?
 *>i                   FC00:172:16:254::4
                                                    0    100      0 ?
 * i  [5][1001:1][0][64][FD00:10:1:101::]/29
    Network          Next Hop            Metric LocPrf Weight Path
```

```
                     FC00:172:16:254::4
                                                    0    100      0 ?
 *>i                  FC00:172:16:254::4
                                                    0    100      0 ?
 * i  [5][1001:1][0][64][FD00:10:1:102::]/29
                     FC00:172:16:254::4
                                                    0    100      0 ?
 *>i                  FC00:172:16:254::4
                                                    0    100      0 ?
 * i  [5][1001:1][0][128][FC00:2:255::255]/29
                     FC00:172:16:254::4
                                                    0    100      0 ?
 *>i                  FC00:172:16:254::4
                                                    0    100      0 ?
Route Distinguisher: 1002:1 (default for vrf red)
 *>   [5][1002:1][0][24][10.1.101.0]/17
                     0.0.0.0                  0         32768 ?
 *>   [5][1002:1][0][24][10.1.102.0]/17
                     0.0.0.0                  0         32768 ?
 *>   [5][1002:1][0][32][10.2.255.255]/17
                     0.0.0.0                  0         32768 ?
 *>   [5][1002:1][0][64][FD00:10:1:101::]/29
     Network          Next Hop            Metric LocPrf Weight Path
                     ::                       0         32768 ?
 *>   [5][1002:1][0][64][FD00:10:1:102::]/29
                     ::                       0         32768 ?
 *>   [5][1002:1][0][128][FC00:2:255::255]/29
                     ::                       0         32768 ?
Route Distinguisher: 1003:1
 * i  [5][1003:1][0][24][10.1.101.0]/17
                     FC00:172:16:254::5
                                                    0    100      0 ?
 *>i                  FC00:172:16:254::5
                                                    0    100      0 ?
 * i  [5][1003:1][0][24][10.1.102.0]/17
                     FC00:172:16:254::5
                                                    0    100      0 ?
 *>i                  FC00:172:16:254::5
                                                    0    100      0 ?
 * i  [5][1003:1][0][32][10.2.255.255]/17
                     FC00:172:16:254::5
                                                    0    100      0 ?
 *>i                  FC00:172:16:254::5
                                                    0    100      0 ?
 * i  [5][1003:1][0][64][FD00:10:1:101::]/29
     Network          Next Hop            Metric LocPrf Weight Path
                     FC00:172:16:254::5
                                                    0    100      0 ?
 *>i                  FC00:172:16:254::5
                                                    0    100      0 ?
 * i  [5][1003:1][0][64][FD00:10:1:102::]/29
                     FC00:172:16:254::5
                                                    0    100      0 ?
 *>i                  FC00:172:16:254::5
                                                    0    100      0 ?
 * i  [5][1003:1][0][128][FC00:2:255::255]/29
                     FC00:172:16:254::5
                                                    0    100      0 ?
 *>i                  FC00:172:16:254::5
                                                    0    100      0 ?

Leaf-01#
```

The following example shows the output for the **show ipv6 pim group-map** command on VTEP 1:

```
Leaf-01# show ipv6 pim group-map FF00::/8

IP PIM Group Mapping Table
(* indicates group mappings being used)

FF00::/8*
    SM, RP: FC00:172:16:255::255
    RPF: Gi1/0/1,FE80::ED0:F8FF:FE32:F4E4
    Info source: Static
    Uptime: 04:13:50, Groups: 3
FF00::/8
    SM
    Info source: Default
    Uptime: 4d08h, Groups: 0

Leaf-01#
```

The following example shows the output for the **show ip pim vrf** *vrf-name* **rp mapping** command on VTEP 1:

```
Leaf-01# show ipv6 mld vrf green groups

PIM Group-to-RP Mappings

Group(s): 224.0.0.0/4, Static
    RP: 10.2.255.255 (?)

Leaf-01#
```

The following example shows the output for the **show ip mroute vrf** *vrf-name* command on VTEP 1:

```
Leaf-01# show ip mroute vrf red

IP Multicast Routing Table
Flags: D - Dense, S - Sparse, B - Bidir Group, s - SSM Group, C - Connected,
       L - Local, P - Pruned, R - RP-bit set, F - Register flag,
       T - SPT-bit set, J - Join SPT, M - MSDP created entry, E - Extranet,
       X - Proxy Join Timer Running, A - Candidate for MSDP Advertisement,
       U - URD, I - Received Source Specific Host Report,
       Z - Multicast Tunnel, z - MDT-data group sender,
       Y - Joined MDT-data group, y - Sending to MDT-data group,
       G - Received BGP C-Mroute, g - Sent BGP C-Mroute,
       N - Received BGP Shared-Tree Prune, n - BGP C-Mroute suppressed,
       Q - Received BGP S-A Route, q - Sent BGP S-A Route,
       V - RD & Vector, v - Vector, p - PIM Joins on route,
       x - VxLAN group, c - PFP-SA cache created entry,
       * - determined by Assert, # - iif-starg configured on rpf intf,
       e - encap-helper tunnel flag, l - LISP decap ref count contributor
Outgoing interface flags: H - Hardware switched, A - Assert winner, p - PIM Join
                          t - LISP transit group
 Timers: Uptime/Expires
 Interface state: Interface, Next-Hop or VCD, State/Mode

(*, 226.1.1.1), 00:29:56/stopped, RP 10.2.255.255, flags: SPF
  Incoming interface: Null, RPF nbr 0.0.0.0
  Outgoing interface list: Null

(10.1.101.11, 226.1.1.1), 00:29:56/00:02:32, flags: FTGqx
```

```
  Incoming interface: Vlan101, RPF nbr 0.0.0.0
  Outgoing interface list:
    Vlan500, VXLAN v6 Encap: (50002, FF07::9), Forward/Sparse, 00:29:56/stopped, flags:

(*, 224.0.1.40), 04:50:06/00:01:56, RP 10.2.255.255, flags: SJCL
  Incoming interface: Null, RPF nbr 0.0.0.0
  Outgoing interface list:
    Loopback2, Forward/Sparse, 03:41:53/00:01:56, flags:

Leaf-01#
```

The following example shows the output for the **show ip mfib vrf** *vrf-name* command on VTEP 1:

```
Leaf-01# show ip mfib vrf red

Entry Flags:    C - Directly Connected, S - Signal, IA - Inherit A flag,
                ET - Data Rate Exceeds Threshold, K - Keepalive
                DDE - Data Driven Event, HW - Hardware Installed
                ME - MoFRR ECMP entry, MNE - MoFRR Non-ECMP entry, MP - MFIB
                MoFRR Primary, RP - MRIB MoFRR Primary, P - MoFRR Primary
                MS  - MoFRR  Entry in Sync, MC - MoFRR entry in MoFRR Client,
                e   - Encap helper tunnel flag.
I/O Item Flags: IC - Internal Copy, NP - Not platform switched,
                NS - Negate Signalling, SP - Signal Present,
                A - Accept, F - Forward, RA - MRIB Accept, RF - MRIB Forward,
                MA - MFIB Accept, A2 - Accept backup,
                RA2 - MRIB Accept backup, MA2 - MFIB Accept backup

Forwarding Counts: Pkt Count/Pkts per second/Avg Pkt Size/Kbits per second
Other counts:      Total/RPF failed/Other drops
I/O Item Counts:   HW Pkt Count/FS Pkt Count/PS Pkt Count   Egress Rate in pps
VRF red
 (*,224.0.0.0/4) Flags: C HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,224.0.1.40) Flags: C HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
   Tunnel3 Flags: A NP
   Loopback2 Flags: F IC NS
     Pkts: 0/0/0    Rate: 0 pps
 (*,226.1.1.1) Flags: C HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
   Tunnel3 Flags: A NP
 (10.1.101.11,226.1.1.1) Flags: HW
   SW Forwarding: 2/0/42/0, Other: 0/0/0
   HW Forwarding:   179855/99/64/49, Other: 0/0/0
   Vlan101 Flags: A
   Vlan500, VXLAN v6 Encap (50002, FF07::9) Flags: F
     Pkts: 0/0/0    Rate: 0 pps
 (*,232.0.0.0/8) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0

Leaf-01#
```

The following example shows the output for the **show ipv6 mroute vrf** *vrf-name* command on VTEP 1:

```
Leaf-01# show ipv6 mroute vrf red
```

```
Multicast Routing Table
Flags: D - Dense, S - Sparse, B - Bidir Group, s - SSM Group,
       C - Connected, L - Local, I - Received Source Specific Host Report,
       P - Pruned, R - RP-bit set, F - Register flag, T - SPT-bit set,
       J - Join SPT, Y - Joined MDT-data group,
       y - Sending to MDT-data group
       g - BGP signal originated, G - BGP Signal received,
       N - BGP Shared-Tree Prune received, n - BGP C-Mroute suppressed,
       q - BGP Src-Active originated, Q - BGP Src-Active received
       E - Extranet
Timers: Uptime/Expires
Interface state: Interface, State

(FD00:10:1:101::11, FF06:1::1), 00:29:01/00:00:10, flags: SFTGq
  Incoming interface: Vlan101
  RPF nbr: FD00:10:1:101::11
  Immediate Outgoing interface list:
    Vlan500, Forward, 00:29:01/never

Leaf-01#
```

The following example shows the output for the **show ipv6 mfib vrf** *vrf-name* command on VTEP 1:

```
Leaf-01# show ipv6 mfib vrf red

Entry Flags:    C - Directly Connected, S - Signal, IA - Inherit A flag,
                ET - Data Rate Exceeds Threshold, K - Keepalive
                DDE - Data Driven Event, HW - Hardware Installed
                ME - MoFRR ECMP entry, MNE - MoFRR Non-ECMP entry, MP - MFIB
                MoFRR Primary, RP - MRIB MoFRR Primary, P - MoFRR Primary
                MS  - MoFRR  Entry in Sync, MC - MoFRR entry in MoFRR Client,
                e   - Encap helper tunnel flag.
I/O Item Flags: IC - Internal Copy, NP - Not platform switched,
                NS - Negate Signalling, SP - Signal Present,
                A - Accept, F - Forward, RA - MRIB Accept, RF - MRIB Forward,
                MA - MFIB Accept, A2 - Accept backup,
                RA2 - MRIB Accept backup, MA2 - MFIB Accept backup

Forwarding Counts: Pkt Count/Pkts per second/Avg Pkt Size/Kbits per second
Other counts:      Total/RPF failed/Other drops
I/O Item Counts:   HW Pkt Count/FS Pkt Count/PS Pkt Count   Egress Rate in pps
VRF red
 (*,FF00::/8) Flags: C HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
   Tunnel7 Flags: NS NP
 (*,FF00::/15) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FF02::/16) Flags:
   SW Forwarding: 0/0/0/0, Other: 0/0/0
 (FD00:10:1:101::11,FF06:1::1) Flags: HW
   SW Forwarding: 1/0/42/0, Other: 2/1/1
   HW Forwarding:   175858/99/64/49, Other: 0/0/0
   Vlan101 Flags: A NS
   Vlan500, VXLAN v6 Encap (50002, FF07::9) Flags: F
     Pkts: 0/0/1    Rate: 0 pps
 (*,FF10::/15) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FF12::/16) Flags:
   SW Forwarding: 0/0/0/0, Other: 0/0/0
```

```
(*,FF20::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF22::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF30::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF32::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF33::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF34::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF35::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF36::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF37::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF38::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF39::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3A::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3B::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3C::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3D::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3E::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3F::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF40::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF42::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF50::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF52::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF60::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF62::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
```

```
 (*,FF70::/15) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FF72::/16) Flags:
   SW Forwarding: 0/0/0/0, Other: 0/0/0
 (*,FF80::/15) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FF82::/16) Flags:
   SW Forwarding: 0/0/0/0, Other: 0/0/0
 (*,FF90::/15) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FF92::/16) Flags:
   SW Forwarding: 0/0/0/0, Other: 0/0/0
 (*,FFA0::/15) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FFA2::/16) Flags:
   SW Forwarding: 0/0/0/0, Other: 0/0/0
 (*,FFB0::/15) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FFB2::/16) Flags:
   SW Forwarding: 0/0/0/0, Other: 0/0/0
 (*,FFC0::/15) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FFC2::/16) Flags:
   SW Forwarding: 0/0/0/0, Other: 0/0/0
 (*,FFD0::/15) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FFD2::/16) Flags:
   SW Forwarding: 0/0/0/0, Other: 0/0/0
 (*,FFE0::/15) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FFE2::/16) Flags:
   SW Forwarding: 0/0/0/0, Other: 0/0/0
 (*,FFF0::/15) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FFF2::/16) Flags:
   SW Forwarding: 0/0/0/0, Other: 0/0/0

Leaf-01#
```

The following example shows the output for the **show ipv6 mroute** command on VTEP 1:

```
Leaf-01# show ipv6 mroute

Multicast Routing Table
Flags: D - Dense, S - Sparse, B - Bidir Group, s - SSM Group,
       C - Connected, L - Local, I - Received Source Specific Host Report,
       P - Pruned, R - RP-bit set, F - Register flag, T - SPT-bit set,
       J - Join SPT, Y - Joined MDT-data group,
       y - Sending to MDT-data group
       g - BGP signal originated, G - BGP Signal received,
       N - BGP Shared-Tree Prune received, n - BGP C-Mroute suppressed,
       q - BGP Src-Active originated, Q - BGP Src-Active received
       E - Extranet
Timers: Uptime/Expires
```

```
Interface state: Interface, State

(*, FF07::9), 05:09:57/never, RP FC00:172:16:255::255, flags: SCJ
  Incoming interface: GigabitEthernet1/0/1
  RPF nbr: FE80::ED0:F8FF:FE32:F4E4
  Immediate Outgoing interface list:
    Tunnel0, Forward, 05:09:57/never

(FC00:172:16:254::3, FF07::9), 00:16:38/00:00:52, flags: SFJT
  Incoming interface: Loopback1
  RPF nbr: FE80::6A2C:7BFF:FE9A:5B00
  Immediate Outgoing interface list:
    GigabitEthernet1/0/1, Forward, 00:16:30/00:02:59
  Inherited Outgoing interface list:
    Tunnel0, Forward, 05:09:57/never

(*, FF0E::11), 05:02:13/never, RP FC00:172:16:255::255, flags: SCJ
  Incoming interface: GigabitEthernet1/0/1
  RPF nbr: FE80::ED0:F8FF:FE32:F4E4
  Immediate Outgoing interface list:
    Tunnel0, Forward, 05:02:13/never

(FC00:172:16:254::3, FF0E::11), 00:16:20/00:00:43, flags: SFJT
  Incoming interface: Loopback1
  RPF nbr: FE80::6A2C:7BFF:FE9A:5B00
  Immediate Outgoing interface list:
    GigabitEthernet1/0/1, Forward, 00:15:50/00:02:49
  Inherited Outgoing interface list:
    Tunnel0, Forward, 05:02:13/never

(FC00:172:16:254::4, FF0E::11), 00:15:29/00:00:42, flags: SJT
  Incoming interface: GigabitEthernet1/0/1
  RPF nbr: FE80::ED0:F8FF:FE32:F4E4
  Inherited Outgoing interface list:
    Tunnel0, Forward, 05:02:13/never

(FC00:172:16:254::5, FF0E::11), 00:00:32/00:02:57, flags: SJT
  Incoming interface: GigabitEthernet1/0/1
  RPF nbr: FE80::ED0:F8FF:FE32:F4E4
  Inherited Outgoing interface list:
    Tunnel0, Forward, 05:02:13/never

(*, FF0E::12), 03:37:31/never, RP FC00:172:16:255::255, flags: SCJ
  Incoming interface: GigabitEthernet1/0/1
  RPF nbr: FE80::ED0:F8FF:FE32:F4E4
  Immediate Outgoing interface list:
    Tunnel0, Forward, 03:37:31/never

(FC00:172:16:254::3, FF0E::12), 00:16:37/00:00:02, flags: SFJT
  Incoming interface: Loopback1
  RPF nbr: FE80::6A2C:7BFF:FE9A:5B00
  Immediate Outgoing interface list:
    GigabitEthernet1/0/1, Forward, 00:15:40/00:02:49
  Inherited Outgoing interface list:
    Tunnel0, Forward, 03:37:31/never

(FC00:172:16:254::4, FF0E::12), 00:15:59/00:00:18, flags: SJT
  Incoming interface: GigabitEthernet1/0/1
  RPF nbr: FE80::ED0:F8FF:FE32:F4E4
  Inherited Outgoing interface list:
    Tunnel0, Forward, 03:37:31/never

(FC00:172:16:254::5, FF0E::12), 00:16:37/00:00:19, flags: SJT
  Incoming interface: GigabitEthernet1/0/1
```

```
  RPF nbr: FE80::ED0:F8FF:FE32:F4E4
  Inherited Outgoing interface list:
    Tunnel0, Forward, 03:37:31/never

Leaf-01#
```

The following example shows the output for the **show ipv6 mfib** command on VTEP 1:

```
Leaf-01# show ipv6 mfib

Entry Flags:    C - Directly Connected, S - Signal, IA - Inherit A flag,
                ET - Data Rate Exceeds Threshold, K - Keepalive
                DDE - Data Driven Event, HW - Hardware Installed
                ME - MoFRR ECMP entry, MNE - MoFRR Non-ECMP entry, MP - MFIB
                MoFRR Primary, RP - MRIB MoFRR Primary, P - MoFRR Primary
                MS  - MoFRR  Entry in Sync, MC - MoFRR entry in MoFRR Client,
                e   - Encap helper tunnel flag.
I/O Item Flags: IC - Internal Copy, NP - Not platform switched,
                NS - Negate Signalling, SP - Signal Present,
                A - Accept, F - Forward, RA - MRIB Accept, RF - MRIB Forward,
                MA - MFIB Accept, A2 - Accept backup,
                RA2 - MRIB Accept backup, MA2 - MFIB Accept backup

Forwarding Counts: Pkt Count/Pkts per second/Avg Pkt Size/Kbits per second
Other counts:      Total/RPF failed/Other drops
I/O Item Counts:   HW Pkt Count/FS Pkt Count/PS Pkt Count   Egress Rate in pps
Default
 (*,FF00::/8) Flags: C HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FF00::/15) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FF02::/16) Flags:
   SW Forwarding: 0/0/0/0, Other: 22/22/0
 (*,FF07::9) Flags: C HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
   GigabitEthernet1/0/1 Flags: A NS
   Tunnel0, VXLAN v6 Decap Flags: F NS
     Pkts: 0/0/0    Rate: 0 pps
 (FC00:172:16:254::3,FF07::9) Flags: HW
   SW Forwarding: 4/0/112/0, Other: 0/0/0
   HW Forwarding:   199906/198/118/182, Other: 0/0/0
   Null0 Flags: A
   GigabitEthernet1/0/1 Flags: F NS
     Pkts: 0/0/0    Rate: 0 pps
 (*,FF0E::11) Flags: C HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   16/0/218/0, Other: 0/0/0
   GigabitEthernet1/0/1 Flags: A NS
   Tunnel0, VXLAN v6 Decap Flags: F NS
     Pkts: 0/0/0    Rate: 0 pps
 (FC00:172:16:254::3,FF0E::11) Flags: HW
   SW Forwarding: 1/0/226/0, Other: 0/0/0
   HW Forwarding:   13/0/208/0, Other: 0/0/0
   Null0 Flags: A NS
   GigabitEthernet1/0/1 Flags: F NS
     Pkts: 0/0/0    Rate: 0 pps
 (FC00:172:16:254::4,FF0E::11) Flags: HW
   SW Forwarding: 1/0/226/0, Other: 0/0/0
   HW Forwarding:   12/0/222/0, Other: 0/0/0
   GigabitEthernet1/0/1 Flags: A
```

```
  Tunnel0, VXLAN v6 Decap Flags: F NS
    Pkts: 0/0/1    Rate: 0 pps
(FC00:172:16:254::5,FF0E::11) Flags: HW
  SW Forwarding: 1/0/226/0, Other: 0/0/0
  HW Forwarding:   1/0/244/0, Other: 0/0/0
  GigabitEthernet1/0/1 Flags: A
  Tunnel0, VXLAN v6 Decap Flags: F NS
    Pkts: 0/0/1    Rate: 0 pps
(*,FF0E::12) Flags: C HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   13/0/204/0, Other: 0/0/0
  GigabitEthernet1/0/1 Flags: A NS
  Tunnel0, VXLAN v6 Decap Flags: F NS
    Pkts: 0/0/0    Rate: 0 pps
(FC00:172:16:254::3,FF0E::12) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   14/0/209/0, Other: 0/0/0
  Null0 Flags: A NS
  GigabitEthernet1/0/1 Flags: F NS
    Pkts: 0/0/0    Rate: 0 pps
(FC00:172:16:254::4,FF0E::12) Flags: HW
  SW Forwarding: 1/0/174/0, Other: 0/0/0
  HW Forwarding:   28/0/195/0, Other: 0/0/0
  GigabitEthernet1/0/1 Flags: A
  Tunnel0, VXLAN v6 Decap Flags: F NS
    Pkts: 0/0/1    Rate: 0 pps
(FC00:172:16:254::5,FF0E::12) Flags: HW
  SW Forwarding: 1/0/142/0, Other: 0/0/0
  HW Forwarding:   28/0/194/0, Other: 0/0/0
  GigabitEthernet1/0/1 Flags: A NS
  Tunnel0, VXLAN v6 Decap Flags: F NS
    Pkts: 0/0/1    Rate: 0 pps
(*,FF10::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF12::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF20::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF22::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF30::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF32::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF33::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF34::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF35::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF36::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF37::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF38::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
```

```
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF39::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3A::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3B::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3C::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3D::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3E::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3F::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF40::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF42::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF50::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF52::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF60::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF62::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF70::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF72::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF80::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF82::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF90::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF92::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FFA0::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FFA2::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FFB0::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FFB2::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FFC0::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
```

```
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FFC2::/16) Flags:
   SW Forwarding: 0/0/0/0, Other: 0/0/0
 (*,FFD0::/15) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FFD2::/16) Flags:
   SW Forwarding: 0/0/0/0, Other: 0/0/0
 (*,FFE0::/15) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FFE2::/16) Flags:
   SW Forwarding: 0/0/0/0, Other: 0/0/0
 (*,FFF0::/15) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FFF2::/16) Flags:
   SW Forwarding: 0/0/0/0, Other: 0/0/0

Leaf-01#
```

Return to Verifying TRM in PIM-SM with Anycast RP for IPv4 and IPv6 Multicast Traffic over VXLANv6, on page 31

Outputs to Verify the Configuration on VTEP 2

The following example shows the output for the **show bgp ipv6 mvpn all** command on VTEP 2:

```
Leaf-02# show bgp ipv6 mvpn all

BGP table version is 14027, local router ID is 2.2.2.2
Status codes: s suppressed, d damped, h history, * valid, > best, i - internal,
              r RIB-failure, S Stale, m multipath, b backup-path, f RT-Filter,
              x best-external, a additional-path, c RIB-compressed,
              t secondary path, L long-lived-stale,
Origin codes: i - IGP, e - EGP, ? - incomplete
RPKI validation codes: V valid, I invalid, N Not found

     Network          Next Hop            Metric LocPrf Weight Path
Route Distinguisher: 1001:1 (default for vrf red)
 *>i  [5][1001:1][FD00:10:1:101::11][FF06:1::1]/42
                      FC00:172:16:255::3
                                           0    100      0 ?
Route Distinguisher: 1002:1
 * i  [5][1002:1][FD00:10:1:101::11][FF06:1::1]/42
                      FC00:172:16:255::3
                                           0    100      0 ?
 *>i                   FC00:172:16:255::3
                                           0    100      0 ?
Route Distinguisher: 172.16.254.3:101
 *>   [7][172.16.254.3:101][1001][FD00:10:1:101::11][FF06:1::1]/46
                      ::                                32768 ?

Leaf-02#
```

The following example shows the output for the **show bgp ipv4 mvpn all** command on VTEP 2:

```
Leaf-02# show bgp ipv4 mvpn all

BGP table version is 52480, local router ID is 2.2.2.2
Status codes: s suppressed, d damped, h history, * valid, > best, i - internal,
```

```
              r RIB-failure, S Stale, m multipath, b backup-path, f RT-Filter,
              x best-external, a additional-path, c RIB-compressed,
              t secondary path, L long-lived-stale,
Origin codes: i - IGP, e - EGP, ? - incomplete
RPKI validation codes: V valid, I invalid, N Not found

     Network          Next Hop            Metric LocPrf Weight Path
Route Distinguisher: 1001:1 (default for vrf red)
 *>i  [5][1001:1][10.1.101.11][226.1.1.1]/18
                      FC00:172:16:255::3
                                               0    100      0 ?
Route Distinguisher: 1002:1
 * i  [5][1002:1][10.1.101.11][226.1.1.1]/18
                      FC00:172:16:255::3
                                               0    100      0 ?
 *>i                   FC00:172:16:255::3
                                               0    100      0 ?
Route Distinguisher: 172.16.254.3:101
 *>   [7][172.16.254.3:101][1001][10.1.101.11/32][226.1.1.1/32]/22
                      0.0.0.0                             32768 ?

Leaf-02#
```

The following example shows the output for the **show bgp l2vpn evpn** command on VTEP 2:

```
Leaf-02# show bgp l2vpn evpn

BGP table version is 1128, local router ID is 2.2.2.2
Status codes: s suppressed, d damped, h history, * valid, > best, i - internal,
              r RIB-failure, S Stale, m multipath, b backup-path, f RT-Filter,
              x best-external, a additional-path, c RIB-compressed,
              t secondary path, L long-lived-stale,
Origin codes: i - IGP, e - EGP, ? - incomplete
RPKI validation codes: V valid, I invalid, N Not found

     Network          Next Hop            Metric LocPrf Weight Path
Route Distinguisher: 172.16.254.3:101
 * i  [2][172.16.254.3:101][0][48][001101000001][0][*]/20
                      FC00:172:16:254::3
                                               0    100      0 ?
 *>i                   FC00:172:16:254::3
                                               0    100      0 ?
 * i  [2][172.16.254.3:101][0][48][001101000001][32][10.1.101.11]/24
                      FC00:172:16:254::3
                                               0    100      0 ?
 *>i                   FC00:172:16:254::3
                                               0    100      0 ?
 * i  [2][172.16.254.3:101][0][48][001101000001][128][FD00:10:1:101::11]/36
                      FC00:172:16:254::3
                                               0    100      0 ?
     Network          Next Hop            Metric LocPrf Weight Path
 *>i                   FC00:172:16:254::3
                                               0    100      0 ?
 * i  [2][172.16.254.3:101][0][48][001101000001][128][FD00:10:1:101:211:1FF:FE00:1]/36
                      FC00:172:16:254::3
                                               0    100      0 ?
 *>i                   FC00:172:16:254::3
                                               0    100      0 ?
 * i  [2][172.16.254.3:101][0][48][001101000001][128][FE80::211:1FF:FE00:1]/36
                      FC00:172:16:254::3
                                               0    100      0 ?
 *>i                   FC00:172:16:254::3
                                               0    100      0 ?
```

```
 * i  [2][172.16.254.3:101][0][48][682C7B9A5B41][32][10.1.101.1]/24
                     FC00:172:16:254::3
                                                0    100      0 ?
 *>i                  FC00:172:16:254::3
                                                0    100      0 ?
 * i  [2][172.16.254.3:101][0][48][682C7B9A5B41][128][FD00:10:1:101::1]/36
                     FC00:172:16:254::3
                                                0    100      0 ?
 *>i                  FC00:172:16:254::3
    Network          Next Hop            Metric LocPrf Weight Path
                                                0    100      0 ?
Route Distinguisher: 172.16.254.3:102
 * i  [2][172.16.254.3:102][0][48][682C7B9A5B4D][32][10.1.102.1]/24
                     FC00:172:16:254::3
                                                0    100      0 ?
 *>i                  FC00:172:16:254::3
                                                0    100      0 ?
 * i  [2][172.16.254.3:102][0][48][682C7B9A5B4D][128][FD00:10:1:102::1]/36
                     FC00:172:16:254::3
                                                0    100      0 ?
 *>i                  FC00:172:16:254::3
                                                0    100      0 ?
Route Distinguisher: 172.16.254.4:101
 *>i  [2][172.16.254.4:101][0][48][001101000001][0][*]/20
                     FC00:172:16:254::3
                                                0    100      0 ?
 *>i  [2][172.16.254.4:101][0][48][001101000001][32][10.1.101.11]/24
                     FC00:172:16:254::3
                                                0    100      0 ?
 *>i  [2][172.16.254.4:101][0][48][001101000001][128][FD00:10:1:101::11]/36
                     FC00:172:16:254::3
                                                0    100      0 ?
    Network          Next Hop            Metric LocPrf Weight Path
 *>i  [2][172.16.254.4:101][0][48][001101000001][128][FD00:10:1:101:211:1FF:FE00:1]/36
                     FC00:172:16:254::3
                                                0    100      0 ?
 *>i  [2][172.16.254.4:101][0][48][001101000001][128][FE80::211:1FF:FE00:1]/36
                     FC00:172:16:254::3
                                                0    100      0 ?
 *>   [2][172.16.254.4:101][0][48][6026AABD1542][32][10.1.101.1]/24
                     ::                                   32768 ?
 *>   [2][172.16.254.4:101][0][48][6026AABD1542][128][FD00:10:1:101::1]/36
                     ::                                   32768 ?
 *>i  [2][172.16.254.4:101][0][48][682C7B9A5B41][32][10.1.101.1]/24
                     FC00:172:16:254::3
                                                0    100      0 ?
 *>i  [2][172.16.254.4:101][0][48][682C7B9A5B41][128][FD00:10:1:101::1]/36
                     FC00:172:16:254::3
                                                0    100      0 ?
 *>i  [2][172.16.254.4:101][0][48][A03D6EA7E541][32][10.1.101.1]/24
                     FC00:172:16:254::5
                                                0    100      0 ?
 *>i  [2][172.16.254.4:101][0][48][A03D6EA7E541][128][FD00:10:1:101::1]/36
                     FC00:172:16:254::5
    Network          Next Hop            Metric LocPrf Weight Path
                                                0    100      0 ?
Route Distinguisher: 172.16.254.4:102
 *>i  [2][172.16.254.4:102][0][48][001301000001][0][*]/20
                     FC00:172:16:254::5
                                                0    100      0 ?
 *>i  [2][172.16.254.4:102][0][48][001301000001][32][10.1.102.13]/24
                     FC00:172:16:254::5
                                                0    100      0 ?
 *>i  [2][172.16.254.4:102][0][48][001301000001][128][FD00:10:1:102::13]/36
```

```
                     FC00:172:16:254::5
                                                    0    100      0 ?
 *>i  [2][172.16.254.4:102][0][48][001301000001][128][FD00:10:1:102:213:1FF:FE00:1]/36
                     FC00:172:16:254::5
                                                    0    100      0 ?
 *>i  [2][172.16.254.4:102][0][48][001301000001][128][FE80::213:1FF:FE00:1]/36
                     FC00:172:16:254::5
                                                    0    100      0 ?
 *>   [2][172.16.254.4:102][0][48][001501000001][0][*]/20
                     ::                                  32768 ?
 *>   [2][172.16.254.4:102][0][48][001501000001][32][10.1.102.12]/24
                     ::                                  32768 ?
    Network          Next Hop            Metric LocPrf Weight Path
 *>   [2][172.16.254.4:102][0][48][001501000001][128][FD00:10:1:102::12]/36
                     ::                                  32768 ?
 *>   [2][172.16.254.4:102][0][48][001501000001][128][FD00:10:1:102:215:1FF:FE00:1]/36
                     ::                                  32768 ?
 *>   [2][172.16.254.4:102][0][48][001501000001][128][FE80::215:1FF:FE00:1]/36
                     ::                                  32768 ?
 *>   [2][172.16.254.4:102][0][48][6026AABD1542][32][10.1.102.1]/24
                     ::                                  32768 ?
 *>   [2][172.16.254.4:102][0][48][6026AABD1542][128][FD00:10:1:102::1]/36
                     ::                                  32768 ?
 *>i  [2][172.16.254.4:102][0][48][682C7B9A5B4D][32][10.1.102.1]/24
                     FC00:172:16:254::3
                                                    0    100      0 ?
 *>i  [2][172.16.254.4:102][0][48][682C7B9A5B4D][128][FD00:10:1:102::1]/36
                     FC00:172:16:254::3
                                                    0    100      0 ?
 *>i  [2][172.16.254.4:102][0][48][A03D6EA7E54D][32][10.1.102.1]/24
                     FC00:172:16:254::5
                                                    0    100      0 ?
 *>i  [2][172.16.254.4:102][0][48][A03D6EA7E54D][128][FD00:10:1:102::1]/36
                     FC00:172:16:254::5
    Network          Next Hop            Metric LocPrf Weight Path
                                                    0    100      0 ?
Route Distinguisher: 172.16.254.5:101
 * i  [2][172.16.254.5:101][0][48][A03D6EA7E541][32][10.1.101.1]/24
                     FC00:172:16:254::5
                                                    0    100      0 ?
 *>i                  FC00:172:16:254::5
                                                    0    100      0 ?
 * i  [2][172.16.254.5:101][0][48][A03D6EA7E541][128][FD00:10:1:101::1]/36
                     FC00:172:16:254::5
                                                    0    100      0 ?
 *>i                  FC00:172:16:254::5
                                                    0    100      0 ?
Route Distinguisher: 172.16.254.5:102
 * i  [2][172.16.254.5:102][0][48][001301000001][0][*]/20
                     FC00:172:16:254::5
                                                    0    100      0 ?
 *>i                  FC00:172:16:254::5
                                                    0    100      0 ?
 * i  [2][172.16.254.5:102][0][48][001301000001][32][10.1.102.13]/24
                     FC00:172:16:254::5
                                                    0    100      0 ?
 *>i                  FC00:172:16:254::5
    Network          Next Hop            Metric LocPrf Weight Path
                                                    0    100      0 ?
 * i  [2][172.16.254.5:102][0][48][001301000001][128][FD00:10:1:102::13]/36
                     FC00:172:16:254::5
                                                    0    100      0 ?
 *>i                  FC00:172:16:254::5
                                                    0    100      0 ?
```

```
 * i  [2][172.16.254.5:102][0][48][001301000001][128][FD00:10:1:102:213:1FF:FE00:1]/36
                     FC00:172:16:254::5
                                                 0    100      0 ?
 *>i                  FC00:172:16:254::5
                                                 0    100      0 ?
 * i  [2][172.16.254.5:102][0][48][001301000001][128][FE80::213:1FF:FE00:1]/36
                     FC00:172:16:254::5
                                                 0    100      0 ?
 *>i                  FC00:172:16:254::5
                                                 0    100      0 ?
 * i  [2][172.16.254.5:102][0][48][A03D6EA7E54D][32][10.1.102.1]/24
                     FC00:172:16:254::5
                                                 0    100      0 ?
 *>i                  FC00:172:16:254::5
                                                 0    100      0 ?
     Network          Next Hop            Metric LocPrf Weight Path
 * i  [2][172.16.254.5:102][0][48][A03D6EA7E54D][128][FD00:10:1:102::1]/36
                     FC00:172:16:254::5
                                                 0    100      0 ?
 *>i                  FC00:172:16:254::5
                                                 0    100      0 ?
Route Distinguisher: 1001:1 (default for vrf red)
 *>   [5][1001:1][0][24][10.1.101.0]/17
                     0.0.0.0                 0         32768 ?
 *>   [5][1001:1][0][24][10.1.102.0]/17
                     0.0.0.0                 0         32768 ?
 *>   [5][1001:1][0][32][10.2.255.255]/17
                     0.0.0.0                 0         32768 ?
 *>   [5][1001:1][0][64][FD00:10:1:101::]/29
                     ::                      0         32768 ?
 *>   [5][1001:1][0][64][FD00:10:1:102::]/29
                     ::                      0         32768 ?
 *>   [5][1001:1][0][128][FC00:2:255::255]/29
                     ::                      0         32768 ?
Route Distinguisher: 1002:1
 * i  [5][1002:1][0][24][10.1.101.0]/17
                     FC00:172:16:254::3
                                                 0    100      0 ?
     Network          Next Hop            Metric LocPrf Weight Path
 *>i                  FC00:172:16:254::3
                                                 0    100      0 ?
 * i  [5][1002:1][0][24][10.1.102.0]/17
                     FC00:172:16:254::3
                                                 0    100      0 ?
 *>i                  FC00:172:16:254::3
                                                 0    100      0 ?
 * i  [5][1002:1][0][32][10.2.255.255]/17
                     FC00:172:16:254::3
                                                 0    100      0 ?
 *>i                  FC00:172:16:254::3
                                                 0    100      0 ?
 * i  [5][1002:1][0][64][FD00:10:1:101::]/29
                     FC00:172:16:254::3
                                                 0    100      0 ?
 *>i                  FC00:172:16:254::3
                                                 0    100      0 ?
 * i  [5][1002:1][0][64][FD00:10:1:102::]/29
                     FC00:172:16:254::3
                                                 0    100      0 ?
 *>i                  FC00:172:16:254::3
                                                 0    100      0 ?
     Network          Next Hop            Metric LocPrf Weight Path
 * i  [5][1002:1][0][128][FC00:2:255::255]/29
                     FC00:172:16:254::3
```

```
                                                    0    100      0 ?
 *>i                   FC00:172:16:254::3
                                                    0    100      0 ?
Route Distinguisher: 1003:1
 * i  [5][1003:1][0][24][10.1.101.0]/17
                       FC00:172:16:254::5
                                                    0    100      0 ?
 *>i                   FC00:172:16:254::5
                                                    0    100      0 ?
 * i  [5][1003:1][0][24][10.1.102.0]/17
                       FC00:172:16:254::5
                                                    0    100      0 ?
 *>i                   FC00:172:16:254::5
                                                    0    100      0 ?
 * i  [5][1003:1][0][32][10.2.255.255]/17
                       FC00:172:16:254::5
                                                    0    100      0 ?
 *>i                   FC00:172:16:254::5
                                                    0    100      0 ?
 * i  [5][1003:1][0][64][FD00:10:1:101::]/29
    Network          Next Hop            Metric LocPrf Weight Path
                       FC00:172:16:254::5
                                                    0    100      0 ?
 *>i                   FC00:172:16:254::5
                                                    0    100      0 ?
 * i  [5][1003:1][0][64][FD00:10:1:102::]/29
                       FC00:172:16:254::5
                                                    0    100      0 ?
 *>i                   FC00:172:16:254::5
                                                    0    100      0 ?
 * i  [5][1003:1][0][128][FC00:2:255::255]/29
                       FC00:172:16:254::5
                                                    0    100      0 ?
 *>i                   FC00:172:16:254::5
                                                    0    100      0 ?

Leaf-02#
```

The following example shows the output for the **show ipv6 pim vrf** *vrf-name* **group-map** command on VTEP 2:

```
Leaf-02# show ipv6 pim vrf red group-map FF00::/8

IP PIM Group Mapping Table
(* indicates group mappings being used)

FF00::/8*
    SM, RP: FC00:2:255::255
    RPF: Tu7,FC00:2:255::255 (us)
    Info source: Static
    Uptime: 04:19:26, Groups: 1
FF00::/8
    SM
    Info source: Default
    Uptime: 2d06h, Groups: 0

Leaf-02#
```

The following example shows the output for the **show ip pim vrf** *vrf-name* **rp mapping** command on VTEP 2:

```
Leaf-02# show ipv6 pim vrf red rp mapping

PIM Group-to-RP Mappings

Group(s): 224.0.0.0/4, Static
    RP: 10.2.255.255 (?)

Leaf-02#
```

The following example shows the output for the **show ipv6 mld vrf** *vrf-name* **groups** command on VTEP 2:

```
Leaf-02# show ipv6 mld vrf red groups

MLD Connected Group Membership
Group Address                           Interface
    Uptime    Expires
FF06:1::1                               Vlan102
   00:50:12  00:02:54

Leaf-02#
```

The following example shows the output for the **show ip igmp vrf** *vrf-name* **groups** command on VTEP 2:

```
Leaf-02# show ip igmp vrf red groups

IGMP Connected Group Membership
Group Address    Interface              Uptime    Expires   Last Reporter   Group Accounted
226.1.1.1        Vlan102                  00:50:27  00:02:27  10.1.102.12
224.0.1.40       Loopback2                03:47:19  00:02:14  10.2.255.255

Leaf-02#
```

The following example shows the output for the **show ip mroute vrf** *vrf-name* command on VTEP 2:

```
Leaf-02# show ip mroute vrf red

IP Multicast Routing Table
Flags: D - Dense, S - Sparse, B - Bidir Group, s - SSM Group, C - Connected,
       L - Local, P - Pruned, R - RP-bit set, F - Register flag,
       T - SPT-bit set, J - Join SPT, M - MSDP created entry, E - Extranet,
       X - Proxy Join Timer Running, A - Candidate for MSDP Advertisement,
       U - URD, I - Received Source Specific Host Report,
       Z - Multicast Tunnel, z - MDT-data group sender,
       Y - Joined MDT-data group, y - Sending to MDT-data group,
       G - Received BGP C-Mroute, g - Sent BGP C-Mroute,
       N - Received BGP Shared-Tree Prune, n - BGP C-Mroute suppressed,
       Q - Received BGP S-A Route, q - Sent BGP S-A Route,
       V - RD & Vector, v - Vector, p - PIM Joins on route,
       x - VxLAN group, c - PFP-SA cache created entry,
       * - determined by Assert, # - iif-starg configured on rpf intf,
       e - encap-helper tunnel flag, l - LISP decap ref count contributor
Outgoing interface flags: H - Hardware switched, A - Assert winner, p - PIM Join
                          t - LISP transit group
 Timers: Uptime/Expires
 Interface state: Interface, Next-Hop or VCD, State/Mode

(*, 226.1.1.1), 00:50:31/stopped, RP 10.2.255.255, flags: SJC
  Incoming interface: Null, RPF nbr 0.0.0.0
```

```
  Outgoing interface list:
    Vlan102, Forward/Sparse, 00:50:31/00:02:22, flags:

(10.1.101.11, 226.1.1.1), 00:35:31/00:01:39, flags: TgQ
  Incoming interface: Vlan500, RPF nbr FC00:172:16:254::3
  Outgoing interface list:
    Vlan102, Forward/Sparse, 00:35:31/00:02:22, flags:

(*, 224.0.1.40), 01:57:45/00:02:09, RP 10.2.255.255, flags: SJCL
  Incoming interface: Null, RPF nbr 0.0.0.0
  Outgoing interface list:
    Loopback2, Forward/Sparse, 01:57:45/00:02:09, flags:

Leaf-02#
```

The following example shows the output for the **show ipv6 mroute vrf** *vrf-name* command on VTEP 2:

```
Leaf-02# show ipv6 mroute vrf red

Multicast Routing Table
Flags: D - Dense, S - Sparse, B - Bidir Group, s - SSM Group,
       C - Connected, L - Local, I - Received Source Specific Host Report,
       P - Pruned, R - RP-bit set, F - Register flag, T - SPT-bit set,
       J - Join SPT, Y - Joined MDT-data group,
       y - Sending to MDT-data group
       g - BGP signal originated, G - BGP Signal received,
       N - BGP Shared-Tree Prune received, n - BGP C-Mroute suppressed,
       q - BGP Src-Active originated, Q - BGP Src-Active received
       E - Extranet
Timers: Uptime/Expires
Interface state: Interface, State

(*, FF06:1::1), 00:50:38/never, RP FC00:2:255::255, flags: SCJ
  Incoming interface: Tunnel7
  RPF nbr: FC00:2:255::255
  Immediate Outgoing interface list:
    Vlan102, Forward, 00:50:38/never

(FD00:10:1:101::11, FF06:1::1), 00:35:42/never, flags: STgQ
  Incoming interface: Vlan500
  RPF nbr: FC00:172:16:254::3
  Inherited Outgoing interface list:
    Vlan102, Forward, 00:50:38/never

Leaf-02#
```

The following example shows the output for the **show ip mfib vrf** *vrf-name* command on VTEP 2:

```
Leaf-02# show ip mfib vrf red

Entry Flags:    C - Directly Connected, S - Signal, IA - Inherit A flag,
                ET - Data Rate Exceeds Threshold, K - Keepalive
                DDE - Data Driven Event, HW - Hardware Installed
                ME - MoFRR ECMP entry, MNE - MoFRR Non-ECMP entry, MP - MFIB
                MoFRR Primary, RP - MRIB MoFRR Primary, P - MoFRR Primary
                MS  - MoFRR  Entry in Sync, MC - MoFRR entry in MoFRR Client,
                e   - Encap helper tunnel flag.
I/O Item Flags: IC - Internal Copy, NP - Not platform switched,
                NS - Negate Signalling, SP - Signal Present,
                A - Accept, F - Forward, RA - MRIB Accept, RF - MRIB Forward,
                MA - MFIB Accept, A2 - Accept backup,
```

```
                RA2 - MRIB Accept backup, MA2 - MFIB Accept backup

Forwarding Counts: Pkt Count/Pkts per second/Avg Pkt Size/Kbits per second
Other counts:      Total/RPF failed/Other drops
I/O Item Counts:   HW Pkt Count/FS Pkt Count/PS Pkt Count   Egress Rate in pps
VRF red
 (*,224.0.0.0/4) Flags: C HW
   SW Forwarding: 0/0/0/0, Other: 11/11/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,224.0.1.40) Flags: C HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
   Tunnel6 Flags: A
   Loopback2 Flags: F IC NS
     Pkts: 0/0/0    Rate: 0 pps
 (*,226.1.1.1) Flags: C HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
   Tunnel6 Flags: A
   Vlan102 Flags: F NS
     Pkts: 0/0/0    Rate: 0 pps
 (10.1.101.11,226.1.1.1) Flags: HW
   SW Forwarding: 1/0/42/0, Other: 0/0/0
   HW Forwarding:   208200/100/68/53, Other: 0/0/0
   Vlan500, VXLAN Decap Flags: A
   Vlan102 Flags: F NS
     Pkts: 0/0/1    Rate: 0 pps
 (*,232.0.0.0/8) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0

Leaf-02#
```

The following example shows the output for the **show ipv6 mfib** command on VTEP 2:

```
Leaf-02# show ipv6 mfib

Entry Flags:    C - Directly Connected, S - Signal, IA - Inherit A flag,
                ET - Data Rate Exceeds Threshold, K - Keepalive
                DDE - Data Driven Event, HW - Hardware Installed
                ME - MoFRR ECMP entry, MNE - MoFRR Non-ECMP entry, MP - MFIB
                MoFRR Primary, RP - MRIB MoFRR Primary, P - MoFRR Primary
                MS  - MoFRR  Entry in Sync, MC - MoFRR entry in MoFRR Client,
                e   - Encap helper tunnel flag.
I/O Item Flags: IC - Internal Copy, NP - Not platform switched,
                NS - Negate Signalling, SP - Signal Present,
                A - Accept, F - Forward, RA - MRIB Accept, RF - MRIB Forward,
                MA - MFIB Accept, A2 - Accept backup,
                RA2 - MRIB Accept backup, MA2 - MFIB Accept backup

Forwarding Counts: Pkt Count/Pkts per second/Avg Pkt Size/Kbits per second
Other counts:      Total/RPF failed/Other drops
I/O Item Counts:   HW Pkt Count/FS Pkt Count/PS Pkt Count   Egress Rate in pps
Default
 (*,FF00::/8) Flags: C HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FF00::/15) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FF02::/16) Flags:
   SW Forwarding: 0/0/0/0, Other: 3/3/0
 (*,FF07::9) Flags: C HW
```

```
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   19/0/129/0, Other: 0/0/0
  GigabitEthernet1/0/1 Flags: A NS
  Tunnel0, VXLAN v6 Decap Flags: F NS
    Pkts: 0/0/0    Rate: 0 pps
(FC00:172:16:254::3,FF07::9) Flags: HW
  SW Forwarding: 1/0/112/0, Other: 7/0/7
  HW Forwarding:   420355/200/130/203, Other: 0/0/0
  GigabitEthernet1/0/41 Flags: A
  Tunnel0, VXLAN v6 Decap Flags: F NS
    Pkts: 0/0/1    Rate: 0 pps
(*,FF0E::11) Flags: C HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   31/0/207/0, Other: 0/0/0
  GigabitEthernet1/0/1 Flags: A NS
  Tunnel0, VXLAN v6 Decap Flags: F NS
    Pkts: 0/0/0    Rate: 0 pps
(FC00:172:16:254::3,FF0E::11) Flags: HW
  SW Forwarding: 1/0/226/0, Other: 0/0/0
  HW Forwarding:   9/0/220/0, Other: 0/0/0
  GigabitEthernet1/0/41 Flags: A
  Tunnel0, VXLAN v6 Decap Flags: F NS
    Pkts: 0/0/1    Rate: 0 pps
(FC00:172:16:254::4,FF0E::11) Flags: HW
  SW Forwarding: 1/0/174/0, Other: 0/0/0
  HW Forwarding:   197/0/209/0, Other: 0/0/0
  Null0 Flags: A NS
  GigabitEthernet1/0/1 Flags: F NS
    Pkts: 0/0/0    Rate: 0 pps
(FC00:172:16:254::5,FF0E::11) Flags: HW
  SW Forwarding: 2/0/226/0, Other: 0/0/0
  HW Forwarding:   10/0/223/0, Other: 0/0/0
  GigabitEthernet1/0/1 Flags: A
  Tunnel0, VXLAN v6 Decap Flags: F NS
    Pkts: 0/0/2    Rate: 0 pps
(*,FF0E::12) Flags: C HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   28/0/229/0, Other: 0/0/0
  GigabitEthernet1/0/1 Flags: A NS
  Tunnel0, VXLAN v6 Decap Flags: F NS
    Pkts: 0/0/0    Rate: 0 pps
(FC00:172:16:254::3,FF0E::12) Flags: HW
  SW Forwarding: 1/0/174/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
  GigabitEthernet1/0/1 Flags: A
  Tunnel0, VXLAN v6 Decap Flags: F NS
    Pkts: 0/0/1    Rate: 0 pps
  GigabitEthernet1/0/41 Flags: NS
(FC00:172:16:254::4,FF0E::12) Flags: HW
  SW Forwarding: 1/0/174/0, Other: 0/0/0
  HW Forwarding:   284/0/193/0, Other: 0/0/0
  Null0 Flags: A
  GigabitEthernet1/0/1 Flags: F NS
    Pkts: 0/0/0    Rate: 0 pps
(FC00:172:16:254::5,FF0E::12) Flags: HW
  SW Forwarding: 1/0/226/0, Other: 0/0/0
  HW Forwarding:   153/0/198/0, Other: 0/0/0
  GigabitEthernet1/0/1 Flags: A
  Tunnel0, VXLAN v6 Decap Flags: F NS
    Pkts: 0/0/1    Rate: 0 pps
(*,FF10::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF12::/16) Flags:
```

```
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF20::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF22::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF30::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF32::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF33::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF34::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF35::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF36::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF37::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF38::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF39::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3A::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3B::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3C::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3D::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3E::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3F::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF40::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF42::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF50::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF52::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF60::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF62::/16) Flags:
```

```
    SW Forwarding: 0/0/0/0, Other: 0/0/0
  (*,FF70::/15) Flags: HW
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FF72::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0
  (*,FF80::/15) Flags: HW
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FF82::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0
  (*,FF90::/15) Flags: HW
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FF92::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0
  (*,FFA0::/15) Flags: HW
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FFA2::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0
  (*,FFB0::/15) Flags: HW
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FFB2::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0
  (*,FFC0::/15) Flags: HW
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FFC2::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0
  (*,FFD0::/15) Flags: HW
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FFD2::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0
  (*,FFE0::/15) Flags: HW
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FFE2::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0
  (*,FFF0::/15) Flags: HW
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FFF2::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0

Leaf-02#
```

The following example shows the output for the **show ipv6 mroute** command on VTEP 2:

```
Leaf-02# show ipv6 mroute

Multicast Routing Table
Flags: D - Dense, S - Sparse, B - Bidir Group, s - SSM Group,
       C - Connected, L - Local, I - Received Source Specific Host Report,
       P - Pruned, R - RP-bit set, F - Register flag, T - SPT-bit set,
       J - Join SPT, Y - Joined MDT-data group,
       y - Sending to MDT-data group
       g - BGP signal originated, G - BGP Signal received,
       N - BGP Shared-Tree Prune received, n - BGP C-Mroute suppressed,
       q - BGP Src-Active originated, Q - BGP Src-Active received
       E - Extranet
```

```
Timers: Uptime/Expires
Interface state: Interface, State

(*, FF07::9), 05:09:43/never, RP FC00:172:16:255::255, flags: SCJ
  Incoming interface: GigabitEthernet1/0/1
  RPF nbr: FE80::ED0:F8FF:FE32:F4D6
  Immediate Outgoing interface list:
    Tunnel0, Forward, 05:09:43/never

(FC00:172:16:254::3, FF07::9), 00:36:13/00:00:20, flags: SJT
  Incoming interface: GigabitEthernet1/0/41
  RPF nbr: FE80::8AFC:5DFF:FEED:6FD0
  Inherited Outgoing interface list:
    Tunnel0, Forward, 05:09:43/never

(*, FF0E::11), 05:09:43/never, RP FC00:172:16:255::255, flags: SCJ
  Incoming interface: GigabitEthernet1/0/1
  RPF nbr: FE80::ED0:F8FF:FE32:F4D6
  Immediate Outgoing interface list:
    Tunnel0, Forward, 05:09:43/never

(FC00:172:16:254::3, FF0E::11), 00:11:22/00:00:44, flags: SJT
  Incoming interface: GigabitEthernet1/0/41
  RPF nbr: FE80::8AFC:5DFF:FEED:6FD0
  Inherited Outgoing interface list:
    Tunnel0, Forward, 05:09:43/never

(FC00:172:16:254::4, FF0E::11), 03:53:43/00:00:37, flags: SFJT
  Incoming interface: Loopback1
  RPF nbr: FE80::6226:AAFF:FEBD:1540
  Immediate Outgoing interface list:
    GigabitEthernet1/0/1, Forward, 03:35:26/00:03:23
  Inherited Outgoing interface list:
    Tunnel0, Forward, 05:09:43/never

(FC00:172:16:254::5, FF0E::11), 00:12:08/00:00:04, flags: SJT
  Incoming interface: GigabitEthernet1/0/1
  RPF nbr: FE80::ED0:F8FF:FE32:F4D6
  Inherited Outgoing interface list:
    Tunnel0, Forward, 05:09:43/never

(*, FF0E::12), 03:49:34/never, RP FC00:172:16:255::255, flags: SCJ
  Incoming interface: GigabitEthernet1/0/1
  RPF nbr: FE80::ED0:F8FF:FE32:F4D6
  Immediate Outgoing interface list:
    Tunnel0, Forward, 03:49:34/never

(FC00:172:16:254::3, FF0E::12), 00:01:03/00:03:19, flags: SJT
  Incoming interface: GigabitEthernet1/0/41
  RPF nbr: FE80::8AFC:5DFF:FEED:6FD0
  Inherited Outgoing interface list:
    Tunnel0, Forward, 03:49:34/never

(FC00:172:16:254::4, FF0E::12), 03:48:01/00:01:00, flags: SFJT
  Incoming interface: Loopback1
  RPF nbr: FE80::6226:AAFF:FEBD:1540
  Immediate Outgoing interface list:
    GigabitEthernet1/0/1, Forward, 03:36:35/00:03:23
  Inherited Outgoing interface list:
    Tunnel0, Forward, 03:49:34/never

(FC00:172:16:254::5, FF0E::12), 01:41:19/00:02:28, flags: SJT
  Incoming interface: GigabitEthernet1/0/1
  RPF nbr: FE80::ED0:F8FF:FE32:F4D6
```

```
  Inherited Outgoing interface list:
    Tunnel0, Forward, 03:49:34/never

Leaf-02#
```

Return to Verifying TRM in PIM-SM with Anycast RP for IPv4 and IPv6 Multicast Traffic over VXLANv6, on page 31

Outputs to Verify the Configuration on VTEP 3

The following example shows the output for the **show bgp ipv6 mvpn all** command on VTEP 3:

```
Leaf-03# show bgp ipv6 mvpn all

BGP table version is 59197, local router ID is 3.3.3.3
Status codes: s suppressed, d damped, h history, * valid, > best, i - internal,
              r RIB-failure, S Stale, m multipath, b backup-path, f RT-Filter,
              x best-external, a additional-path, c RIB-compressed,
              t secondary path, L long-lived-stale,
Origin codes: i - IGP, e - EGP, ? - incomplete
RPKI validation codes: V valid, I invalid, N Not found

     Network          Next Hop            Metric LocPrf Weight Path
Route Distinguisher: 1002:1
 * i  [5][1002:1][FD00:10:1:101::11][FF06:1::1]/42
                     FC00:172:16:255::3
                                              0    100      0 ?
 *>i                  FC00:172:16:255::3
                                              0    100      0 ?
Route Distinguisher: 1003:1 (default for vrf red)
 *>i  [5][1003:1][FD00:10:1:101::11][FF06:1::1]/42
                     FC00:172:16:255::3
                                              0    100      0 ?
Route Distinguisher: 172.16.254.3:101
 *>   [7][172.16.254.3:101][1001][FD00:10:1:101::11][FF06:1::1]/46
                     ::                                   32768 ?

Leaf-03#
```

The following example shows the output for the **show bgp ipv4 mvpn all** command on VTEP 3:

```
Leaf-03# show bgp ipv4 mvpn all

BGP table version is 129733, local router ID is 3.3.3.3
Status codes: s suppressed, d damped, h history, * valid, > best, i - internal,
              r RIB-failure, S Stale, m multipath, b backup-path, f RT-Filter,
              x best-external, a additional-path, c RIB-compressed,
              t secondary path, L long-lived-stale,
Origin codes: i - IGP, e - EGP, ? - incomplete
RPKI validation codes: V valid, I invalid, N Not found

     Network          Next Hop            Metric LocPrf Weight Path
Route Distinguisher: 1002:1
 * i  [5][1002:1][10.1.101.11][226.1.1.1]/18
                     FC00:172:16:255::3
                                              0    100      0 ?
 *>i                  FC00:172:16:255::3
                                              0    100      0 ?
Route Distinguisher: 1003:1 (default for vrf red)
 *>i  [5][1003:1][10.1.101.11][226.1.1.1]/18
                     FC00:172:16:255::3
```

```
                                                    0    100      0 ?
Route Distinguisher: 172.16.254.3:101
 *>   [7][172.16.254.3:101][1001][10.1.101.11/32][226.1.1.1/32]/22
                     0.0.0.0                              32768 ?

Leaf-03#
```

The following example shows the output for the **show bgp l2vpn evpn** command on VTEP 3:

```
Leaf-03# show bgp l2vpn evpn

BGP table version is 2172, local router ID is 3.3.3.3
Status codes: s suppressed, d damped, h history, * valid, > best, i - internal,
              r RIB-failure, S Stale, m multipath, b backup-path, f RT-Filter,
              x best-external, a additional-path, c RIB-compressed,
              t secondary path, L long-lived-stale,
Origin codes: i - IGP, e - EGP, ? - incomplete
RPKI validation codes: V valid, I invalid, N Not found

     Network          Next Hop            Metric LocPrf Weight Path
Route Distinguisher: 172.16.254.3:101
 * i  [2][172.16.254.3:101][0][48][001101000001][0][*]/20
                     FC00:172:16:254::3
                                                    0    100      0 ?
 *>i                  FC00:172:16:254::3
                                                    0    100      0 ?
 * i  [2][172.16.254.3:101][0][48][001101000001][32][10.1.101.11]/24
                     FC00:172:16:254::3
                                                    0    100      0 ?
     Network          Next Hop            Metric LocPrf Weight Path
 *>i                  FC00:172:16:254::3
                                                    0    100      0 ?
 * i  [2][172.16.254.3:101][0][48][001101000001][128][FD00:10:1:101::11]/36
                     FC00:172:16:254::3
                                                    0    100      0 ?
 *>i                  FC00:172:16:254::3
                                                    0    100      0 ?
 * i  [2][172.16.254.3:101][0][48][001101000001][128][FD00:10:1:101:211:1FF:FE00:1]/36
                     FC00:172:16:254::3
                                                    0    100      0 ?
 *>i                  FC00:172:16:254::3
                                                    0    100      0 ?
 * i  [2][172.16.254.3:101][0][48][001101000001][128][FE80::211:1FF:FE00:1]/36
                     FC00:172:16:254::3
                                                    0    100      0 ?
 *>i                  FC00:172:16:254::3
                                                    0    100      0 ?
 * i  [2][172.16.254.3:101][0][48][682C7B9A5B41][32][10.1.101.1]/24
                     FC00:172:16:254::3
                                                    0    100      0 ?
 *>i                  FC00:172:16:254::3
     Network          Next Hop            Metric LocPrf Weight Path
                                                    0    100      0 ?
 * i  [2][172.16.254.3:101][0][48][682C7B9A5B41][128][FD00:10:1:101::1]/36
                     FC00:172:16:254::3
                                                    0    100      0 ?
 *>i                  FC00:172:16:254::3
                                                    0    100      0 ?
Route Distinguisher: 172.16.254.3:102
 * i  [2][172.16.254.3:102][0][48][682C7B9A5B4D][32][10.1.102.1]/24
                     FC00:172:16:254::3
                                                    0    100      0 ?
 *>i                  FC00:172:16:254::3
```

```
                                                    0    100      0 ?
 * i  [2][172.16.254.3:102][0][48][682C7B9A5B4D][128][FD00:10:1:102::1]/36
                     FC00:172:16:254::3
                                                    0    100      0 ?
 *>i                  FC00:172:16:254::3
                                                    0    100      0 ?
Route Distinguisher: 172.16.254.4:101
 * i  [2][172.16.254.4:101][0][48][6026AABD1542][32][10.1.101.1]/24
                     FC00:172:16:254::4
                                                    0    100      0 ?
 *>i                  FC00:172:16:254::4
    Network          Next Hop            Metric LocPrf Weight Path
                                                    0    100      0 ?
 * i  [2][172.16.254.4:101][0][48][6026AABD1542][128][FD00:10:1:101::1]/36
                     FC00:172:16:254::4
                                                    0    100      0 ?
 *>i                  FC00:172:16:254::4
                                                    0    100      0 ?
Route Distinguisher: 172.16.254.4:102
 * i  [2][172.16.254.4:102][0][48][001501000001][0][*]/20
                     FC00:172:16:254::4
                                                    0    100      0 ?
 *>i                  FC00:172:16:254::4
                                                    0    100      0 ?
 * i  [2][172.16.254.4:102][0][48][001501000001][32][10.1.102.12]/24
                     FC00:172:16:254::4
                                                    0    100      0 ?
 *>i                  FC00:172:16:254::4
                                                    0    100      0 ?
 * i  [2][172.16.254.4:102][0][48][001501000001][128][FD00:10:1:102::12]/36
                     FC00:172:16:254::4
                                                    0    100      0 ?
 *>i                  FC00:172:16:254::4
                                                    0    100      0 ?
    Network          Next Hop            Metric LocPrf Weight Path
 * i  [2][172.16.254.4:102][0][48][001501000001][128][FD00:10:1:102:215:1FF:FE00:1]/36
                     FC00:172:16:254::4
                                                    0    100      0 ?
 *>i                  FC00:172:16:254::4
                                                    0    100      0 ?
 * i  [2][172.16.254.4:102][0][48][001501000001][128][FE80::215:1FF:FE00:1]/36
                     FC00:172:16:254::4
                                                    0    100      0 ?
 *>i                  FC00:172:16:254::4
                                                    0    100      0 ?
 * i  [2][172.16.254.4:102][0][48][6026AABD1542][32][10.1.102.1]/24
                     FC00:172:16:254::4
                                                    0    100      0 ?
 *>i                  FC00:172:16:254::4
                                                    0    100      0 ?
 * i  [2][172.16.254.4:102][0][48][6026AABD1542][128][FD00:10:1:102::1]/36
                     FC00:172:16:254::4
                                                    0    100      0 ?
 *>i                  FC00:172:16:254::4
                                                    0    100      0 ?
Route Distinguisher: 172.16.254.5:101
     Network          Next Hop            Metric LocPrf Weight Path
 *>i  [2][172.16.254.5:101][0][48][001101000001][0][*]/20
                     FC00:172:16:254::3
                                                    0    100      0 ?
 *>i  [2][172.16.254.5:101][0][48][001101000001][32][10.1.101.11]/24
                     FC00:172:16:254::3
                                                    0    100      0 ?
 *>i  [2][172.16.254.5:101][0][48][001101000001][128][FD00:10:1:101::11]/36
```

```
                     FC00:172:16:254::3
                                                    0    100      0 ?
 *>i  [2][172.16.254.5:101][0][48][001101000001][128][FD00:10:1:101:211:1FF:FE00:1]/36
                     FC00:172:16:254::3
                                                    0    100      0 ?
 *>i  [2][172.16.254.5:101][0][48][001101000001][128][FE80::211:1FF:FE00:1]/36
                     FC00:172:16:254::3
                                                    0    100      0 ?
 *>i  [2][172.16.254.5:101][0][48][6026AABD1542][32][10.1.101.1]/24
                     FC00:172:16:254::4
                                                    0    100      0 ?
 *>i  [2][172.16.254.5:101][0][48][6026AABD1542][128][FD00:10:1:101::1]/36
                     FC00:172:16:254::4
                                                    0    100      0 ?
    Network          Next Hop            Metric LocPrf Weight Path
 *>i  [2][172.16.254.5:101][0][48][682C7B9A5B41][32][10.1.101.1]/24
                     FC00:172:16:254::3
                                                    0    100      0 ?
 *>i  [2][172.16.254.5:101][0][48][682C7B9A5B41][128][FD00:10:1:101::1]/36
                     FC00:172:16:254::3
                                                    0    100      0 ?
 *>   [2][172.16.254.5:101][0][48][A03D6EA7E541][32][10.1.101.1]/24
                     ::                                       32768 ?
 *>   [2][172.16.254.5:101][0][48][A03D6EA7E541][128][FD00:10:1:101::1]/36
                     ::                                       32768 ?
Route Distinguisher: 172.16.254.5:102
 *>   [2][172.16.254.5:102][0][48][001301000001][0][*]/20
                     ::                                       32768 ?
 *>   [2][172.16.254.5:102][0][48][001301000001][32][10.1.102.13]/24
                     ::                                       32768 ?
 *>   [2][172.16.254.5:102][0][48][001301000001][128][FD00:10:1:102::13]/36
                     ::                                       32768 ?
 *>   [2][172.16.254.5:102][0][48][001301000001][128][FD00:10:1:102:213:1FF:FE00:1]/36
                     ::                                       32768 ?
 *>   [2][172.16.254.5:102][0][48][001301000001][128][FE80::213:1FF:FE00:1]/36
                     ::                                       32768 ?
    Network          Next Hop            Metric LocPrf Weight Path
 *>i  [2][172.16.254.5:102][0][48][001501000001][0][*]/20
                     FC00:172:16:254::4
                                                    0    100      0 ?
 *>i  [2][172.16.254.5:102][0][48][001501000001][32][10.1.102.12]/24
                     FC00:172:16:254::4
                                                    0    100      0 ?
 *>i  [2][172.16.254.5:102][0][48][001501000001][128][FD00:10:1:102::12]/36
                     FC00:172:16:254::4
                                                    0    100      0 ?
 *>i  [2][172.16.254.5:102][0][48][001501000001][128][FD00:10:1:102:215:1FF:FE00:1]/36
                     FC00:172:16:254::4
                                                    0    100      0 ?
 *>i  [2][172.16.254.5:102][0][48][001501000001][128][FE80::215:1FF:FE00:1]/36
                     FC00:172:16:254::4
                                                    0    100      0 ?
 *>i  [2][172.16.254.5:102][0][48][6026AABD1542][32][10.1.102.1]/24
                     FC00:172:16:254::4
                                                    0    100      0 ?
 *>i  [2][172.16.254.5:102][0][48][6026AABD1542][128][FD00:10:1:102::1]/36
                     FC00:172:16:254::4
                                                    0    100      0 ?
    Network          Next Hop            Metric LocPrf Weight Path
 *>i  [2][172.16.254.5:102][0][48][682C7B9A5B4D][32][10.1.102.1]/24
                     FC00:172:16:254::3
                                                    0    100      0 ?
 *>i  [2][172.16.254.5:102][0][48][682C7B9A5B4D][128][FD00:10:1:102::1]/36
                     FC00:172:16:254::3
```

```
                                                    0    100      0 ?
 *>   [2][172.16.254.5:102][0][48][A03D6EA7E54D][32][10.1.102.1]/24
                      ::                                  32768 ?
 *>   [2][172.16.254.5:102][0][48][A03D6EA7E54D][128][FD00:10:1:102::1]/36
                      ::                                  32768 ?
Route Distinguisher: 1001:1
 * i  [5][1001:1][0][24][10.1.101.0]/17
                      FC00:172:16:254::4
                                                    0    100      0 ?
 *>i                   FC00:172:16:254::4
                                                    0    100      0 ?
 * i  [5][1001:1][0][24][10.1.102.0]/17
                      FC00:172:16:254::4
                                                    0    100      0 ?
 *>i                   FC00:172:16:254::4
                                                    0    100      0 ?
 * i  [5][1001:1][0][32][10.2.255.255]/17
    Network           Next Hop            Metric LocPrf Weight Path
                      FC00:172:16:254::4
                                                    0    100      0 ?
 *>i                   FC00:172:16:254::4
                                                    0    100      0 ?
 * i  [5][1001:1][0][64][FD00:10:1:101::]/29
                      FC00:172:16:254::4
                                                    0    100      0 ?
 *>i                   FC00:172:16:254::4
                                                    0    100      0 ?
 * i  [5][1001:1][0][64][FD00:10:1:102::]/29
                      FC00:172:16:254::4
                                                    0    100      0 ?
 *>i                   FC00:172:16:254::4
                                                    0    100      0 ?
 * i  [5][1001:1][0][128][FC00:2:255::255]/29
                      FC00:172:16:254::4
                                                    0    100      0 ?
 *>i                   FC00:172:16:254::4
                                                    0    100      0 ?
Route Distinguisher: 1002:1
 * i  [5][1002:1][0][24][10.1.101.0]/17
                      FC00:172:16:254::3
    Network           Next Hop            Metric LocPrf Weight Path
                                                    0    100      0 ?
 *>i                   FC00:172:16:254::3
                                                    0    100      0 ?
 * i  [5][1002:1][0][24][10.1.102.0]/17
                      FC00:172:16:254::3
                                                    0    100      0 ?
 *>i                   FC00:172:16:254::3
                                                    0    100      0 ?
 * i  [5][1002:1][0][32][10.2.255.255]/17
                      FC00:172:16:254::3
                                                    0    100      0 ?
 *>i                   FC00:172:16:254::3
                                                    0    100      0 ?
 * i  [5][1002:1][0][64][FD00:10:1:101::]/29
                      FC00:172:16:254::3
                                                    0    100      0 ?
 *>i                   FC00:172:16:254::3
                                                    0    100      0 ?
 * i  [5][1002:1][0][64][FD00:10:1:102::]/29
                      FC00:172:16:254::3
                                                    0    100      0 ?
 *>i                   FC00:172:16:254::3
    Network           Next Hop            Metric LocPrf Weight Path
```

```
                                                    0    100      0 ?
 * i  [5][1002:1][0][128][FC00:2:255::255]/29
                      FC00:172:16:254::3
                                                    0    100      0 ?
 *>i                   FC00:172:16:254::3
                                                    0    100      0 ?
Route Distinguisher: 1003:1 (default for vrf red)
 *>   [5][1003:1][0][24][10.1.101.0]/17
                      0.0.0.0                  0         32768 ?
 *>   [5][1003:1][0][24][10.1.102.0]/17
                      0.0.0.0                  0         32768 ?
 *>   [5][1003:1][0][32][10.2.255.255]/17
                      0.0.0.0                  0         32768 ?
 *>   [5][1003:1][0][64][FD00:10:1:101::]/29
                      ::                       0         32768 ?
 *>   [5][1003:1][0][64][FD00:10:1:102::]/29
                      ::                       0         32768 ?
 *>   [5][1003:1][0][128][FC00:2:255::255]/29
                      ::                       0         32768 ?

Leaf-03#
```

The following example shows the output for the **show ipv6 mroute vrf** *vrf-name* command on VTEP 3:

```
Leaf-03# show ipv6 mroute vrf red

Multicast Routing Table
Flags: D - Dense, S - Sparse, B - Bidir Group, s - SSM Group,
       C - Connected, L - Local, I - Received Source Specific Host Report,
       P - Pruned, R - RP-bit set, F - Register flag, T - SPT-bit set,
       J - Join SPT, Y - Joined MDT-data group,
       y - Sending to MDT-data group
       g - BGP signal originated, G - BGP Signal received,
       N - BGP Shared-Tree Prune received, n - BGP C-Mroute suppressed,
       q - BGP Src-Active originated, Q - BGP Src-Active received
       E - Extranet
Timers: Uptime/Expires
Interface state: Interface, State

(*, FF06:1::1), 00:53:47/never, RP FC00:2:255::255, flags: SCJ
  Incoming interface: Tunnel7
  RPF nbr: FC00:2:255::255
  Immediate Outgoing interface list:
    Vlan102, Forward, 00:53:47/never

(FD00:10:1:101::11, FF06:1::1), 00:38:55/never, flags: STgQ
  Incoming interface: Vlan500
  RPF nbr: FC00:172:16:254::3
  Inherited Outgoing interface list:
    Vlan102, Forward, 00:53:47/never

Leaf-03#
```

The following example shows the output for the **show ipv6 mfib vrf** *vrf-name* command on VTEP 3:

```
Leaf-03# show ipv6 mfib vrf red

Entry Flags:    C - Directly Connected, S - Signal, IA - Inherit A flag,
                ET - Data Rate Exceeds Threshold, K - Keepalive
                DDE - Data Driven Event, HW - Hardware Installed
```

```
                ME - MoFRR ECMP entry, MNE - MoFRR Non-ECMP entry, MP - MFIB
                MoFRR Primary, RP - MRIB MoFRR Primary, P - MoFRR Primary
                MS  - MoFRR  Entry in Sync, MC - MoFRR entry in MoFRR Client,
                e   - Encap helper tunnel flag.
I/O Item Flags: IC - Internal Copy, NP - Not platform switched,
                NS - Negate Signalling, SP - Signal Present,
                A - Accept, F - Forward, RA - MRIB Accept, RF - MRIB Forward,
                MA - MFIB Accept, A2 - Accept backup,
                RA2 - MRIB Accept backup, MA2 - MFIB Accept backup

Forwarding Counts: Pkt Count/Pkts per second/Avg Pkt Size/Kbits per second
Other counts:      Total/RPF failed/Other drops
I/O Item Counts:   HW Pkt Count/FS Pkt Count/PS Pkt Count   Egress Rate in pps
VRF red
 (*,FF00::/8) Flags: C HW
   SW Forwarding: 0/0/0/0, Other: 6/6/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
   Tunnel7 Flags: NS NP
 (*,FF00::/15) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FF02::/16) Flags:
   SW Forwarding: 0/0/0/0, Other: 1/1/0
 (*,FF06:1::1) Flags: C HW
   SW Forwarding: 0/0/0/0, Other: 2/2/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
   Tunnel7 Flags: A NS NP
   Vlan102 Flags: F NS
     Pkts: 0/0/0    Rate: 0 pps
 (FD00:10:1:101::11,FF06:1::1) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 1/1/0
   HW Forwarding:   231150/99/68/52, Other: 0/0/0
   Vlan500, VXLAN v6 Decap Flags: A
   Vlan102 Flags: F NS
     Pkts: 0/0/0    Rate: 0 pps
 (*,FF10::/15) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FF12::/16) Flags:
   SW Forwarding: 0/0/0/0, Other: 0/0/0
 (*,FF20::/15) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FF22::/16) Flags:
   SW Forwarding: 0/0/0/0, Other: 0/0/0
 (*,FF30::/15) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FF32::/16) Flags:
   SW Forwarding: 0/0/0/0, Other: 0/0/0
 (*,FF33::/32) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FF34::/32) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FF35::/32) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FF36::/32) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FF37::/32) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
```

```
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF38::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF39::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3A::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3B::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3C::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3D::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3E::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3F::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF40::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF42::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF50::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF52::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF60::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF62::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF70::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF72::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF80::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF82::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF90::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF92::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FFA0::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FFA2::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FFB0::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FFB2::/16) Flags:
```

```
    SW Forwarding: 0/0/0/0, Other: 0/0/0
  (*,FFC0::/15) Flags: HW
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FFC2::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0
  (*,FFD0::/15) Flags: HW
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FFD2::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0
  (*,FFE0::/15) Flags: HW
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FFE2::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0
  (*,FFF0::/15) Flags: HW
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FFF2::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0

Leaf-03#
```

The following example shows the output for the **show ip mfib vrf** *vrf-name* command on VTEP 3:

```
Leaf-03# show ip mfib vrf red

Entry Flags:    C - Directly Connected, S - Signal, IA - Inherit A flag,
                ET - Data Rate Exceeds Threshold, K - Keepalive
                DDE - Data Driven Event, HW - Hardware Installed
                ME - MoFRR ECMP entry, MNE - MoFRR Non-ECMP entry, MP - MFIB
                MoFRR Primary, RP - MRIB MoFRR Primary, P - MoFRR Primary
                MS  - MoFRR  Entry in Sync, MC - MoFRR entry in MoFRR Client,
                e   - Encap helper tunnel flag.
I/O Item Flags: IC - Internal Copy, NP - Not platform switched,
                NS - Negate Signalling, SP - Signal Present,
                A - Accept, F - Forward, RA - MRIB Accept, RF - MRIB Forward,
                MA - MFIB Accept, A2 - Accept backup,
                RA2 - MRIB Accept backup, MA2 - MFIB Accept backup

Forwarding Counts: Pkt Count/Pkts per second/Avg Pkt Size/Kbits per second
Other counts:      Total/RPF failed/Other drops
I/O Item Counts:   HW Pkt Count/FS Pkt Count/PS Pkt Count   Egress Rate in pps
VRF red
 (*,224.0.0.0/4) Flags: C HW
   SW Forwarding: 0/0/0/0, Other: 74/74/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,224.0.1.40) Flags: C HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
   Tunnel5 Flags: A NP
   Loopback2 Flags: F IC NS
     Pkts: 0/0/0    Rate: 0 pps
 (*,226.1.1.1) Flags: C HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
   Tunnel5 Flags: A NP
   Vlan102 Flags: F NS
     Pkts: 0/0/0    Rate: 0 pps
 (10.1.101.11,226.1.1.1) Flags: HW
   SW Forwarding: 1/0/42/0, Other: 0/0/0
   HW Forwarding:   232159/101/68/53, Other: 0/0/0
```

```
   Vlan500, VXLAN Decap Flags: A
   Vlan102 Flags: F NS
     Pkts: 0/0/1    Rate: 0 pps

Leaf-03#
```

The following example shows the output for the **show ip mroute vrf** *vrf-name* command on VTEP 3:

```
Leaf-03# show ip mroute vrf red

IP Multicast Routing Table
Flags: D - Dense, S - Sparse, B - Bidir Group, s - SSM Group, C - Connected,
       L - Local, P - Pruned, R - RP-bit set, F - Register flag,
       T - SPT-bit set, J - Join SPT, M - MSDP created entry, E - Extranet,
       X - Proxy Join Timer Running, A - Candidate for MSDP Advertisement,
       U - URD, I - Received Source Specific Host Report,
       Z - Multicast Tunnel, z - MDT-data group sender,
       Y - Joined MDT-data group, y - Sending to MDT-data group,
       G - Received BGP C-Mroute, g - Sent BGP C-Mroute,
       N - Received BGP Shared-Tree Prune, n - BGP C-Mroute suppressed,
       Q - Received BGP S-A Route, q - Sent BGP S-A Route,
       V - RD & Vector, v - Vector, p - PIM Joins on route,
       x - VxLAN group, c - PFP-SA cache created entry,
       * - determined by Assert, # - iif-starg configured on rpf intf,
       e - encap-helper tunnel flag, l - LISP decap ref count contributor
Outgoing interface flags: H - Hardware switched, A - Assert winner, p - PIM Join
                          t - LISP transit group
 Timers: Uptime/Expires
 Interface state: Interface, Next-Hop or VCD, State/Mode

(*, 226.1.1.1), 00:54:14/stopped, RP 10.2.255.255, flags: SJC
  Incoming interface: Null, RPF nbr 0.0.0.0
  Outgoing interface list:
    Vlan102, Forward/Sparse, 00:54:14/00:02:38, flags:

(10.1.101.11, 226.1.1.1), 00:39:18/00:01:29, flags: TgQ
  Incoming interface: Vlan500, RPF nbr FC00:172:16:254::3
  Outgoing interface list:
    Vlan102, Forward/Sparse, 00:39:18/00:02:38, flags:

(*, 224.0.1.40), 02:01:19/00:02:23, RP 10.2.255.255, flags: SJCL
  Incoming interface: Null, RPF nbr 0.0.0.0
  Outgoing interface list:
    Loopback2, Forward/Sparse, 02:01:19/00:02:23, flags:

Leaf-03#
```

The following example shows the output for the **show ipv6 mroute** command on VTEP 3:

```
Leaf-03# show ipv6 mroute

Multicast Routing Table
Flags: D - Dense, S - Sparse, B - Bidir Group, s - SSM Group,
       C - Connected, L - Local, I - Received Source Specific Host Report,
       P - Pruned, R - RP-bit set, F - Register flag, T - SPT-bit set,
       J - Join SPT, Y - Joined MDT-data group,
       y - Sending to MDT-data group
       g - BGP signal originated, G - BGP Signal received,
       N - BGP Shared-Tree Prune received, n - BGP C-Mroute suppressed,
       q - BGP Src-Active originated, Q - BGP Src-Active received
       E - Extranet
```

```
Timers: Uptime/Expires
Interface state: Interface, State

(*, FF07::9), 05:12:46/never, RP FC00:172:16:255::255, flags: SCJ
  Incoming interface: GigabitEthernet1/0/3
  RPF nbr: FE80::ED0:F8FF:FE32:F4D8
  Immediate Outgoing interface list:
    Tunnel2, Forward, 05:12:46/never

(FC00:172:16:254::3, FF07::9), 00:39:29/00:00:39, flags: SJT
  Incoming interface: GigabitEthernet1/0/3
  RPF nbr: FE80::ED0:F8FF:FE32:F4D8
  Inherited Outgoing interface list:
    Tunnel2, Forward, 05:12:46/never

(*, FF0E::11), 03:53:14/never, RP FC00:172:16:255::255, flags: SCJ
  Incoming interface: GigabitEthernet1/0/3
  RPF nbr: FE80::ED0:F8FF:FE32:F4D8
  Immediate Outgoing interface list:
    Tunnel2, Forward, 03:53:14/never

(FC00:172:16:254::3, FF0E::11), 00:14:39/00:01:43, flags: SJT
  Incoming interface: GigabitEthernet1/0/3
  RPF nbr: FE80::ED0:F8FF:FE32:F4D8
  Inherited Outgoing interface list:
    Tunnel2, Forward, 03:53:14/never

(FC00:172:16:254::4, FF0E::11), 00:00:26/00:03:03, flags: SJT
  Incoming interface: GigabitEthernet1/0/3
  RPF nbr: FE80::ED0:F8FF:FE32:F4D8
  Inherited Outgoing interface list:
    Tunnel2, Forward, 03:53:14/never

(FC00:172:16:254::5, FF0E::11), 04:04:10/00:00:55, flags: SFJT
  Incoming interface: Loopback1
  RPF nbr: FE80::A23D:6EFF:FEA7:E500
  Immediate Outgoing interface list:
    GigabitEthernet1/0/3, Forward, 03:39:54/00:03:17
  Inherited Outgoing interface list:
    Tunnel2, Forward, 03:53:14/never

(*, FF0E::12), 03:53:08/never, RP FC00:172:16:255::255, flags: SCJ
  Incoming interface: GigabitEthernet1/0/3
  RPF nbr: FE80::ED0:F8FF:FE32:F4D8
  Immediate Outgoing interface list:
    Tunnel2, Forward, 03:53:08/never

(FC00:172:16:254::3, FF0E::12), 00:28:33/00:00:15, flags: SJT
  Incoming interface: GigabitEthernet1/0/3
  RPF nbr: FE80::ED0:F8FF:FE32:F4D8
  Inherited Outgoing interface list:
    Tunnel2, Forward, 03:53:08/never

(FC00:172:16:254::4, FF0E::12), 00:34:58/00:01:59, flags: SJT
  Incoming interface: GigabitEthernet1/0/3
  RPF nbr: FE80::ED0:F8FF:FE32:F4D8
  Inherited Outgoing interface list:
    Tunnel2, Forward, 03:53:08/never

(FC00:172:16:254::5, FF0E::12), 03:51:58/00:01:19, flags: SFJT
  Incoming interface: Loopback1
  RPF nbr: FE80::A23D:6EFF:FEA7:E500
  Immediate Outgoing interface list:
    GigabitEthernet1/0/3, Forward, 03:39:26/00:03:07
```

```
  Inherited Outgoing interface list:
    Tunnel2, Forward, 03:53:08/never

Leaf-03#
```

The following example shows the output for the **show ipv6 mfib** command on VTEP 3:

```
Leaf-03# show ipv6 mfib

Entry Flags:    C - Directly Connected, S - Signal, IA - Inherit A flag,
                ET - Data Rate Exceeds Threshold, K - Keepalive
                DDE - Data Driven Event, HW - Hardware Installed
                ME - MoFRR ECMP entry, MNE - MoFRR Non-ECMP entry, MP - MFIB
                MoFRR Primary, RP - MRIB MoFRR Primary, P - MoFRR Primary
                MS  - MoFRR  Entry in Sync, MC - MoFRR entry in MoFRR Client,
                e   - Encap helper tunnel flag.
I/O Item Flags: IC - Internal Copy, NP - Not platform switched,
                NS - Negate Signalling, SP - Signal Present,
                A - Accept, F - Forward, RA - MRIB Accept, RF - MRIB Forward,
                MA - MFIB Accept, A2 - Accept backup,
                RA2 - MRIB Accept backup, MA2 - MFIB Accept backup

Forwarding Counts: Pkt Count/Pkts per second/Avg Pkt Size/Kbits per second
Other counts:      Total/RPF failed/Other drops
I/O Item Counts:   HW Pkt Count/FS Pkt Count/PS Pkt Count   Egress Rate in pps
Default
 (*,FF00::/8) Flags: C HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FF00::/15) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FF02::/16) Flags:
   SW Forwarding: 0/0/0/0, Other: 8/8/0
 (*,FF07::9) Flags: C HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   23/0/129/0, Other: 0/0/0
   GigabitEthernet1/0/3 Flags: A NS
   Tunnel2, VXLAN v6 Decap Flags: F NS
     Pkts: 0/0/0    Rate: 0 pps
 (FC00:172:16:254::3,FF07::9) Flags: HW
   SW Forwarding: 11/0/110/0, Other: 0/0/0
   HW Forwarding:   468322/202/130/205, Other: 0/0/0
   GigabitEthernet1/0/3 Flags: A
   Tunnel2, VXLAN v6 Decap Flags: F NS
     Pkts: 0/0/11    Rate: 0 pps
 (*,FF0E::11) Flags: C HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   23/0/216/0, Other: 0/0/0
   GigabitEthernet1/0/3 Flags: A NS
   Tunnel2, VXLAN v6 Decap Flags: F NS
     Pkts: 0/0/0    Rate: 0 pps
 (FC00:172:16:254::3,FF0E::11) Flags: HW
   SW Forwarding: 1/0/226/0, Other: 0/0/0
   HW Forwarding:   11/0/220/0, Other: 0/0/0
   GigabitEthernet1/0/3 Flags: A
   Tunnel2, VXLAN v6 Decap Flags: F NS
     Pkts: 0/0/1    Rate: 0 pps
 (FC00:172:16:254::4,FF0E::11) Flags: HW
   SW Forwarding: 1/0/174/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
   GigabitEthernet1/0/3 Flags: A
   Tunnel2, VXLAN v6 Decap Flags: F NS
```

```
    Pkts: 0/0/1    Rate: 0 pps
(FC00:172:16:254::5,FF0E::11) Flags: HW
  SW Forwarding: 1/0/226/0, Other: 0/0/0
  HW Forwarding:   208/0/209/0, Other: 0/0/0
  Null0 Flags: A
  GigabitEthernet1/0/3 Flags: F NS
    Pkts: 0/0/0    Rate: 0 pps
(*,FF0E::12) Flags: C HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   15/0/218/0, Other: 0/0/0
  GigabitEthernet1/0/3 Flags: A NS
  Tunnel2, VXLAN v6 Decap Flags: F NS
    Pkts: 0/0/0    Rate: 0 pps
(FC00:172:16:254::3,FF0E::12) Flags: HW
  SW Forwarding: 1/0/226/0, Other: 0/0/0
  HW Forwarding:   23/0/221/0, Other: 0/0/0
  GigabitEthernet1/0/3 Flags: A
  Tunnel2, VXLAN v6 Decap Flags: F NS
    Pkts: 0/0/1    Rate: 0 pps
(FC00:172:16:254::4,FF0E::12) Flags: HW
  SW Forwarding: 1/0/166/0, Other: 0/0/0
  HW Forwarding:   59/0/195/0, Other: 0/0/0
  GigabitEthernet1/0/3 Flags: A
  Tunnel2, VXLAN v6 Decap Flags: F NS
    Pkts: 0/0/1    Rate: 0 pps
(FC00:172:16:254::5,FF0E::12) Flags: HW
  SW Forwarding: 1/0/174/0, Other: 0/0/0
  HW Forwarding:   295/0/192/0, Other: 0/0/0
  Null0 Flags: A
  GigabitEthernet1/0/3 Flags: F NS
    Pkts: 0/0/0    Rate: 0 pps
(*,FF10::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF12::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF20::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF22::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF30::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF32::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF33::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF34::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF35::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF36::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF37::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF38::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
```

```
(*,FF39::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3A::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3B::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3C::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3D::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3E::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3F::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF40::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF42::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF50::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF52::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF60::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF62::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF70::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF72::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF80::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF82::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF90::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF92::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FFA0::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FFA2::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FFB0::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FFB2::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FFC0::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
```

```
 (*,FFC2::/16) Flags:
   SW Forwarding: 0/0/0/0, Other: 0/0/0
 (*,FFD0::/15) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FFD2::/16) Flags:
   SW Forwarding: 0/0/0/0, Other: 0/0/0
 (*,FFE0::/15) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FFE2::/16) Flags:
   SW Forwarding: 0/0/0/0, Other: 0/0/0
 (*,FFF0::/15) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FFF2::/16) Flags:
   SW Forwarding: 0/0/0/0, Other: 0/0/0

Leaf-03#
```

The following example shows the output for the **show ipv6 pim vrf** *vrf-name* **group-map** command on VTEP 3:

```
Leaf-03# show ipv6 pim vrf red group-map ff00::/8

IP PIM Group Mapping Table
(* indicates group mappings being used)

FF00::/8*
    SM, RP: FC00:2:255::255
    RPF: Tu7,FC00:2:255::255 (us)
    Info source: Static
    Uptime: 04:10:42, Groups: 1
FF00::/8
    SM
    Info source: Default
    Uptime: 4d08h, Groups: 0

Leaf-03#
```

The following example shows the output for the **show ip pim vrf red rp mapping** command on VTEP 3:

```
Leaf-03# show ip pim vrf red rp mapping

PIM Group-to-RP Mappings

Group(s): 224.0.0.0/4, Static
    RP: 10.2.255.255 (?)

Leaf-03#
```

The following example shows the output for the **show ip igmp vrf** *vrf-name* **groups** command on VTEP 3:

```
Leaf-03# show ip igmp vrf red groups

IGMP Connected Group Membership
Group Address    Interface              Uptime    Expires   Last Reporter   Group Accounted
226.1.1.1        Vlan102                  00:55:05  00:02:42  10.1.102.13
224.0.1.40       Loopback2                03:51:58  00:02:34  10.2.255.255
```

```
Leaf-03#
```

The following example shows the output for the **show ipv6 mld vrf** *vrf-name* **groups** command on VTEP 3:

```
Leaf-03# show ipv6 mld vrf red groups

MLD Connected Group Membership
Group Address                           Interface
    Uptime    Expires
FF06:1::1                               Vlan102
   00:54:56  00:03:33

Leaf-03#
```

Return to Verifying TRM in PIM-SM with Anycast RP for IPv4 and IPv6 Multicast Traffic over VXLANv6, on page 31

Outputs to Verify the Configuration on Spine Switch 1

The following example shows the output for the **show bgp ipv4 mvpn all** command on Spine Switch 1:

```
Spine-01# show bgp ipv4 mvpn all

BGP table version is 9, local router ID is 4.4.4.4
Status codes: s suppressed, d damped, h history, * valid, > best, i - internal,
              r RIB-failure, S Stale, m multipath, b backup-path, f RT-Filter,
              x best-external, a additional-path, c RIB-compressed,
              t secondary path, L long-lived-stale,
Origin codes: i - IGP, e - EGP, ? - incomplete
RPKI validation codes: V valid, I invalid, N Not found

     Network          Next Hop            Metric LocPrf Weight Path
Route Distinguisher: 1002:1
 *>i  [5][1002:1][10.1.101.11][226.1.1.1]/18
                      FC00:172:16:255::3
                                                0    100      0 ?
Route Distinguisher: 172.16.254.3:101
 * i  [7][172.16.254.3:101][1001][10.1.101.11/32][226.1.1.1/32]/22
                      FC00:172:16:255::5
                                                0    100      0 ?
 *>i                   FC00:172:16:255::4
                                                0    100      0 ?

Spine-01#
```

The following example shows the output for the **show bgp ipv6 mvpn all** command on Spine Switch 1:

```
Spine-01# show bgp ipv6 mvpn all

BGP table version is 10, local router ID is 4.4.4.4
Status codes: s suppressed, d damped, h history, * valid, > best, i - internal,
              r RIB-failure, S Stale, m multipath, b backup-path, f RT-Filter,
              x best-external, a additional-path, c RIB-compressed,
              t secondary path, L long-lived-stale,
Origin codes: i - IGP, e - EGP, ? - incomplete
RPKI validation codes: V valid, I invalid, N Not found
```

```
     Network          Next Hop            Metric LocPrf Weight Path
Route Distinguisher: 1002:1
 *>i  [5][1002:1][FD00:10:1:101::11][FF06:1::1]/42
                      FC00:172:16:255::3
                                               0    100      0 ?
Route Distinguisher: 172.16.254.3:101
 * i  [7][172.16.254.3:101][1001][FD00:10:1:101::11][FF06:1::1]/46
                      FC00:172:16:255::5
                                               0    100      0 ?
 *>i                   FC00:172:16:255::4
                                               0    100      0 ?

Spine-01#
```

The following example shows the output for the **show ipv6 mroute** command on Spine Switch 1:

```
Spine-01# show ipv6 mroute

Multicast Routing Table
Flags: D - Dense, S - Sparse, B - Bidir Group, s - SSM Group,
       C - Connected, L - Local, I - Received Source Specific Host Report,
       P - Pruned, R - RP-bit set, F - Register flag, T - SPT-bit set,
       J - Join SPT, Y - Joined MDT-data group,
       y - Sending to MDT-data group
       g - BGP signal originated, G - BGP Signal received,
       N - BGP Shared-Tree Prune received, n - BGP C-Mroute suppressed,
       q - BGP Src-Active originated, Q - BGP Src-Active received
       E - Extranet
Timers: Uptime/Expires
Interface state: Interface, State

(*, FF07::9), 00:18:46/00:03:08, RP FC00:172:16:255::255, flags: S
  Incoming interface: Tunnel1
  RPF nbr: FC00:172:16:255::255
  Immediate Outgoing interface list:
    GigabitEthernet1/0/1, Forward, 00:18:46/00:02:43
    GigabitEthernet1/0/3, Forward, 00:18:22/00:03:07
    GigabitEthernet1/0/2, Forward, 00:18:21/00:03:08

(FC00:172:16:254::3, FF07::9), 00:18:46/00:02:45, RP FC00:172:16:255::255, flags: SR
  Incoming interface: Tunnel1
  RPF nbr: FC00:172:16:255::255
  Immediate Outgoing interface list:
    GigabitEthernet1/0/1, Null, 00:18:46/00:02:43
    GigabitEthernet1/0/2, Null, 00:14:28/00:03:08
  Inherited Outgoing interface list:
    GigabitEthernet1/0/3, Forward, 00:18:22/00:03:07

(FC00:172:16:254::3, FF07::9), 00:19:08/00:02:45, flags: ST
  Incoming interface: GigabitEthernet1/0/1
  RPF nbr: FE80::6A2C:7BFF:FE9A:5B64
  Immediate Outgoing interface list:
    GigabitEthernet1/0/3, Forward, 00:18:42/00:02:47
  Inherited Outgoing interface list:
    GigabitEthernet1/0/2, Forward, 00:18:21/00:03:08

(*, FF0E::11), 00:18:46/00:03:08, RP FC00:172:16:255::255, flags: S
  Incoming interface: Tunnel1
  RPF nbr: FC00:172:16:255::255
  Immediate Outgoing interface list:
    GigabitEthernet1/0/1, Forward, 00:18:46/00:02:43
    GigabitEthernet1/0/3, Forward, 00:18:22/00:03:07
```

```
    GigabitEthernet1/0/2, Forward, 00:18:21/00:03:08

(FC00:172:16:254::3, FF0E::11), 00:18:46/00:03:03, RP FC00:172:16:255::255, flags: SR
  Incoming interface: Tunnel1
  RPF nbr: FC00:172:16:255::255
  Immediate Outgoing interface list:
    GigabitEthernet1/0/1, Null, 00:18:46/00:02:43
    GigabitEthernet1/0/2, Null, 00:14:28/00:03:08
  Inherited Outgoing interface list:
    GigabitEthernet1/0/3, Forward, 00:18:22/00:03:07

(FC00:172:16:254::3, FF0E::11), 00:18:52/00:03:03, flags: ST
  Incoming interface: GigabitEthernet1/0/1
  RPF nbr: FE80::6A2C:7BFF:FE9A:5B64
  Immediate Outgoing interface list:
    GigabitEthernet1/0/3, Forward, 00:16:59/00:02:37
  Inherited Outgoing interface list:
    GigabitEthernet1/0/2, Forward, 00:18:21/00:03:08

(FC00:172:16:254::4, FF0E::11), 00:18:21/00:03:05, RP FC00:172:16:255::255, flags: SR
  Incoming interface: Tunnel1
  RPF nbr: FC00:172:16:255::255
  Immediate Outgoing interface list:
    GigabitEthernet1/0/2, Null, 00:18:21/00:03:08
  Inherited Outgoing interface list:
    GigabitEthernet1/0/1, Forward, 00:18:46/00:02:43
    GigabitEthernet1/0/3, Forward, 00:18:22/00:03:07

(FC00:172:16:254::4, FF0E::11), 00:18:48/00:03:05, flags: ST
  Incoming interface: GigabitEthernet1/0/2
  RPF nbr: FE80::6226:AAFF:FEBD:1542
  Immediate Outgoing interface list:
    GigabitEthernet1/0/1, Forward, 00:18:46/00:02:43
    GigabitEthernet1/0/3, Forward, 00:02:46/00:02:47

(FC00:172:16:254::5, FF0E::11), 00:18:22/00:02:52, RP FC00:172:16:255::255, flags: SR
  Incoming interface: Tunnel1
  RPF nbr: FC00:172:16:255::255
  Immediate Outgoing interface list:
    GigabitEthernet1/0/3, Null, 00:18:22/00:03:07
  Inherited Outgoing interface list:
    GigabitEthernet1/0/1, Forward, 00:18:46/00:02:43
    GigabitEthernet1/0/2, Forward, 00:18:21/00:03:08

(FC00:172:16:254::5, FF0E::11), 00:18:39/00:02:52, flags: ST
  Incoming interface: GigabitEthernet1/0/3
  RPF nbr: FE80::A23D:6EFF:FEA7:E558
  Immediate Outgoing interface list:
    GigabitEthernet1/0/1, Forward, 00:17:45/00:02:53
    GigabitEthernet1/0/2, Forward, 00:17:45/00:03:08

(*, FF0E::12), 00:18:46/00:03:18, RP FC00:172:16:255::255, flags: S
  Incoming interface: Tunnel1
  RPF nbr: FC00:172:16:255::255
  Immediate Outgoing interface list:
    GigabitEthernet1/0/1, Forward, 00:18:46/00:02:43
    GigabitEthernet1/0/3, Forward, 00:18:22/00:03:07
    GigabitEthernet1/0/2, Forward, 00:18:11/00:03:18

(FC00:172:16:254::3, FF0E::12), 00:18:46/00:02:43, RP FC00:172:16:255::255, flags: SR
  Incoming interface: Tunnel1
  RPF nbr: FC00:172:16:255::255
  Immediate Outgoing interface list:
    GigabitEthernet1/0/1, Null, 00:18:46/00:02:43
```

```
    GigabitEthernet1/0/2, Null, 00:05:46/00:03:18
  Inherited Outgoing interface list:
    GigabitEthernet1/0/3, Forward, 00:18:22/00:03:07

(FC00:172:16:254::3, FF0E::12), 00:18:52/00:02:43, flags: ST
  Incoming interface: GigabitEthernet1/0/1
  RPF nbr: FE80::6A2C:7BFF:FE9A:5B64
  Immediate Outgoing interface list:
    GigabitEthernet1/0/3, Forward, 00:18:52/00:02:37
  Inherited Outgoing interface list:
    GigabitEthernet1/0/2, Forward, 00:18:11/00:03:18

(FC00:172:16:254::4, FF0E::12), 00:18:11/00:03:28, RP FC00:172:16:255::255, flags: SR
  Incoming interface: Tunnel1
  RPF nbr: FC00:172:16:255::255
  Immediate Outgoing interface list:
    GigabitEthernet1/0/2, Null, 00:18:11/00:03:18
  Inherited Outgoing interface list:
    GigabitEthernet1/0/1, Forward, 00:18:46/00:02:43
    GigabitEthernet1/0/3, Forward, 00:18:22/00:03:07

(FC00:172:16:254::4, FF0E::12), 00:18:46/00:03:28, flags: ST
  Incoming interface: GigabitEthernet1/0/2
  RPF nbr: FE80::6226:AAFF:FEBD:1542
  Immediate Outgoing interface list:
    GigabitEthernet1/0/1, Forward, 00:18:46/00:02:43
    GigabitEthernet1/0/3, Forward, 00:18:12/00:03:17

(FC00:172:16:254::5, FF0E::12), 00:18:22/00:02:54, RP FC00:172:16:255::255, flags: SR
  Incoming interface: Tunnel1
  RPF nbr: FC00:172:16:255::255
  Immediate Outgoing interface list:
    GigabitEthernet1/0/3, Null, 00:18:22/00:03:07
  Inherited Outgoing interface list:
    GigabitEthernet1/0/1, Forward, 00:18:46/00:02:43
    GigabitEthernet1/0/2, Forward, 00:18:11/00:03:18

(FC00:172:16:254::5, FF0E::12), 00:18:59/00:02:54, flags: ST
  Incoming interface: GigabitEthernet1/0/3
  RPF nbr: FE80::A23D:6EFF:FEA7:E558
  Immediate Outgoing interface list:
    GigabitEthernet1/0/2, Forward, 00:18:11/00:03:18
    GigabitEthernet1/0/1, Forward, 00:02:45/00:02:53

Spine-01#
```

The following example shows the output for the **show ipv6 mfib** command on Spine Switch 1:

```
Spine-01# show ipv6 mfib

Entry Flags:    C - Directly Connected, S - Signal, IA - Inherit A flag,
                ET - Data Rate Exceeds Threshold, K - Keepalive
                DDE - Data Driven Event, HW - Hardware Installed
                ME - MoFRR ECMP entry, MNE - MoFRR Non-ECMP entry, MP - MFIB
                MoFRR Primary, RP - MRIB MoFRR Primary, P - MoFRR Primary
                MS  - MoFRR  Entry in Sync, MC - MoFRR entry in MoFRR Client,
                e   - Encap helper tunnel flag.
I/O Item Flags: IC - Internal Copy, NP - Not platform switched,
                NS - Negate Signalling, SP - Signal Present,
                A - Accept, F - Forward, RA - MRIB Accept, RF - MRIB Forward,
                MA - MFIB Accept, A2 - Accept backup,
                RA2 - MRIB Accept backup, MA2 - MFIB Accept backup
```

```
Forwarding Counts: Pkt Count/Pkts per second/Avg Pkt Size/Kbits per second
Other counts:      Total/RPF failed/Other drops
I/O Item Counts:   HW Pkt Count/FS Pkt Count/PS Pkt Count   Egress Rate in pps
Default
 (*,FF00::/8) Flags: C HW
   SW Forwarding: 0/0/0/0, Other: 99/99/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
   Tunnel1 Flags: NS NP
 (*,FF00::/15) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FF02::/16) Flags:
   SW Forwarding: 0/0/0/0, Other: 19/19/0
 (*,FF07::9) Flags: C HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
   Tunnel1 Flags: A NP
   GigabitEthernet1/0/3 Flags: F NS
     Pkts: 0/0/0    Rate: 0 pps
   GigabitEthernet1/0/2 Flags: F NS
     Pkts: 0/0/0    Rate: 0 pps
   GigabitEthernet1/0/1 Flags: F NS
     Pkts: 0/0/0    Rate: 0 pps
 (FC00:172:16:254::3,FF07::9) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   226546/198/130/201, Other: 0/0/0
   GigabitEthernet1/0/1 Flags: A
   GigabitEthernet1/0/3 Flags: F NS
     Pkts: 0/0/0    Rate: 0 pps
 (*,FF0E::11) Flags: C HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
   Tunnel1 Flags: A NP
   GigabitEthernet1/0/3 Flags: F NS
     Pkts: 0/0/0    Rate: 0 pps
   GigabitEthernet1/0/2 Flags: F NS
     Pkts: 0/0/0    Rate: 0 pps
   GigabitEthernet1/0/1 Flags: F NS
     Pkts: 0/0/0    Rate: 0 pps
 (FC00:172:16:254::3,FF0E::11) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   16/0/221/0, Other: 0/0/0
   GigabitEthernet1/0/1 Flags: A
   GigabitEthernet1/0/3 Flags: F NS
     Pkts: 0/0/0    Rate: 0 pps
 (FC00:172:16:254::4,FF0E::11) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   15/0/223/0, Other: 0/0/0
   GigabitEthernet1/0/2 Flags: A
   GigabitEthernet1/0/3 Flags: F NS
     Pkts: 0/0/0    Rate: 0 pps
   GigabitEthernet1/0/1 Flags: F NS
     Pkts: 0/0/0    Rate: 0 pps
 (FC00:172:16:254::5,FF0E::11) Flags: HW
   SW Forwarding: 2/0/226/0, Other: 0/0/0
   HW Forwarding:   14/0/221/0, Other: 0/0/0
   GigabitEthernet1/0/3 Flags: A
   GigabitEthernet1/0/2 Flags: F NS
     Pkts: 0/0/2    Rate: 0 pps
   GigabitEthernet1/0/1 Flags: F NS
     Pkts: 0/0/2    Rate: 0 pps
 (*,FF0E::12) Flags: C HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
```

```
  Tunnel1 Flags: A NP
  GigabitEthernet1/0/3 Flags: F NS
    Pkts: 0/0/0    Rate: 0 pps
  GigabitEthernet1/0/2 Flags: F NS
    Pkts: 0/0/0    Rate: 0 pps
  GigabitEthernet1/0/1 Flags: F NS
    Pkts: 0/0/0    Rate: 0 pps
(FC00:172:16:254::3,FF0E::12) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   16/0/221/0, Other: 0/0/0
  GigabitEthernet1/0/1 Flags: A
  GigabitEthernet1/0/3 Flags: F NS
    Pkts: 0/0/0    Rate: 0 pps
(FC00:172:16:254::4,FF0E::12) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   33/0/195/0, Other: 0/0/0
  GigabitEthernet1/0/2 Flags: A
  GigabitEthernet1/0/3 Flags: F NS
    Pkts: 0/0/0    Rate: 0 pps
  GigabitEthernet1/0/1 Flags: F NS
    Pkts: 0/0/0    Rate: 0 pps
(FC00:172:16:254::5,FF0E::12) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   34/0/195/0, Other: 0/0/0
  GigabitEthernet1/0/3 Flags: A
  GigabitEthernet1/0/2 Flags: F NS
    Pkts: 0/0/0    Rate: 0 pps
  GigabitEthernet1/0/1 Flags: F NS
    Pkts: 0/0/0    Rate: 0 pps
(*,FF10::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF12::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF20::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF22::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF30::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF32::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF33::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF34::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF35::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF36::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF37::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF38::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF39::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
```

```
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3A::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3B::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3C::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3D::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3E::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3F::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF40::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF42::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF50::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF52::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF60::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF62::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF70::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF72::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF80::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF82::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF90::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF92::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FFA0::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FFA2::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FFB0::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FFB2::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FFC0::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FFC2::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
```

```
 (*,FFD0::/15) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FFD2::/16) Flags:
   SW Forwarding: 0/0/0/0, Other: 0/0/0
 (*,FFE0::/15) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FFE2::/16) Flags:
   SW Forwarding: 0/0/0/0, Other: 0/0/0
 (*,FFF0::/15) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FFF2::/16) Flags:
   SW Forwarding: 0/0/0/0, Other: 0/0/0

Spine-01#
```

Return to Verifying TRM in PIM-SM with Anycast RP for IPv4 and IPv6 Multicast Traffic over VXLANv6, on page 31

Outputs to Verify the Configuration on Spine Switch 2

The following example shows the output for the **show bgp ipv4 mvpn all** command on Spine Switch 2:

```
Spine-02# show bgp ipv4 mvpn all

BGP table version is 13, local router ID is 14.14.14.14
Status codes: s suppressed, d damped, h history, * valid, > best, i - internal,
              r RIB-failure, S Stale, m multipath, b backup-path, f RT-Filter,
              x best-external, a additional-path, c RIB-compressed,
              t secondary path, L long-lived-stale,
Origin codes: i - IGP, e - EGP, ? - incomplete
RPKI validation codes: V valid, I invalid, N Not found

     Network          Next Hop            Metric LocPrf Weight Path
Route Distinguisher: 1002:1
 *>i  [5][1002:1][10.1.101.11][226.1.1.1]/18
                      FC00:172:16:255::3
                                                0    100      0 ?
Route Distinguisher: 172.16.254.3:101
 * i  [7][172.16.254.3:101][1001][10.1.101.11/32][226.1.1.1/32]/22
                      FC00:172:16:255::5
                                                0    100      0 ?
 *>i                   FC00:172:16:255::4
                                                0    100      0 ?
Spine-02#
```

The following example shows the output for the **show bgp ipv6 mvpn all** command on Spine Switch 2:

```
Spine-02# show bgp ipv6 mvpn all

BGP table version is 14, local router ID is 14.14.14.14
Status codes: s suppressed, d damped, h history, * valid, > best, i - internal,
              r RIB-failure, S Stale, m multipath, b backup-path, f RT-Filter,
              x best-external, a additional-path, c RIB-compressed,
              t secondary path, L long-lived-stale,
Origin codes: i - IGP, e - EGP, ? - incomplete
RPKI validation codes: V valid, I invalid, N Not found
```

```
     Network          Next Hop            Metric LocPrf Weight Path
Route Distinguisher: 1002:1
 *>i  [5][1002:1][FD00:10:1:101::11][FF06:1::1]/42
                      FC00:172:16:255::3
                                                0    100      0 ?
Route Distinguisher: 172.16.254.3:101
 * i  [7][172.16.254.3:101][1001][FD00:10:1:101::11][FF06:1::1]/46
                      FC00:172:16:255::5
                                                0    100      0 ?
 *>i                   FC00:172:16:255::4
                                                0    100      0 ?
Spine-02#
```

The following example shows the output for the **show ipv6 mroute** command on Spine Switch 2:

```
Spine-02# show ipv6 mroute

Entry Flags:    C - Directly Connected, S - Signal, IA - Inherit A flag,
                ET - Data Rate Exceeds Threshold, K - Keepalive
                DDE - Data Driven Event, HW - Hardware Installed
                ME - MoFRR ECMP entry, MNE - MoFRR Non-ECMP entry, MP - MFIB
                MoFRR Primary, RP - MRIB MoFRR Primary, P - MoFRR Primary
                MS  - MoFRR  Entry in Sync, MC - MoFRR entry in MoFRR Client,
                e   - Encap helper tunnel flag.
I/O Item Flags: IC - Internal Copy, NP - Not platform switched,
                NS - Negate Signalling, SP - Signal Present,
                A - Accept, F - Forward, RA - MRIB Accept, RF - MRIB Forward,
                MA - MFIB Accept, A2 - Accept backup,
                RA2 - MRIB Accept backup, MA2 - MFIB Accept backup

Forwarding Counts: Pkt Count/Pkts per second/Avg Pkt Size/Kbits per second
Other counts:      Total/RPF failed/Other drops
I/O Item Counts:   HW Pkt Count/FS Pkt Count/PS Pkt Count   Egress Rate in pps
Default
 (*,FF00::/8) Flags: C HW
   SW Forwarding: 0/0/0/0, Other: 1/1/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
   Tunnel2 Flags: NS NP
 (*,FF00::/15) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FF02::/16) Flags:
   SW Forwarding: 0/0/0/0, Other: 23/23/0
 (FC00:172:16:254::3,FF07::9) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   201434/201/130/204, Other: 0/0/0
   TenGigabitEthernet1/0/9 Flags: A
   TenGigabitEthernet1/0/15 Flags: F NS
     Pkts: 0/0/0    Rate: 0 pps
 (FC00:172:16:254::3,FF0E::11) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   14/0/221/0, Other: 0/0/0
   TenGigabitEthernet1/0/9 Flags: A
   TenGigabitEthernet1/0/15 Flags: F NS
     Pkts: 0/0/0    Rate: 0 pps
 (FC00:172:16:254::3,FF0E::12) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   7/0/221/0, Other: 0/0/0
   TenGigabitEthernet1/0/9 Flags: A
   TenGigabitEthernet1/0/15 Flags: F NS
     Pkts: 0/0/0    Rate: 0 pps
```

```
(*,FF10::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF12::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF20::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF22::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF30::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF32::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF33::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF34::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF35::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF36::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF37::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF38::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF39::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3A::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3B::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3C::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3D::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3E::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3F::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF40::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF42::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF50::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF52::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
```

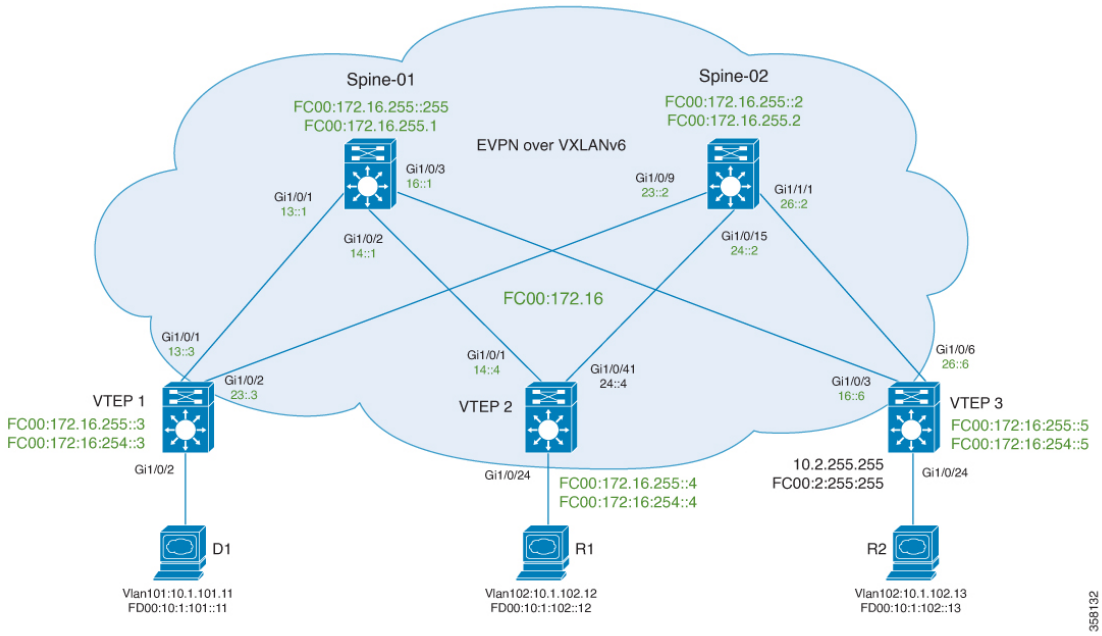
```
 (*,FF60::/15) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FF62::/16) Flags:
   SW Forwarding: 0/0/0/0, Other: 0/0/0
 (*,FF70::/15) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FF72::/16) Flags:
   SW Forwarding: 0/0/0/0, Other: 0/0/0
 (*,FF80::/15) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FF82::/16) Flags:
   SW Forwarding: 0/0/0/0, Other: 0/0/0
 (*,FF90::/15) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FF92::/16) Flags:
   SW Forwarding: 0/0/0/0, Other: 0/0/0
 (*,FFA0::/15) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FFA2::/16) Flags:
   SW Forwarding: 0/0/0/0, Other: 0/0/0
 (*,FFB0::/15) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FFB2::/16) Flags:
   SW Forwarding: 0/0/0/0, Other: 0/0/0
 (*,FFC0::/15) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FFC2::/16) Flags:
   SW Forwarding: 0/0/0/0, Other: 0/0/0
 (*,FFD0::/15) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FFD2::/16) Flags:
   SW Forwarding: 0/0/0/0, Other: 0/0/0
 (*,FFE0::/15) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FFE2::/16) Flags:
   SW Forwarding: 0/0/0/0, Other: 0/0/0
 (*,FFF0::/15) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FFF2::/16) Flags:
   SW Forwarding: 0/0/0/0, Other: 0/0/0

Spine-02#
```

Return to Verifying TRM in PIM-SM with Anycast RP for IPv4 and IPv6 Multicast Traffic over VXLANv6, on page 31

Example: Configuring TRM with PIM-SM for IPv4 and IPv6 Multicast Traffic when the RP is Inside the BGP EVPN VXLANv6 Fabric

This example shows how to configure and verify Layer 3 TRM with PIM-SM for IPv4 and IPv6 multicast traffic when the RP is inside the BGP EVPN VXLANv6 fabric.

Figure 13: TRM with PIM-SM when the RP is Inside the VXLANv6 Fabric



The topology shows an EVPN VXLANv6 network, with two spine switches and three VTEPs. VTEP 3 inside the BGP EVPN VXLAN fabric acts as the RP in this topology. The IPv4 multicast group is 226.1.1.1 and the IPv6 multicast group is FF06:1::1 in this topology. The following tables provide sample configurations for the devices in this topology:

Table 3: Configuring VTEP 1, VTEP 2, and VTEP 3 to Configure TRM with PIM-SM for IPv4 and IPv6 Multicast Traffic when the RP is Inside the BGP EVPN VXLANv6 Fabric

VTEP 1

```
VTEP1# show running-config
hostname VTEP1
!
vrf definition red
 rd 1002:1
 vpn id 10:1
 route-target export 10:1
 route-target import 10:1
 !
 address-family ipv4
  mdt auto-discovery vxlan
  mdt default vxlan FF07::9
  mdt overlay use-bgp
  route-target export 10:1
  route-target import 10:1
  route-target export 10:1 stitching

  route-target import 10:1 stitching

 exit-address-family
 !
 address-family ipv6
  mdt auto-discovery vxlan
  mdt default vxlan FF07::9
  mdt overlay use-bgp
  route-target export 10:1
  route-target import 10:1
  route-target export 10:1 stitching

  route-target import 10:1 stitching

 exit-address-family
!
ip multicast-routing vrf red
ipv6 multicast-routing
ipv6 multicast-routing vrf red

!
l2vpn evpn
 replication-type static
 router-id Loopback1
 default-gateway advertise
 !
!
l2vpn evpn instance 101 vlan-based
 encapsulation vxlan
!
l2vpn evpn instance 102 vlan-based
 encapsulation vxlan
!
vlan configuration 101
 member evpn-instance 101 vni 10101
vlan configuration 102
 member evpn-instance 102 vni 10102
vlan configuration 500
 member vni 50002
!
```

VTEP 2

```
VTEP2# show running-config
hostname VTEP2
!
vrf definition red
 rd 1001:1
 vpn id 10:1
 route-target export 10:1
 route-target import 10:1
 !
 address-family ipv4
  mdt auto-discovery vxlan
  mdt default vxlan FF07::9
  mdt overlay use-bgp
  route-target export 10:1
  route-target import 10:1
  route-target export 10:1 stitching

  route-target import 10:1 stitching

 exit-address-family
 !
 address-family ipv6
  mdt auto-discovery vxlan
  mdt default vxlan FF07::9
  mdt overlay use-bgp
  route-target export 10:1
  route-target import 10:1
  route-target export 10:1 stitching

  route-target import 10:1 stitching

 exit-address-family
!
ip multicast-routing vrf red
ipv6 unicast-routing
ipv6 multicast-routing
ipv6 multicast-routing vrf red
l2vpn evpn
 replication-type static
 router-id Loopback1
 default-gateway advertise
 !
!
l2vpn evpn instance 101 vlan-based
 encapsulation vxlan
!
l2vpn evpn instance 102 vlan-based
 encapsulation vxlan
!
vlan configuration 101
 member evpn-instance 101 vni 10101
vlan configuration 102
 member evpn-instance 102 vni 10102
vlan configuration 500
 member vni 50002
!
```

VTEP 3

```
VTEP3# show running-config
hostname VTEP3
!
vrf definition red
 rd 1003:1
 vpn id 10:1
 route-target export 10:1
 route-target import 10:1
 !
 address-family ipv4
  mdt auto-discovery vxlan
  mdt default vxlan FF07::9
  mdt overlay use-bgp
  route-target export 10:1
  route-target import 10:1
  route-target export 10:1 stitching

  route-target import 10:1 stitching

 exit-address-family
 !
 address-family ipv6
  mdt auto-discovery vxlan
  mdt default vxlan FF07::9
  mdt overlay use-bgp
  route-target export 10:1
  route-target import 10:1
  route-target export 10:1 stitching

  route-target import 10:1 stitching

 exit-address-family
!
ip multicast-routing vrf red
ipv6 multicast-routing
ipv6 multicast-routing vrf red
!
l2vpn evpn
 replication-type static
 router-id Loopback1
 default-gateway advertise
 !
!
l2vpn evpn instance 101 vlan-based
 encapsulation vxlan
!
l2vpn evpn instance 102 vlan-based
 encapsulation vxlan
!
!
vlan configuration 101
 member evpn-instance 101 vni 10101
vlan configuration 102
 member evpn-instance 102 vni 10102
vlan configuration 500
 member vni 50002
!
```

VTEP 1	VTEP 2	VTEP 3
interface Loopback0 no ip address ipv6 address FC00:172:16:255::3/128 ipv6 enable ipv6 ospf 10 area 2 ! interface Loopback1 ip address 172.16.254.3 255.255.255.255 ipv6 address FC00:172:16:254::3/128 ipv6 enable ipv6 ospf 10 area 2 ! interface Loopback2 vrf forwarding red ip address 10.2.253.255 255.255.255.255 ip pim sparse-mode ipv6 address FC00:2:253::255/128 ipv6 enable ! ! interface GigabitEthernet1/0/1 no switchport no ip address ipv6 address FC00:172:16:13::3/64 ipv6 enable ipv6 ospf 10 area 2 ! ! interface GigabitEthernet1/0/4 no switchport no ip address ipv6 address FC00:172:16:23::3/64 ipv6 enable ipv6 ospf 10 area 2 ! interface Vlan101 vrf forwarding red ip address 10.1.101.1 255.255.255.0 ip pim dr-priority 3 ip pim sparse-mode ipv6 address FD00:10:1:101::1/64 ipv6 enable !	interface Loopback0 no ip address ipv6 address FC00:172:16:255::4/128 ipv6 enable ipv6 ospf 10 area 2 ! interface Loopback1 ip address 172.16.254.4 255.255.255.255 ipv6 address FC00:172:16:254::4/128 ipv6 enable ipv6 ospf 10 area 2 ! interface Loopback2 vrf forwarding red ip address 10.2.254.255 255.255.255.255 ip pim sparse-mode ipv6 address FC00:2:254::255/128 ipv6 enable ! ! interface GigabitEthernet1/0/1 no switchport no ip address ipv6 address FC00:172:16:14::4/64 ipv6 enable ipv6 ospf 10 area 2 ! interface GigabitEthernet1/0/41 no switchport no ip address speed nonegotiate ipv6 address FC00:172:16:24::4/64 ipv6 enable ipv6 ospf 10 area 2 ! ! interface Vlan101 vrf forwarding red ip address 10.1.101.1 255.255.255.0 ip pim dr-priority 3 ip pim sparse-mode ipv6 address FD00:10:1:101::1/64 ipv6 enable !	interface Loopback0 no ip address ipv6 address FC00:172:16:255::5/128 ipv6 enable ipv6 ospf 10 area 2 ! interface Loopback1 ip address 172.16.254.5 255.255.255.255 ipv6 address FC00:172:16:254::5/128 ipv6 enable ipv6 ospf 10 area 2 ! interface Loopback2 vrf forwarding red ip address 10.2.255.255 255.255.255.255 ip pim sparse-mode ipv6 address FC00:2:255::255/128 ipv6 enable ! interface GigabitEthernet1/0/3 no switchport no ip address ipv6 address FC00:172:16:16::6/64 ipv6 enable ipv6 ospf 10 area 2 ! interface GigabitEthernet1/0/6 no switchport no ip address ipv6 address FC00:172:16:26::6/64 ipv6 enable ipv6 ospf 10 area 2 interface Vlan101 vrf forwarding red ip address 10.1.101.1 255.255.255.0 ip pim dr-priority 3 ip pim sparse-mode ipv6 address FD00:10:1:101::1/64 ipv6 enable !

VTEP 1	VTEP 2	VTEP 3
interface Vlan102 vrf forwarding red ip address 10.1.102.1 255.255.255.0 ip pim dr-priority 3 ip pim sparse-mode ipv6 address FD00:10:1:102::1/64 ipv6 enable ! interface Vlan500 vrf forwarding red ip unnumbered Loopback1 ip pim sparse-mode ipv6 unnumbered Loopback1 ipv6 enable no autostate ! interface nve1 no ip address ip pim sparse-mode source-interface Loopback1 host-reachability protocol bgp vxlan encapsulation ipv6 member vni 50002 vrf red member vni 10101 mcast-group FF0E::11 member vni 10102 mcast-group FF0E::12 ! router bgp 1001 bgp router-id 1.1.1.1 bgp log-neighbor-changes bgp graceful-restart no bgp default ipv4-unicast neighbor FC00:172:16:255::1 remote-as 1001 neighbor FC00:172:16:255::1 update-source Loopback0 neighbor FC00:172:16:255::2 remote-as 1001 neighbor FC00:172:16:255::2 update-source Loopback0 ! address-family ipv4 neighbor FC00:172:16:255::1 activate neighbor FC00:172:16:255::1 send-community both neighbor FC00:172:16:255::2 activate neighbor FC00:172:16:255::2 send-community both exit-address-family !	interface Vlan102 vrf forwarding red ip address 10.1.102.1 255.255.255.0 ip pim dr-priority 3 ip pim sparse-mode ipv6 address FD00:10:1:102::1/64 ipv6 enable ! interface Vlan500 vrf forwarding red ip unnumbered Loopback1 ip pim sparse-mode ipv6 unnumbered Loopback1 ipv6 enable no autostate ! interface nve1 no ip address ip pim sparse-mode source-interface Loopback1 host-reachability protocol bgp vxlan encapsulation ipv6 member vni 50002 vrf red member vni 10101 mcast-group FF0E::11 member vni 10102 mcast-group FF0E::12 ! router bgp 1001 bgp router-id 2.2.2.2 bgp log-neighbor-changes bgp graceful-restart no bgp default ipv4-unicast neighbor FC00:172:16:255::1 remote-as 1001 neighbor FC00:172:16:255::1 update-source Loopback0 neighbor FC00:172:16:255::2 remote-as 1001 neighbor FC00:172:16:255::2 update-source Loopback0 !	interface Vlan102 vrf forwarding red ip address 10.1.102.1 255.255.255.0 ip pim dr-priority 3 ip pim sparse-mode ipv6 address FD00:10:1:102::1/64 ipv6 enable ! interface Vlan500 vrf forwarding red ip unnumbered Loopback1 ip pim sparse-mode ipv6 unnumbered Loopback1 ipv6 enable no autostate ! interface nve1 no ip address ip pim sparse-mode source-interface Loopback1 host-reachability protocol bgp vxlan encapsulation ipv6 member vni 50002 vrf red member vni 10101 mcast-group FF0E::11 member vni 10102 mcast-group FF0E::12 ! router bgp 1001 bgp router-id 3.3.3.3 bgp log-neighbor-changes bgp graceful-restart no bgp default ipv4-unicast neighbor FC00:172:16:255::1 remote-as 1001 neighbor FC00:172:16:255::1 update-source Loopback0 neighbor FC00:172:16:255::2 remote-as 1001 neighbor FC00:172:16:255::2 update-source Loopback0 !

VTEP 1	VTEP 2	VTEP 3

VTEP 1	VTEP 2	VTEP 3
address-family ipv4 multicast exit-address-family ! address-family ipv4 mvpn neighbor FC00:172:16:255::1 activate neighbor FC00:172:16:255::1 send-community both neighbor FC00:172:16:255::2 activate neighbor FC00:172:16:255::2 send-community both exit-address-family ! address-family ipv6 mvpn neighbor FC00:172:16:255::1 activate neighbor FC00:172:16:255::1 send-community both neighbor FC00:172:16:255::2 activate neighbor FC00:172:16:255::2 send-community both exit-address-family ! address-family l2vpn evpn rewrite-evpn-rt-asn neighbor FC00:172:16:255::1 activate neighbor FC00:172:16:255::1 send-community both neighbor FC00:172:16:255::2 activate neighbor FC00:172:16:255::2 send-community both neighbor FC00:172:16:255::2 next-hop-unchanged allpaths exit-address-family ! address-family ipv4 vrf red advertise l2vpn evpn redistribute connected exit-address-family ! address-family ipv6 vrf red redistribute connected advertise l2vpn evpn exit-address-family ! ip pim vrf red rp-address 10.2.255.255 ip pim vrf red register-source Loopback2 ipv6 pim vrf red rp-address FC00:2:255::255 ipv6 pim vrf red register-source Loopback2 ipv6 pim rp-address FC00:172:16:255::255 ipv6 pim register-source Loopback0 ! end	address-family ipv4 neighbor FC00:172:16:255::1 activate neighbor FC00:172:16:255::1 send-community both neighbor FC00:172:16:255::2 activate neighbor FC00:172:16:255::2 send-community both exit-address-family ! address-family ipv4 multicast exit-address-family ! address-family ipv4 mvpn neighbor FC00:172:16:255::1 activate neighbor FC00:172:16:255::1 send-community both neighbor FC00:172:16:255::2 activate neighbor FC00:172:16:255::2 send-community both exit-address-family ! address-family ipv6 mvpn neighbor FC00:172:16:255::1 activate neighbor FC00:172:16:255::1 send-community both neighbor FC00:172:16:255::2 activate neighbor FC00:172:16:255::2 send-community both exit-address-family ! address-family l2vpn evpn rewrite-evpn-rt-asn neighbor FC00:172:16:255::1 activate neighbor FC00:172:16:255::1 send-community both neighbor FC00:172:16:255::2 activate neighbor FC00:172:16:255::2 send-community both exit-address-family ! address-family ipv4 vrf red advertise l2vpn evpn redistribute connected exit-address-family ! address-family ipv6 vrf red redistribute connected advertise l2vpn evpn exit-address-family ! ip pim vrf red rp-address 10.2.255.255 ip pim vrf red register-source Loopback2	address-family ipv4 neighbor FC00:172:16:255::1 activate neighbor FC00:172:16:255::1 send-community both neighbor FC00:172:16:255::2 activate neighbor FC00:172:16:255::2 send-community both exit-address-family ! address-family ipv4 multicast exit-address-family ! address-family ipv4 mvpn neighbor FC00:172:16:255::1 activate neighbor FC00:172:16:255::1 send-community both neighbor FC00:172:16:255::2 activate neighbor FC00:172:16:255::2 send-community both exit-address-family ! address-family ipv6 mvpn neighbor FC00:172:16:255::1 activate neighbor FC00:172:16:255::1 send-community both neighbor FC00:172:16:255::2 activate neighbor FC00:172:16:255::2 send-community both exit-address-family ! address-family l2vpn evpn rewrite-evpn-rt-asn neighbor FC00:172:16:255::1 activate neighbor FC00:172:16:255::1 send-community both neighbor FC00:172:16:255::2 activate neighbor FC00:172:16:255::2 send-community both exit-address-family ! address-family ipv4 vrf red advertise l2vpn evpn redistribute connected exit-address-family ! address-family ipv6 vrf red redistribute connected advertise l2vpn evpn exit-address-family ! ip pim vrf red rp-address 10.2.255.255 ip pim vrf red register-source Loopback2

VTEP 1	VTEP 2	VTEP 3
! VTEP1#	ipv6 pim vrf red rp-address FC00:2:255::255 ipv6 pim vrf red register-source Loopback2 ipv6 pim rp-address FC00:172:16:255::255 ! end ! VTEP2#	ipv6 pim rp-address FC00:172:16:255::255 ! end ! VTEP3#

Table 4: Configuring Spine Switch 1 and Spine Switch 2 to Configure TRM with PIM-SM for IPv4 and IPv6 Multicast Traffic when the RP is Inside the BGP EVPN VXLANv6 Fabric

Spine Switch 1	Spine Switch 2
Spine-01# **show running-config** hostname Spine-01 ! ipv6 multicast-routing ! interface Loopback0 no ip address ipv6 address FC00:172:16:255::1/128 ipv6 enable ipv6 ospf 10 area 2 ! interface Loopback1 no ip address ipv6 address FC00:172:16:254::1/128 ipv6 ospf 10 area 2 ! interface Loopback2 no ip address ipv6 address FC00:172:16:255::255/128 ipv6 enable ipv6 ospf 10 area 2 ! interface GigabitEthernet1/0/1 no switchport no ip address ipv6 address FC00:172:16:13::1/64 ipv6 enable ipv6 ospf 10 area 2 ! interface GigabitEthernet1/0/2 no switchport no ip address ipv6 address FC00:172:16:14::1/64 ipv6 enable ipv6 ospf 10 area 2 ! interface GigabitEthernet1/0/3 no switchport no ip address ipv6 address FC00:172:16:16::1/64 ipv6 enable ipv6 ospf 10 area 2 ! router bgp 1001 bgp router-id 4.4.4.4 bgp log-neighbor-changes bgp graceful-restart no bgp default ipv4-unicast neighbor FC00:172:16:255::3 remote-as 1001 neighbor FC00:172:16:255::3 update-source Loopback0 neighbor FC00:172:16:255::4 remote-as 1001 neighbor FC00:172:16:255::4 update-source Loopback0 neighbor FC00:172:16:255::5 remote-as 1001 neighbor FC00:172:16:255::5 update-source Loopback0 !	Spine-02# **show running-config** hostname Spine-02 ! ipv6 multicast-routing ! interface Loopback0 no ip address ipv6 address FC00:172:16:255::2/128 ipv6 enable ipv6 ospf 10 area 2 ! interface Loopback1 no ip address ipv6 address FC00:172:16:254::2/128 ipv6 enable ipv6 ospf 10 area 2 ! interface Loopback2 no ip address ipv6 address FC00:172:16:255::255/128 ipv6 enable ipv6 ospf 1 area 0 ! ! interface TenGigabitEthernet1/0/9 no switchport no ip address ipv6 address FC00:172:16:23::2/64 ipv6 enable ipv6 ospf 10 area 2 ! ! interface TenGigabitEthernet1/0/15 no switchport no ip address ipv6 address FC00:172:16:24::2/64 ipv6 enable ipv6 ospf 10 area 2 ! ! interface TenGigabitEthernet1/1/1 no switchport no ip address ipv6 address FC00:172:16:26::2/64 ipv6 ospf 10 area 2 ! router bgp 1001 bgp router-id 14.14.14.14 bgp log-neighbor-changes bgp graceful-restart no bgp default ipv4-unicast neighbor FC00:172:16:255::3 remote-as 1001 neighbor FC00:172:16:255::3 update-source Loopback0 neighbor FC00:172:16:255::4 remote-as 1001 neighbor FC00:172:16:255::4 update-source Loopback0 neighbor FC00:172:16:255::5 remote-as 1001 neighbor FC00:172:16:255::5 update-source Loopback0 !

Spine Switch 1

```
 address-family ipv4
  neighbor FC00:172:16:255::3 activate
  neighbor FC00:172:16:255::3 send-community both
  neighbor FC00:172:16:255::4 activate
  neighbor FC00:172:16:255::4 send-community both
  neighbor FC00:172:16:255::5 activate
  neighbor FC00:172:16:255::5 send-community both
 exit-address-family
 !
 address-family ipv4 multicast
 exit-address-family
 !
 address-family ipv4 mvpn
  neighbor FC00:172:16:255::3 activate
  neighbor FC00:172:16:255::3 send-community both
  neighbor FC00:172:16:255::3 route-reflector-client
  neighbor FC00:172:16:255::4 activate
  neighbor FC00:172:16:255::4 send-community both
  neighbor FC00:172:16:255::4 route-reflector-client
  neighbor FC00:172:16:255::5 activate
  neighbor FC00:172:16:255::5 send-community both
  neighbor FC00:172:16:255::5 route-reflector-client
 exit-address-family
 !
 address-family ipv6 mvpn
  neighbor FC00:172:16:255::3 activate
  neighbor FC00:172:16:255::3 send-community both
  neighbor FC00:172:16:255::3 route-reflector-client
  neighbor FC00:172:16:255::4 activate
  neighbor FC00:172:16:255::4 send-community both
  neighbor FC00:172:16:255::4 route-reflector-client
  neighbor FC00:172:16:255::5 activate
  neighbor FC00:172:16:255::5 send-community both
  neighbor FC00:172:16:255::5 route-reflector-client
 exit-address-family
 !
 address-family l2vpn evpn
  neighbor FC00:172:16:255::3 activate
  neighbor FC00:172:16:255::3 send-community both
  neighbor FC00:172:16:255::3 route-reflector-client
  neighbor FC00:172:16:255::4 activate
  neighbor FC00:172:16:255::4 send-community both
  neighbor FC00:172:16:255::4 route-reflector-client
  neighbor FC00:172:16:255::5 activate
  neighbor FC00:172:16:255::5 send-community both
  neighbor FC00:172:16:255::5 route-reflector-client
 exit-address-family
!
!
ipv6 pim rp-address FC00:172:16:255::255
ipv6 pim anycast-rp FC00:172:16:255::255
FC00:172:16:254::2
!
end
!
Spine-01#
```

Spine Switch 2

```
 address-family ipv4
  neighbor FC00:172:16:255::3 activate
  neighbor FC00:172:16:255::3 send-community both
  neighbor FC00:172:16:255::4 activate
  neighbor FC00:172:16:255::4 send-community both
  neighbor FC00:172:16:255::5 activate
  neighbor FC00:172:16:255::5 send-community both
 exit-address-family
 !
 address-family ipv4 multicast
 exit-address-family
 !
 address-family ipv4 mvpn
  neighbor FC00:172:16:255::3 activate
  neighbor FC00:172:16:255::3 send-community both
  neighbor FC00:172:16:255::3 route-reflector-client
  neighbor FC00:172:16:255::4 activate
  neighbor FC00:172:16:255::4 send-community both
  neighbor FC00:172:16:255::4 route-reflector-client
  neighbor FC00:172:16:255::5 activate
  neighbor FC00:172:16:255::5 send-community both
  neighbor FC00:172:16:255::5 route-reflector-client
 exit-address-family
 !
 address-family ipv6 mvpn
  neighbor FC00:172:16:255::3 activate
  neighbor FC00:172:16:255::3 send-community both
  neighbor FC00:172:16:255::3 route-reflector-client
  neighbor FC00:172:16:255::4 activate
  neighbor FC00:172:16:255::4 send-community both
  neighbor FC00:172:16:255::4 route-reflector-client
  neighbor FC00:172:16:255::5 activate
  neighbor FC00:172:16:255::5 send-community both
  neighbor FC00:172:16:255::5 route-reflector-client
 exit-address-family
 !
 address-family l2vpn evpn
  neighbor FC00:172:16:255::3 activate
  neighbor FC00:172:16:255::3 send-community both
  neighbor FC00:172:16:255::3 route-reflector-client
  neighbor FC00:172:16:255::4 activate
  neighbor FC00:172:16:255::4 send-community both
  neighbor FC00:172:16:255::4 route-reflector-client
  neighbor FC00:172:16:255::5 activate
  neighbor FC00:172:16:255::5 send-community both
  neighbor FC00:172:16:255::5 route-reflector-client
 exit-address-family
!
ipv6 pim rp-address FC00:172:16:255::255
ipv6 pim anycast-rp FC00:172:16:255::255
FC00:172:16:254::1
!
end
!
Spine-02#
```

Verifying TRM with PIM-SM for IPv4 and IPv6 Multicast Traffic when the RP is Inside the BGP EVPN VXLANv6 Fabric

The following sections provide sample outputs for **show** commands to verify TRM with PIM-SM on the devices in the topology configured above:

- Outputs to Verify the Configuration on VTEP 1
- Outputs to Verify the Configuration on VTEP 2
- Outputs to Verify the Configuration on VTEP 3
- Outputs to Verify the Configuration on Spine Switch 1
- Outputs to Verify the Configuration on Spine Switch 2

Outputs to Verify the Configuration on VTEP 1

The following example shows the output for the **show bgp ipv6 mvpn all** command on VTEP 1:

```
Leaf-01# show bgp ipv6 mvpn all

BGP table version is 51, local router ID is 1.1.1.1
Status codes: s suppressed, d damped, h history, * valid, > best, i - internal,
              r RIB-failure, S Stale, m multipath, b backup-path, f RT-Filter,
              x best-external, a additional-path, c RIB-compressed,
              t secondary path, L long-lived-stale,
Origin codes: i - IGP, e - EGP, ? - incomplete
RPKI validation codes: V valid, I invalid, N Not found

     Network          Next Hop            Metric LocPrf Weight Path
Route Distinguisher: 1002:1 (default for vrf red)
 *>   [5][1002:1][FD00:10:1:101::11][FF06:1::1]/42
                       ::                                    32768 ?
 *>i  [7][1002:1][1001][FD00:10:1:101::11][FF06:1::1]/46
                       FC00:172:16:255::4
                                                  0    100      0 ?
Route Distinguisher: 172.16.254.3:101
 * i  [7][172.16.254.3:101][1001][FD00:10:1:101::11][FF06:1::1]/46
                       FC00:172:16:255::4
                                                  0    100      0 ?
 *>i                    FC00:172:16:255::4
                                                  0    100      0 ?

Leaf-01#
```

The following example shows the output for the **show bgp ipv4 mvpn all** command on VTEP 1:

```
Leaf-01# show bgp ipv4 mvpn all

BGP table version is 71, local router ID is 1.1.1.1
Status codes: s suppressed, d damped, h history, * valid, > best, i - internal,
              r RIB-failure, S Stale, m multipath, b backup-path, f RT-Filter,
              x best-external, a additional-path, c RIB-compressed,
              t secondary path, L long-lived-stale,
Origin codes: i - IGP, e - EGP, ? - incomplete
RPKI validation codes: V valid, I invalid, N Not found

     Network          Next Hop            Metric LocPrf Weight Path
Route Distinguisher: 1002:1 (default for vrf red)
 *>   [5][1002:1][10.1.101.11][226.1.1.1]/18
```

```
                     0.0.0.0                                32768 ?
Route Distinguisher: 1003:1
 *>   [6][1003:1][1001][10.2.255.255/32][224.0.1.40/32]/22
                     0.0.0.0                                32768 ?
Route Distinguisher: 1002:1 (default for vrf red)
 *>i  [7][1002:1][1001][10.1.101.11/32][226.1.1.1/32]/22
                     FC00:172:16:255::4
                                                 0    100      0 ?
Route Distinguisher: 172.16.254.3:101
 *>i  [7][172.16.254.3:101][1001][10.1.101.11/32][226.1.1.1/32]/22
                     FC00:172:16:255::4
                                                 0    100      0 ?
     Network          Next Hop            Metric LocPrf Weight Path
 * i                   FC00:172:16:255::4
                                                 0    100      0 ?

Leaf-01#
```

The following example shows the output for the **show bgp l2vpn evpn** command on VTEP 1:

```
Leaf-01# show bgp l2vpn evpn

BGP table version is 910, local router ID is 1.1.1.1
Status codes: s suppressed, d damped, h history, * valid, > best, i - internal,
              r RIB-failure, S Stale, m multipath, b backup-path, f RT-Filter,
              x best-external, a additional-path, c RIB-compressed,
              t secondary path, L long-lived-stale,
Origin codes: i - IGP, e - EGP, ? - incomplete
RPKI validation codes: V valid, I invalid, N Not found

     Network          Next Hop            Metric LocPrf Weight Path
Route Distinguisher: 172.16.254.3:101
 *>   [2][172.16.254.3:101][0][48][001101000001][0][*]/20
                     ::                                     32768 ?
 *>   [2][172.16.254.3:101][0][48][001101000001][32][10.1.101.11]/24
                     ::                                     32768 ?
 *>   [2][172.16.254.3:101][0][48][001101000001][128][FD00:10:1:101::11]/36
                     ::                                     32768 ?
 *>   [2][172.16.254.3:101][0][48][001101000001][128][FD00:10:1:101:211:1FF:FE00:1]/36
                     ::                                     32768 ?
 *>   [2][172.16.254.3:101][0][48][001101000001][128][FE80::211:1FF:FE00:1]/36
                     ::                                     32768 ?
 *>i  [2][172.16.254.3:101][0][48][6026AABD1542][32][10.1.101.1]/24
                     FC00:172:16:254::4
     Network          Next Hop            Metric LocPrf Weight Path
                                                 0    100      0 ?
 *>i  [2][172.16.254.3:101][0][48][6026AABD1542][128][FD00:10:1:101::1]/36
                     FC00:172:16:254::4
                                                 0    100      0 ?
 *>   [2][172.16.254.3:101][0][48][682C7B9A5B41][32][10.1.101.1]/24
                     ::                                     32768 ?
 *>   [2][172.16.254.3:101][0][48][682C7B9A5B41][128][FD00:10:1:101::1]/36
                     ::                                     32768 ?
 *>i  [2][172.16.254.3:101][0][48][A03D6EA7E541][32][10.1.101.1]/24
                     FC00:172:16:254::5
                                                 0    100      0 ?
 *>i  [2][172.16.254.3:101][0][48][A03D6EA7E541][128][FD00:10:1:101::1]/36
                     FC00:172:16:254::5
                                                 0    100      0 ?
Route Distinguisher: 172.16.254.3:102
 *>i  [2][172.16.254.3:102][0][48][001301000001][0][*]/20
                     FC00:172:16:254::5
                                                 0    100      0 ?
```

```
 *>i  [2][172.16.254.3:102][0][48][001301000001][32][10.1.102.13]/24
                     FC00:172:16:254::5
                                                 0    100      0 ?
 *>i  [2][172.16.254.3:102][0][48][001301000001][128][FD00:10:1:102::13]/36
    Network          Next Hop            Metric LocPrf Weight Path
                     FC00:172:16:254::5
                                                 0    100      0 ?
 *>i  [2][172.16.254.3:102][0][48][001301000001][128][FD00:10:1:102:213:1FF:FE00:1]/36
                     FC00:172:16:254::5
                                                 0    100      0 ?
 *>i  [2][172.16.254.3:102][0][48][001301000001][128][FE80::213:1FF:FE00:1]/36
                     FC00:172:16:254::5
                                                 0    100      0 ?
 *>i  [2][172.16.254.3:102][0][48][001501000001][0][*]/20
                     FC00:172:16:254::4
                                                 0    100      0 ?
 *>i  [2][172.16.254.3:102][0][48][001501000001][32][10.1.102.12]/24
                     FC00:172:16:254::4
                                                 0    100      0 ?
 *>i  [2][172.16.254.3:102][0][48][001501000001][128][FD00:10:1:102::12]/36
                     FC00:172:16:254::4
                                                 0    100      0 ?
 *>i  [2][172.16.254.3:102][0][48][001501000001][128][FD00:10:1:102:215:1FF:FE00:1]/36
                     FC00:172:16:254::4
                                                 0    100      0 ?
    Network          Next Hop            Metric LocPrf Weight Path
 *>i  [2][172.16.254.3:102][0][48][001501000001][128][FE80::215:1FF:FE00:1]/36
                     FC00:172:16:254::4
                                                 0    100      0 ?
 *>i  [2][172.16.254.3:102][0][48][6026AABD1542][32][10.1.102.1]/24
                     FC00:172:16:254::4
                                                 0    100      0 ?
 *>i  [2][172.16.254.3:102][0][48][6026AABD1542][128][FD00:10:1:102::1]/36
                     FC00:172:16:254::4
                                                 0    100      0 ?
 *>   [2][172.16.254.3:102][0][48][682C7B9A5B4D][32][10.1.102.1]/24
                     ::                                    32768 ?
 *>   [2][172.16.254.3:102][0][48][682C7B9A5B4D][128][FD00:10:1:102::1]/36
                     ::                                    32768 ?
 *>i  [2][172.16.254.3:102][0][48][A03D6EA7E54D][32][10.1.102.1]/24
                     FC00:172:16:254::5
                                                 0    100      0 ?
 *>i  [2][172.16.254.3:102][0][48][A03D6EA7E54D][128][FD00:10:1:102::1]/36
                     FC00:172:16:254::5
                                                 0    100      0 ?
Route Distinguisher: 172.16.254.4:101
 * i  [2][172.16.254.4:101][0][48][6026AABD1542][32][10.1.101.1]/24
                     FC00:172:16:254::4
    Network          Next Hop            Metric LocPrf Weight Path
                                                 0    100      0 ?
 *>i                  FC00:172:16:254::4
                                                 0    100      0 ?
 * i  [2][172.16.254.4:101][0][48][6026AABD1542][128][FD00:10:1:101::1]/36
                     FC00:172:16:254::4
                                                 0    100      0 ?
 *>i                  FC00:172:16:254::4
                                                 0    100      0 ?
Route Distinguisher: 172.16.254.4:102
 * i  [2][172.16.254.4:102][0][48][001501000001][0][*]/20
                     FC00:172:16:254::4
                                                 0    100      0 ?
 *>i                  FC00:172:16:254::4
                                                 0    100      0 ?
 * i  [2][172.16.254.4:102][0][48][001501000001][32][10.1.102.12]/24
```

```
                     FC00:172:16:254::4
                                                    0    100      0 ?
 *>i                  FC00:172:16:254::4
                                                    0    100      0 ?
 * i  [2][172.16.254.4:102][0][48][001501000001][128][FD00:10:1:102::12]/36
                     FC00:172:16:254::4
                                                    0    100      0 ?
    Network          Next Hop            Metric LocPrf Weight Path
 *>i                  FC00:172:16:254::4
                                                    0    100      0 ?
 * i  [2][172.16.254.4:102][0][48][001501000001][128][FD00:10:1:102:215:1FF:FE00:1]/36
                     FC00:172:16:254::4
                                                    0    100      0 ?
 *>i                  FC00:172:16:254::4
                                                    0    100      0 ?
 *>i  [2][172.16.254.4:102][0][48][001501000001][128][FE80::215:1FF:FE00:1]/36
                     FC00:172:16:254::4
                                                    0    100      0 ?
 * i                  FC00:172:16:254::4
                                                    0    100      0 ?
 * i  [2][172.16.254.4:102][0][48][6026AABD1542][32][10.1.102.1]/24
                     FC00:172:16:254::4
                                                    0    100      0 ?
 *>i                  FC00:172:16:254::4
                                                    0    100      0 ?
 * i  [2][172.16.254.4:102][0][48][6026AABD1542][128][FD00:10:1:102::1]/36
                     FC00:172:16:254::4
                                                    0    100      0 ?
 *>i                  FC00:172:16:254::4
    Network          Next Hop            Metric LocPrf Weight Path
                                                    0    100      0 ?
Route Distinguisher: 172.16.254.5:101
 * i  [2][172.16.254.5:101][0][48][A03D6EA7E541][32][10.1.101.1]/24
                     FC00:172:16:254::5
                                                    0    100      0 ?
 *>i                  FC00:172:16:254::5
                                                    0    100      0 ?
 * i  [2][172.16.254.5:101][0][48][A03D6EA7E541][128][FD00:10:1:101::1]/36
                     FC00:172:16:254::5
                                                    0    100      0 ?
 *>i                  FC00:172:16:254::5
                                                    0    100      0 ?
Route Distinguisher: 172.16.254.5:102
 * i  [2][172.16.254.5:102][0][48][001301000001][0][*]/20
                     FC00:172:16:254::5
                                                    0    100      0 ?
 *>i                  FC00:172:16:254::5
                                                    0    100      0 ?
 * i  [2][172.16.254.5:102][0][48][001301000001][32][10.1.102.13]/24
                     FC00:172:16:254::5
                                                    0    100      0 ?
 *>i                  FC00:172:16:254::5
    Network          Next Hop            Metric LocPrf Weight Path
                                                    0    100      0 ?
 * i  [2][172.16.254.5:102][0][48][001301000001][128][FD00:10:1:102::13]/36
                     FC00:172:16:254::5
                                                    0    100      0 ?
 *>i                  FC00:172:16:254::5
                                                    0    100      0 ?
 * i  [2][172.16.254.5:102][0][48][001301000001][128][FD00:10:1:102:213:1FF:FE00:1]/36
                     FC00:172:16:254::5
                                                    0    100      0 ?
 *>i                  FC00:172:16:254::5
                                                    0    100      0 ?
```

```
 * i  [2][172.16.254.5:102][0][48][001301000001][128][FE80::213:1FF:FE00:1]/36
                     FC00:172:16:254::5
                                                    0    100      0 ?
 *>i                  FC00:172:16:254::5
                                                    0    100      0 ?
 * i  [2][172.16.254.5:102][0][48][A03D6EA7E54D][32][10.1.102.1]/24
                     FC00:172:16:254::5
                                                    0    100      0 ?
 *>i                  FC00:172:16:254::5
                                                    0    100      0 ?
    Network          Next Hop            Metric LocPrf Weight Path
 * i  [2][172.16.254.5:102][0][48][A03D6EA7E54D][128][FD00:10:1:102::1]/36
                     FC00:172:16:254::5
                                                    0    100      0 ?
 *>i                  FC00:172:16:254::5
                                                    0    100      0 ?
Route Distinguisher: 1001:1
 * i  [5][1001:1][0][24][10.1.101.0]/17
                     FC00:172:16:254::4
                                                    0    100      0 ?
 *>i                  FC00:172:16:254::4
                                                    0    100      0 ?
 * i  [5][1001:1][0][24][10.1.102.0]/17
                     FC00:172:16:254::4
                                                    0    100      0 ?
 *>i                  FC00:172:16:254::4
                                                    0    100      0 ?
 * i  [5][1001:1][0][32][10.2.254.255]/17
                     FC00:172:16:254::4
                                                    0    100      0 ?
 *>i                  FC00:172:16:254::4
                                                    0    100      0 ?
 * i  [5][1001:1][0][64][FD00:10:1:101::]/29
    Network          Next Hop            Metric LocPrf Weight Path
                     FC00:172:16:254::4
                                                    0    100      0 ?
 *>i                  FC00:172:16:254::4
                                                    0    100      0 ?
 * i  [5][1001:1][0][64][FD00:10:1:102::]/29
                     FC00:172:16:254::4
                                                    0    100      0 ?
 *>i                  FC00:172:16:254::4
                                                    0    100      0 ?
 * i  [5][1001:1][0][128][FC00:2:254::255]/29
                     FC00:172:16:254::4
                                                    0    100      0 ?
 *>i                  FC00:172:16:254::4
                                                    0    100      0 ?
Route Distinguisher: 1002:1 (default for vrf red)
 *>   [5][1002:1][0][24][10.1.101.0]/17
                     0.0.0.0                  0         32768 ?
 *>   [5][1002:1][0][24][10.1.102.0]/17
                     0.0.0.0                  0         32768 ?
 *>   [5][1002:1][0][32][10.2.253.255]/17
                     0.0.0.0                  0         32768 ?
 *>   [5][1002:1][0][64][FD00:10:1:101::]/29
    Network          Next Hop            Metric LocPrf Weight Path
                     ::                       0         32768 ?
 *>   [5][1002:1][0][64][FD00:10:1:102::]/29
                     ::                       0         32768 ?
 *>   [5][1002:1][0][128][FC00:2:253::255]/29
                     ::                       0         32768 ?
Route Distinguisher: 1003:1
 * i  [5][1003:1][0][24][10.1.101.0]/17
```

```
                     FC00:172:16:254::5
                                                    0    100      0 ?
 *>i                  FC00:172:16:254::5
                                                    0    100      0 ?
 * i  [5][1003:1][0][24][10.1.102.0]/17
                     FC00:172:16:254::5
                                                    0    100      0 ?
 *>i                  FC00:172:16:254::5
                                                    0    100      0 ?
 * i  [5][1003:1][0][32][10.2.255.255]/17
                     FC00:172:16:254::5
                                                    0    100      0 ?
 *>i                  FC00:172:16:254::5
                                                    0    100      0 ?
 * i  [5][1003:1][0][64][FD00:10:1:101::]/29
    Network          Next Hop            Metric LocPrf Weight Path
                     FC00:172:16:254::5
                                                    0    100      0 ?
 *>i                  FC00:172:16:254::5
                                                    0    100      0 ?
 * i  [5][1003:1][0][64][FD00:10:1:102::]/29
                     FC00:172:16:254::5
                                                    0    100      0 ?
 *>i                  FC00:172:16:254::5
                                                    0    100      0 ?
 * i  [5][1003:1][0][128][FC00:2:255::255]/29
                     FC00:172:16:254::5
                                                    0    100      0 ?
 *>i                  FC00:172:16:254::5
                                                    0    100      0 ?

Leaf-01#
```

The following example shows the output for the **show ip pim vrf** *vrf-name* **rp mapping** command on VTEP 1:

```
Leaf-01# show ip pim vrf red rp mapping

PIM Group-to-RP Mappings

Group(s): 224.0.0.0/4, Static
    RP: 10.2.255.255 (?)

Leaf-01#
```

The following example shows the output for the **show ipv6 mfib vrf** *vrf-name* command on VTEP 1:

```
Leaf-01# show ipv6 mfib vrf red

Entry Flags:    C - Directly Connected, S - Signal, IA - Inherit A flag,
                ET - Data Rate Exceeds Threshold, K - Keepalive
                DDE - Data Driven Event, HW - Hardware Installed
                ME - MoFRR ECMP entry, MNE - MoFRR Non-ECMP entry, MP - MFIB
                MoFRR Primary, RP - MRIB MoFRR Primary, P - MoFRR Primary
                MS  - MoFRR  Entry in Sync, MC - MoFRR entry in MoFRR Client,
                e   - Encap helper tunnel flag.
I/O Item Flags: IC - Internal Copy, NP - Not platform switched,
                NS - Negate Signalling, SP - Signal Present,
                A - Accept, F - Forward, RA - MRIB Accept, RF - MRIB Forward,
                MA - MFIB Accept, A2 - Accept backup,
                RA2 - MRIB Accept backup, MA2 - MFIB Accept backup
```

```
Forwarding Counts: Pkt Count/Pkts per second/Avg Pkt Size/Kbits per second
Other counts:      Total/RPF failed/Other drops
I/O Item Counts:   HW Pkt Count/FS Pkt Count/PS Pkt Count   Egress Rate in pps
VRF red
 (*,FF00::/8) Flags: C HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FF00::/15) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FF02::/16) Flags:
   SW Forwarding: 0/0/0/0, Other: 0/0/0
 (FD00:10:1:101::11,FF06:1::1) Flags: HW
   SW Forwarding: 2/0/42/0, Other: 2/2/0
   HW Forwarding:   278661/99/64/49, Other: 0/0/0
   Vlan101 Flags: A
   Vlan500, VXLAN v6 Encap (50002, FF07::9) Flags: F
     Pkts: 0/0/0    Rate: 0 pps
 (*,FF10::/15) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FF12::/16) Flags:
   SW Forwarding: 0/0/0/0, Other: 0/0/0
 (*,FF20::/15) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FF22::/16) Flags:
   SW Forwarding: 0/0/0/0, Other: 0/0/0
 (*,FF30::/15) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FF32::/16) Flags:
   SW Forwarding: 0/0/0/0, Other: 0/0/0
 (*,FF33::/32) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FF34::/32) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FF35::/32) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FF36::/32) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FF37::/32) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FF38::/32) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FF39::/32) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FF3A::/32) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FF3B::/32) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FF3C::/32) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
```

```
(*,FF3D::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3E::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3F::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF40::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF42::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF50::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF52::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF60::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF62::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF70::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF72::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF80::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF82::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF90::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF92::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FFA0::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FFA2::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FFB0::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FFB2::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FFC0::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FFC2::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FFD0::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FFD2::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FFE0::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FFE2::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
```

```
 (*,FFF0::/15) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FFF2::/16) Flags:
   SW Forwarding: 0/0/0/0, Other: 0/0/0

Leaf-01#
```

The following example shows the output for the **show ipv6 pim vrf** *vrf-name* **group-map** command on VTEP 1:

```
Leaf-01# show ipv6 pim vrf red group-map ff00::/8

IP PIM Group Mapping Table
(* indicates group mappings being used)

FF00::/8*
    SM, RP: FC00:2:255::255
    RPF: Vl500,FC00:172:16:254::5
    Info source: Static
    Uptime: 19:13:21, Groups: 1
FF00::/8
    SM
    Info source: Default
    Uptime: 4d23h, Groups: 0

Leaf-01#
```

The following example shows the output for the **show ip mroute vrf** *vrf-name* command on VTEP 1:

```
Leaf-01# show ip mroute vrf red

IP Multicast Routing Table
Flags: D - Dense, S - Sparse, B - Bidir Group, s - SSM Group, C - Connected,
       L - Local, P - Pruned, R - RP-bit set, F - Register flag,
       T - SPT-bit set, J - Join SPT, M - MSDP created entry, E - Extranet,
       X - Proxy Join Timer Running, A - Candidate for MSDP Advertisement,
       U - URD, I - Received Source Specific Host Report,
       Z - Multicast Tunnel, z - MDT-data group sender,
       Y - Joined MDT-data group, y - Sending to MDT-data group,
       G - Received BGP C-Mroute, g - Sent BGP C-Mroute,
       N - Received BGP Shared-Tree Prune, n - BGP C-Mroute suppressed,
       Q - Received BGP S-A Route, q - Sent BGP S-A Route,
       V - RD & Vector, v - Vector, p - PIM Joins on route,
       x - VxLAN group, c - PFP-SA cache created entry,
       * - determined by Assert, # - iif-starg configured on rpf intf,
       e - encap-helper tunnel flag, l - LISP decap ref count contributor
Outgoing interface flags: H - Hardware switched, A - Assert winner, p - PIM Join
                          t - LISP transit group
 Timers: Uptime/Expires
 Interface state: Interface, Next-Hop or VCD, State/Mode

(*, 226.1.1.1), 00:31:55/stopped, RP 10.2.255.255, flags: SPF
  Incoming interface: Vlan500, RPF nbr FC00:172:16:254::5
  Outgoing interface list: Null

(10.1.101.11, 226.1.1.1), 00:31:55/00:02:53, flags: FTGqx
  Incoming interface: Vlan101, RPF nbr 0.0.0.0
  Outgoing interface list:
    Vlan500, VXLAN v6 Encap: (50002, FF07::9), Forward/Sparse, 00:31:55/stopped, flags:
```

```
(*, 224.0.1.40), 00:47:16/00:02:32, RP 10.2.255.255, flags: SJPCLgx
  Incoming interface: Vlan500, RPF nbr FC00:172:16:254::5
  Outgoing interface list: Null

Leaf-01#
```

The following example shows the output for the **show ipv6 mroute vrf** *vrf-name* command on VTEP 1:

```
Leaf-01# show ipv6 mroute vrf red

Multicast Routing Table
Flags: D - Dense, S - Sparse, B - Bidir Group, s - SSM Group,
       C - Connected, L - Local, I - Received Source Specific Host Report,
       P - Pruned, R - RP-bit set, F - Register flag, T - SPT-bit set,
       J - Join SPT, Y - Joined MDT-data group,
       y - Sending to MDT-data group
       g - BGP signal originated, G - BGP Signal received,
       N - BGP Shared-Tree Prune received, n - BGP C-Mroute suppressed,
       q - BGP Src-Active originated, Q - BGP Src-Active received
       E - Extranet
Timers: Uptime/Expires
Interface state: Interface, State

(FD00:10:1:101::11, FF06:1::1), 00:36:24/00:00:03, flags: SFTGq
  Incoming interface: Vlan101
  RPF nbr: FD00:10:1:101::11
  Immediate Outgoing interface list:
    Vlan500, Forward, 00:36:24/never

Leaf-01#
```

The following example shows the output for the **show ipv6 mroute** command on VTEP 1:

```
Leaf-01# show ipv6 mroute

Multicast Routing Table
Flags: D - Dense, S - Sparse, B - Bidir Group, s - SSM Group,
       C - Connected, L - Local, I - Received Source Specific Host Report,
       P - Pruned, R - RP-bit set, F - Register flag, T - SPT-bit set,
       J - Join SPT, Y - Joined MDT-data group,
       y - Sending to MDT-data group
       g - BGP signal originated, G - BGP Signal received,
       N - BGP Shared-Tree Prune received, n - BGP C-Mroute suppressed,
       q - BGP Src-Active originated, Q - BGP Src-Active received
       E - Extranet
Timers: Uptime/Expires
Interface state: Interface, State

(*, FF07::9), 19:39:09/never, RP FC00:172:16:255::255, flags: SCJ
  Incoming interface: GigabitEthernet1/0/1
  RPF nbr: FE80::ED0:F8FF:FE32:F4E4
  Immediate Outgoing interface list:
    Tunnel0, Forward, 19:39:09/never

(FC00:172:16:254::3, FF07::9), 00:46:46/00:02:15, flags: SFJT
  Incoming interface: Loopback1
  RPF nbr: FE80::6A2C:7BFF:FE9A:5B00
  Immediate Outgoing interface list:
    Tunnel2, Forward, 00:46:46/never
    GigabitEthernet1/0/1, Forward, 00:46:46/00:02:47
    GigabitEthernet1/0/4, Forward, 00:46:46/00:02:50
```

```
  Inherited Outgoing interface list:
    Tunnel0, Forward, 19:39:09/never

(*, FF0E::11), 19:31:25/never, RP FC00:172:16:255::255, flags: SCJ
  Incoming interface: GigabitEthernet1/0/1
  RPF nbr: FE80::ED0:F8FF:FE32:F4E4
  Immediate Outgoing interface list:
    Tunnel0, Forward, 19:31:25/never

(FC00:172:16:254::3, FF0E::11), 14:45:32/00:03:00, flags: SFJT
  Incoming interface: Loopback1
  RPF nbr: FE80::6A2C:7BFF:FE9A:5B00
  Immediate Outgoing interface list:
    GigabitEthernet1/0/1, Forward, 14:45:02/00:02:47
    GigabitEthernet1/0/4, Forward, 03:10:58/00:02:30
  Inherited Outgoing interface list:
    Tunnel0, Forward, 19:31:25/never

(FC00:172:16:254::4, FF0E::11), 00:31:04/00:01:32, flags: SJT
  Incoming interface: GigabitEthernet1/0/1
  RPF nbr: FE80::ED0:F8FF:FE32:F4E4
  Inherited Outgoing interface list:
    Tunnel0, Forward, 19:31:25/never

(FC00:172:16:254::5, FF0E::11), 01:03:47/00:02:20, flags: SJT
  Incoming interface: GigabitEthernet1/0/1
  RPF nbr: FE80::ED0:F8FF:FE32:F4E4
  Inherited Outgoing interface list:
    Tunnel0, Forward, 19:31:25/never

(*, FF0E::12), 18:06:42/never, RP FC00:172:16:255::255, flags: SCJ
  Incoming interface: GigabitEthernet1/0/1
  RPF nbr: FE80::ED0:F8FF:FE32:F4E4
  Immediate Outgoing interface list:
    Tunnel0, Forward, 18:06:42/never

(FC00:172:16:254::3, FF0E::12), 14:45:49/00:00:46, flags: SFJT
  Incoming interface: Loopback1
  RPF nbr: FE80::6A2C:7BFF:FE9A:5B00
  Immediate Outgoing interface list:
    GigabitEthernet1/0/1, Forward, 14:44:52/00:02:47
    GigabitEthernet1/0/4, Forward, 00:15:38/00:02:50
  Inherited Outgoing interface list:
    Tunnel0, Forward, 18:06:42/never

(FC00:172:16:254::4, FF0E::12), 00:16:40/00:00:38, flags: SJT
  Incoming interface: GigabitEthernet1/0/1
  RPF nbr: FE80::ED0:F8FF:FE32:F4E4
  Inherited Outgoing interface list:
    Tunnel0, Forward, 18:06:42/never

(FC00:172:16:254::5, FF0E::12), 02:06:01/00:02:52, flags: SJT
  Incoming interface: GigabitEthernet1/0/1
  RPF nbr: FE80::ED0:F8FF:FE32:F4E4
  Inherited Outgoing interface list:
    Tunnel0, Forward, 18:06:42/never

Leaf-01#
```

The following example shows the output for the **show ip mfib vrf** *vrf-name* command on VTEP 1:

```
Leaf-01# show ip mfib vrf red
```

```
Entry Flags:    C - Directly Connected, S - Signal, IA - Inherit A flag,
                ET - Data Rate Exceeds Threshold, K - Keepalive
                DDE - Data Driven Event, HW - Hardware Installed
                ME - MoFRR ECMP entry, MNE - MoFRR Non-ECMP entry, MP - MFIB
                MoFRR Primary, RP - MRIB MoFRR Primary, P - MoFRR Primary
                MS  - MoFRR  Entry in Sync, MC - MoFRR entry in MoFRR Client,
                e   - Encap helper tunnel flag.
I/O Item Flags: IC - Internal Copy, NP - Not platform switched,
                NS - Negate Signalling, SP - Signal Present,
                A - Accept, F - Forward, RA - MRIB Accept, RF - MRIB Forward,
                MA - MFIB Accept, A2 - Accept backup,
                RA2 - MRIB Accept backup, MA2 - MFIB Accept backup

Forwarding Counts: Pkt Count/Pkts per second/Avg Pkt Size/Kbits per second
Other counts:      Total/RPF failed/Other drops
I/O Item Counts:   HW Pkt Count/FS Pkt Count/PS Pkt Count   Egress Rate in pps
VRF red
 (*,224.0.0.0/4) Flags: C HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,224.0.1.40) Flags: C HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,226.1.1.1) Flags: C HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
   Vlan500, VXLAN Decap Flags: A
 (10.1.101.11,226.1.1.1) Flags: HW
   SW Forwarding: 2/0/42/0, Other: 1/1/0
   HW Forwarding:   191669/100/64/50, Other: 0/0/0
   Vlan101 Flags: A
   Vlan500, VXLAN v6 Encap (50002, FF07::9) Flags: F
     Pkts: 0/0/0    Rate: 0 pps
 (*,232.0.0.0/8) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0

Leaf-01#
```

The following example shows the output for the **show ipv6 mfib** command on VTEP 1:

```
Leaf-01# show ipv6 mfib

Entry Flags:    C - Directly Connected, S - Signal, IA - Inherit A flag,
                ET - Data Rate Exceeds Threshold, K - Keepalive
                DDE - Data Driven Event, HW - Hardware Installed
                ME - MoFRR ECMP entry, MNE - MoFRR Non-ECMP entry, MP - MFIB
                MoFRR Primary, RP - MRIB MoFRR Primary, P - MoFRR Primary
                MS  - MoFRR  Entry in Sync, MC - MoFRR entry in MoFRR Client,
                e   - Encap helper tunnel flag.
I/O Item Flags: IC - Internal Copy, NP - Not platform switched,
                NS - Negate Signalling, SP - Signal Present,
                A - Accept, F - Forward, RA - MRIB Accept, RF - MRIB Forward,
                MA - MFIB Accept, A2 - Accept backup,
                RA2 - MRIB Accept backup, MA2 - MFIB Accept backup

Forwarding Counts: Pkt Count/Pkts per second/Avg Pkt Size/Kbits per second
Other counts:      Total/RPF failed/Other drops
I/O Item Counts:   HW Pkt Count/FS Pkt Count/PS Pkt Count   Egress Rate in pps
Default
 (*,FF00::/8) Flags: C HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
```

```
(*,FF00::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF02::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 24/24/0
(*,FF07::9) Flags: C HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   8/0/130/0, Other: 0/0/0
  GigabitEthernet1/0/1 Flags: A NS
  Tunnel0, VXLAN v6 Decap Flags: F NS
    Pkts: 0/0/0    Rate: 0 pps
(FC00:172:16:254::3,FF07::9) Flags: HW
  SW Forwarding: 2/0/112/0, Other: 0/0/0
  HW Forwarding:   561310/198/118/182, Other: 0/0/0
  Null0 Flags: A
  GigabitEthernet1/0/1 Flags: F NS
    Pkts: 0/0/0    Rate: 0 pps
  GigabitEthernet1/0/4 Flags: F NS
    Pkts: 0/0/0    Rate: 0 pps
  Tunnel2 Flags: F NS NP
    Pkts: 0/0/562764    Rate: 0 pps
(*,FF0E::11) Flags: C HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   61/0/219/0, Other: 0/0/0
  GigabitEthernet1/0/1 Flags: A NS
  Tunnel0, VXLAN v6 Decap Flags: F NS
    Pkts: 0/0/0    Rate: 0 pps
(FC00:172:16:254::3,FF0E::11) Flags: HW
  SW Forwarding: 1/0/226/0, Other: 0/0/0
  HW Forwarding:   732/0/209/0, Other: 0/0/0
  Null0 Flags: A
  GigabitEthernet1/0/1 Flags: F NS
    Pkts: 0/0/0    Rate: 0 pps
  GigabitEthernet1/0/4 Flags: F NS
    Pkts: 0/0/0    Rate: 0 pps
(FC00:172:16:254::4,FF0E::11) Flags: HW
  SW Forwarding: 1/0/174/0, Other: 0/0/0
  HW Forwarding:   25/0/223/0, Other: 0/0/0
  GigabitEthernet1/0/1 Flags: A
  Tunnel0, VXLAN v6 Decap Flags: F NS
    Pkts: 0/0/1    Rate: 0 pps
(FC00:172:16:254::5,FF0E::11) Flags: HW
  SW Forwarding: 1/0/226/0, Other: 0/0/0
  HW Forwarding:   54/0/220/0, Other: 0/0/0
  GigabitEthernet1/0/1 Flags: A
  Tunnel0, VXLAN v6 Decap Flags: F NS
    Pkts: 0/0/1    Rate: 0 pps
(*,FF0E::12) Flags: C HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   51/0/202/0, Other: 0/0/0
  GigabitEthernet1/0/1 Flags: A NS
  Tunnel0, VXLAN v6 Decap Flags: F NS
    Pkts: 0/0/0    Rate: 0 pps
(FC00:172:16:254::3,FF0E::12) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   730/0/210/0, Other: 0/0/0
  Null0 Flags: A NS
  GigabitEthernet1/0/1 Flags: F NS
    Pkts: 0/0/0    Rate: 0 pps
  GigabitEthernet1/0/4 Flags: F NS
    Pkts: 0/0/0    Rate: 0 pps
(FC00:172:16:254::4,FF0E::12) Flags: HW
  SW Forwarding: 1/0/166/0, Other: 0/0/0
  HW Forwarding:   27/0/195/0, Other: 0/0/0
```

```
  GigabitEthernet1/0/1 Flags: A NS
  Tunnel0, VXLAN v6 Decap Flags: F NS
    Pkts: 0/0/1    Rate: 0 pps
(FC00:172:16:254::5,FF0E::12) Flags: HW
  SW Forwarding: 1/0/166/0, Other: 0/0/0
  HW Forwarding:   209/0/196/0, Other: 0/0/0
  GigabitEthernet1/0/1 Flags: A
  Tunnel0, VXLAN v6 Decap Flags: F NS
    Pkts: 0/0/1    Rate: 0 pps
(*,FF10::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF12::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF20::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF22::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF30::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF32::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF33::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF34::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF35::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF36::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF37::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF38::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF39::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3A::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3B::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3C::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3D::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3E::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3F::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF40::/15) Flags: HW
```

```
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FF42::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0
  (*,FF50::/15) Flags: HW
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FF52::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0
  (*,FF60::/15) Flags: HW
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FF62::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0
  (*,FF70::/15) Flags: HW
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FF72::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0
  (*,FF80::/15) Flags: HW
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FF82::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0
  (*,FF90::/15) Flags: HW
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FF92::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0
  (*,FFA0::/15) Flags: HW
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FFA2::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0
  (*,FFB0::/15) Flags: HW
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FFB2::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0
  (*,FFC0::/15) Flags: HW
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FFC2::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0
  (*,FFD0::/15) Flags: HW
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FFD2::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0
  (*,FFE0::/15) Flags: HW
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FFE2::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0
  (*,FFF0::/15) Flags: HW
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FFF2::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0


Leaf-01#
```

The following example shows the output for the **show ip mroute vrf** *vrf-name* command on VTEP 1:

```
Leaf-01# show ip mroute vrf red

IP Multicast Routing Table
Flags: D - Dense, S - Sparse, B - Bidir Group, s - SSM Group, C - Connected,
       L - Local, P - Pruned, R - RP-bit set, F - Register flag,
       T - SPT-bit set, J - Join SPT, M - MSDP created entry, E - Extranet,
       X - Proxy Join Timer Running, A - Candidate for MSDP Advertisement,
       U - URD, I - Received Source Specific Host Report,
       Z - Multicast Tunnel, z - MDT-data group sender,
       Y - Joined MDT-data group, y - Sending to MDT-data group,
       G - Received BGP C-Mroute, g - Sent BGP C-Mroute,
       N - Received BGP Shared-Tree Prune, n - BGP C-Mroute suppressed,
       Q - Received BGP S-A Route, q - Sent BGP S-A Route,
       V - RD & Vector, v - Vector, p - PIM Joins on route,
       x - VxLAN group, c - PFP-SA cache created entry,
       * - determined by Assert, # - iif-starg configured on rpf intf,
       e - encap-helper tunnel flag, l - LISP decap ref count contributor
Outgoing interface flags: H - Hardware switched, A - Assert winner, p - PIM Join
                          t - LISP transit group
 Timers: Uptime/Expires
 Interface state: Interface, Next-Hop or VCD, State/Mode

(*, 226.1.1.1), 00:36:16/stopped, RP 10.2.255.255, flags: SPF
  Incoming interface: Vlan500, RPF nbr FC00:172:16:254::5
  Outgoing interface list: Null

(10.1.101.11, 226.1.1.1), 00:36:17/00:02:50, flags: FTGqx
  Incoming interface: Vlan101, RPF nbr 0.0.0.0
  Outgoing interface list:
    Vlan500, VXLAN v6 Encap: (50002, FF07::9), Forward/Sparse, 00:36:17/stopped, flags:

(*, 224.0.1.40), 00:51:37/00:02:10, RP 10.2.255.255, flags: SJPCLgx
  Incoming interface: Vlan500, RPF nbr FC00:172:16:254::5
  Outgoing interface list: Null

Leaf-01#
```

Return to Verifying TRM with PIM-SM for IPv4 and IPv6 Multicast Traffic when the RP is Inside the BGP EVPN VXLANv6 Fabric.

Outputs to Verify the Configuration on VTEP 2

The following example shows the output for the **show bgp ipv6 mvpn all** command on VTEP 2:

```
Leaf-02# show bgp ipv6 mvpn all

BGP table version is 14037, local router ID is 2.2.2.2
Status codes: s suppressed, d damped, h history, * valid, > best, i - internal,
              r RIB-failure, S Stale, m multipath, b backup-path, f RT-Filter,
              x best-external, a additional-path, c RIB-compressed,
              t secondary path, L long-lived-stale,
Origin codes: i - IGP, e - EGP, ? - incomplete
RPKI validation codes: V valid, I invalid, N Not found

     Network          Next Hop            Metric LocPrf Weight Path
Route Distinguisher: 1001:1 (default for vrf red)
 *>i  [5][1001:1][FD00:10:1:101::11][FF06:1::1]/42
                      FC00:172:16:255::3
                                           0    100      0 ?
```

```
Route Distinguisher: 1002:1
 *>i  [5][1002:1][FD00:10:1:101::11][FF06:1::1]/42
                     FC00:172:16:255::3
                                                0    100      0 ?
 * i                   FC00:172:16:255::3
                                                0    100      0 ?
Route Distinguisher: 1003:1
 *>   [6][1003:1][1001][FC00:2:255::255][FF06:1::1]/46
                     ::                                    32768 ?
Route Distinguisher: 172.16.254.3:101
     Network          Next Hop            Metric LocPrf Weight Path
 *>   [7][172.16.254.3:101][1001][FD00:10:1:101::11][FF06:1::1]/46
                     ::                                    32768 ?
Leaf-02#
```

The following example shows the output for the **show bgp ipv4 mvpn all** command on VTEP 2:

```
Leaf-02# show bgp ipv4 mvpn all

BGP table version is 52496, local router ID is 2.2.2.2
Status codes: s suppressed, d damped, h history, * valid, > best, i - internal,
              r RIB-failure, S Stale, m multipath, b backup-path, f RT-Filter,
              x best-external, a additional-path, c RIB-compressed,
              t secondary path, L long-lived-stale,
Origin codes: i - IGP, e - EGP, ? - incomplete
RPKI validation codes: V valid, I invalid, N Not found

     Network          Next Hop            Metric LocPrf Weight Path
Route Distinguisher: 1001:1 (default for vrf red)
 *>i  [5][1001:1][10.1.101.11][226.1.1.1]/18
                     FC00:172:16:255::3
                                                0    100      0 ?
Route Distinguisher: 1002:1
 *>i  [5][1002:1][10.1.101.11][226.1.1.1]/18
                     FC00:172:16:255::3
                                                0    100      0 ?
 * i                   FC00:172:16:255::3
                                                0    100      0 ?
Route Distinguisher: 1003:1
 *>   [6][1003:1][1001][10.2.255.255/32][224.0.1.40/32]/22
                     0.0.0.0                               32768 ?
 *>   [6][1003:1][1001][10.2.255.255/32][226.1.1.1/32]/22
     Network          Next Hop            Metric LocPrf Weight Path
                     0.0.0.0                               32768 ?
Route Distinguisher: 172.16.254.3:101
 *>   [7][172.16.254.3:101][1001][10.1.101.11/32][226.1.1.1/32]/22
                     0.0.0.0                               32768 ?

Leaf-02#
```

The following example shows the output for the **show bgp l2vpn evpn** command on VTEP 2:

```
Leaf-02# show bgp l2vpn evpn

BGP table version is 1207, local router ID is 2.2.2.2
Status codes: s suppressed, d damped, h history, * valid, > best, i - internal,
              r RIB-failure, S Stale, m multipath, b backup-path, f RT-Filter,
              x best-external, a additional-path, c RIB-compressed,
              t secondary path, L long-lived-stale,
Origin codes: i - IGP, e - EGP, ? - incomplete
RPKI validation codes: V valid, I invalid, N Not found
```

```
     Network          Next Hop            Metric LocPrf Weight Path
Route Distinguisher: 172.16.254.3:101
 * i  [2][172.16.254.3:101][0][48][001101000001][0][*]/20
                      FC00:172:16:254::3
                                                0    100      0 ?
 *>i                   FC00:172:16:254::3
                                                0    100      0 ?
 * i  [2][172.16.254.3:101][0][48][001101000001][32][10.1.101.11]/24
                      FC00:172:16:254::3
                                                0    100      0 ?
 *>i                   FC00:172:16:254::3
                                                0    100      0 ?
 * i  [2][172.16.254.3:101][0][48][001101000001][128][FD00:10:1:101::11]/36
                      FC00:172:16:254::3
                                                0    100      0 ?
     Network          Next Hop            Metric LocPrf Weight Path
 *>i                   FC00:172:16:254::3
                                                0    100      0 ?
 * i  [2][172.16.254.3:101][0][48][001101000001][128][FD00:10:1:101:211:1FF:FE00:1]/36
                      FC00:172:16:254::3
                                                0    100      0 ?
 *>i                   FC00:172:16:254::3
                                                0    100      0 ?
 * i  [2][172.16.254.3:101][0][48][001101000001][128][FE80::211:1FF:FE00:1]/36
                      FC00:172:16:254::3
                                                0    100      0 ?
 *>i                   FC00:172:16:254::3
                                                0    100      0 ?
 * i  [2][172.16.254.3:101][0][48][682C7B9A5B41][32][10.1.101.1]/24
                      FC00:172:16:254::3
                                                0    100      0 ?
 *>i                   FC00:172:16:254::3
                                                0    100      0 ?
 * i  [2][172.16.254.3:101][0][48][682C7B9A5B41][128][FD00:10:1:101::1]/36
                      FC00:172:16:254::3
                                                0    100      0 ?
 *>i                   FC00:172:16:254::3
     Network          Next Hop            Metric LocPrf Weight Path
                                                0    100      0 ?
Route Distinguisher: 172.16.254.3:102
 * i  [2][172.16.254.3:102][0][48][682C7B9A5B4D][32][10.1.102.1]/24
                      FC00:172:16:254::3
                                                0    100      0 ?
 *>i                   FC00:172:16:254::3
                                                0    100      0 ?
 * i  [2][172.16.254.3:102][0][48][682C7B9A5B4D][128][FD00:10:1:102::1]/36
                      FC00:172:16:254::3
                                                0    100      0 ?
 *>i                   FC00:172:16:254::3
                                                0    100      0 ?
Route Distinguisher: 172.16.254.4:101
 *>i  [2][172.16.254.4:101][0][48][001101000001][0][*]/20
                      FC00:172:16:254::3
                                                0    100      0 ?
 *>i  [2][172.16.254.4:101][0][48][001101000001][32][10.1.101.11]/24
                      FC00:172:16:254::3
                                                0    100      0 ?
 *>i  [2][172.16.254.4:101][0][48][001101000001][128][FD00:10:1:101::11]/36
                      FC00:172:16:254::3
                                                0    100      0 ?
     Network          Next Hop            Metric LocPrf Weight Path
 *>i  [2][172.16.254.4:101][0][48][001101000001][128][FD00:10:1:101:211:1FF:FE00:1]/36
                      FC00:172:16:254::3
                                                0    100      0 ?
```

```
 *>i  [2][172.16.254.4:101][0][48][001101000001][128][FE80::211:1FF:FE00:1]/36
                     FC00:172:16:254::3
                                                0    100      0 ?
 *>   [2][172.16.254.4:101][0][48][6026AABD1542][32][10.1.101.1]/24
                     ::                                       32768 ?
 *>   [2][172.16.254.4:101][0][48][6026AABD1542][128][FD00:10:1:101::1]/36
                     ::                                       32768 ?
 *>i  [2][172.16.254.4:101][0][48][682C7B9A5B41][32][10.1.101.1]/24
                     FC00:172:16:254::3
                                                0    100      0 ?
 *>i  [2][172.16.254.4:101][0][48][682C7B9A5B41][128][FD00:10:1:101::1]/36
                     FC00:172:16:254::3
                                                0    100      0 ?
 *>i  [2][172.16.254.4:101][0][48][A03D6EA7E541][32][10.1.101.1]/24
                     FC00:172:16:254::5
                                                0    100      0 ?
 *>i  [2][172.16.254.4:101][0][48][A03D6EA7E541][128][FD00:10:1:101::1]/36
                     FC00:172:16:254::5
     Network          Next Hop            Metric LocPrf Weight Path
                                                0    100      0 ?
Route Distinguisher: 172.16.254.4:102
 *>i  [2][172.16.254.4:102][0][48][001301000001][0][*]/20
                     FC00:172:16:254::5
                                                0    100      0 ?
 *>i  [2][172.16.254.4:102][0][48][001301000001][32][10.1.102.13]/24
                     FC00:172:16:254::5
                                                0    100      0 ?
 *>i  [2][172.16.254.4:102][0][48][001301000001][128][FD00:10:1:102::13]/36
                     FC00:172:16:254::5
                                                0    100      0 ?
 *>i  [2][172.16.254.4:102][0][48][001301000001][128][FD00:10:1:102:213:1FF:FE00:1]/36
                     FC00:172:16:254::5
                                                0    100      0 ?
 *>i  [2][172.16.254.4:102][0][48][001301000001][128][FE80::213:1FF:FE00:1]/36
                     FC00:172:16:254::5
                                                0    100      0 ?
 *>   [2][172.16.254.4:102][0][48][001501000001][0][*]/20
                     ::                                       32768 ?
 *>   [2][172.16.254.4:102][0][48][001501000001][32][10.1.102.12]/24
                     ::                                       32768 ?
     Network          Next Hop            Metric LocPrf Weight Path
 *>   [2][172.16.254.4:102][0][48][001501000001][128][FD00:10:1:102::12]/36
                     ::                                       32768 ?
 *>   [2][172.16.254.4:102][0][48][001501000001][128][FD00:10:1:102:215:1FF:FE00:1]/36
                     ::                                       32768 ?
 *>   [2][172.16.254.4:102][0][48][001501000001][128][FE80::215:1FF:FE00:1]/36
                     ::                                       32768 ?
 *>   [2][172.16.254.4:102][0][48][6026AABD1542][32][10.1.102.1]/24
                     ::                                       32768 ?
 *>   [2][172.16.254.4:102][0][48][6026AABD1542][128][FD00:10:1:102::1]/36
                     ::                                       32768 ?
 *>i  [2][172.16.254.4:102][0][48][682C7B9A5B4D][32][10.1.102.1]/24
                     FC00:172:16:254::3
                                                0    100      0 ?
 *>i  [2][172.16.254.4:102][0][48][682C7B9A5B4D][128][FD00:10:1:102::1]/36
                     FC00:172:16:254::3
                                                0    100      0 ?
 *>i  [2][172.16.254.4:102][0][48][A03D6EA7E54D][32][10.1.102.1]/24
                     FC00:172:16:254::5
                                                0    100      0 ?
 *>i  [2][172.16.254.4:102][0][48][A03D6EA7E54D][128][FD00:10:1:102::1]/36
                     FC00:172:16:254::5
     Network          Next Hop            Metric LocPrf Weight Path
                                                0    100      0 ?
```

```
Route Distinguisher: 172.16.254.5:101
 * i  [2][172.16.254.5:101][0][48][A03D6EA7E541][32][10.1.101.1]/24
                      FC00:172:16:254::5
                                                0    100      0 ?
 *>i                   FC00:172:16:254::5
                                                0    100      0 ?
 * i  [2][172.16.254.5:101][0][48][A03D6EA7E541][128][FD00:10:1:101::1]/36
                      FC00:172:16:254::5
                                                0    100      0 ?
 *>i                   FC00:172:16:254::5
                                                0    100      0 ?
Route Distinguisher: 172.16.254.5:102
 *>i  [2][172.16.254.5:102][0][48][001301000001][0][*]/20
                      FC00:172:16:254::5
                                                0    100      0 ?
 * i                   FC00:172:16:254::5
                                                0    100      0 ?
 * i  [2][172.16.254.5:102][0][48][001301000001][32][10.1.102.13]/24
                      FC00:172:16:254::5
                                                0    100      0 ?
 *>i                   FC00:172:16:254::5
    Network           Next Hop            Metric LocPrf Weight Path
                                                0    100      0 ?
 * i  [2][172.16.254.5:102][0][48][001301000001][128][FD00:10:1:102::13]/36
                      FC00:172:16:254::5
                                                0    100      0 ?
 *>i                   FC00:172:16:254::5
                                                0    100      0 ?
 * i  [2][172.16.254.5:102][0][48][001301000001][128][FD00:10:1:102:213:1FF:FE00:1]/36
                      FC00:172:16:254::5
                                                0    100      0 ?
 *>i                   FC00:172:16:254::5
                                                0    100      0 ?
 * i  [2][172.16.254.5:102][0][48][001301000001][128][FE80::213:1FF:FE00:1]/36
                      FC00:172:16:254::5
                                                0    100      0 ?
 *>i                   FC00:172:16:254::5
                                                0    100      0 ?
 * i  [2][172.16.254.5:102][0][48][A03D6EA7E54D][32][10.1.102.1]/24
                      FC00:172:16:254::5
                                                0    100      0 ?
 *>i                   FC00:172:16:254::5
                                                0    100      0 ?
    Network           Next Hop            Metric LocPrf Weight Path
 * i  [2][172.16.254.5:102][0][48][A03D6EA7E54D][128][FD00:10:1:102::1]/36
                      FC00:172:16:254::5
                                                0    100      0 ?
 *>i                   FC00:172:16:254::5
                                                0    100      0 ?
Route Distinguisher: 1001:1 (default for vrf red)
 *>   [5][1001:1][0][24][10.1.101.0]/17
                      0.0.0.0                   0         32768 ?
 *>   [5][1001:1][0][24][10.1.102.0]/17
                      0.0.0.0                   0         32768 ?
 *>   [5][1001:1][0][32][10.2.254.255]/17
                      0.0.0.0                   0         32768 ?
 *>   [5][1001:1][0][64][FD00:10:1:101::]/29
                      ::                        0         32768 ?
 *>   [5][1001:1][0][64][FD00:10:1:102::]/29
                      ::                        0         32768 ?
 *>   [5][1001:1][0][128][FC00:2:254::255]/29
                      ::                        0         32768 ?
Route Distinguisher: 1002:1
 * i  [5][1002:1][0][24][10.1.101.0]/17
```

```
                     FC00:172:16:254::3
                                                       0    100      0 ?
    Network          Next Hop            Metric LocPrf Weight Path
 *>i                  FC00:172:16:254::3
                                                       0    100      0 ?
 * i  [5][1002:1][0][24][10.1.102.0]/17
                     FC00:172:16:254::3
                                                       0    100      0 ?
 *>i                  FC00:172:16:254::3
                                                       0    100      0 ?
 * i  [5][1002:1][0][32][10.2.253.255]/17
                     FC00:172:16:254::3
                                                       0    100      0 ?
 *>i                  FC00:172:16:254::3
                                                       0    100      0 ?
 * i  [5][1002:1][0][64][FD00:10:1:101::]/29
                     FC00:172:16:254::3
                                                       0    100      0 ?
 *>i                  FC00:172:16:254::3
                                                       0    100      0 ?
 * i  [5][1002:1][0][64][FD00:10:1:102::]/29
                     FC00:172:16:254::3
                                                       0    100      0 ?
 *>i                  FC00:172:16:254::3
                                                       0    100      0 ?
    Network          Next Hop            Metric LocPrf Weight Path
 * i  [5][1002:1][0][128][FC00:2:253::255]/29
                     FC00:172:16:254::3
                                                       0    100      0 ?
 *>i                  FC00:172:16:254::3
                                                       0    100      0 ?
Route Distinguisher: 1003:1
 * i  [5][1003:1][0][24][10.1.101.0]/17
                     FC00:172:16:254::5
                                                       0    100      0 ?
 *>i                  FC00:172:16:254::5
                                                       0    100      0 ?
 * i  [5][1003:1][0][24][10.1.102.0]/17
                     FC00:172:16:254::5
                                                       0    100      0 ?
 *>i                  FC00:172:16:254::5
                                                       0    100      0 ?
 * i  [5][1003:1][0][32][10.2.255.255]/17
                     FC00:172:16:254::5
                                                       0    100      0 ?
 *>i                  FC00:172:16:254::5
                                                       0    100      0 ?
 * i  [5][1003:1][0][64][FD00:10:1:101::]/29
    Network          Next Hop            Metric LocPrf Weight Path
                     FC00:172:16:254::5
                                                       0    100      0 ?
 *>i                  FC00:172:16:254::5
                                                       0    100      0 ?
 * i  [5][1003:1][0][64][FD00:10:1:102::]/29
                     FC00:172:16:254::5
                                                       0    100      0 ?
 *>i                  FC00:172:16:254::5
                                                       0    100      0 ?
 * i  [5][1003:1][0][128][FC00:2:255::255]/29
                     FC00:172:16:254::5
                                                       0    100      0 ?
 *>i                  FC00:172:16:254::5
                                                       0    100      0 ?
```

```
Leaf-02#
```

The following example shows the output for the **show ip igmp vrf** *vrf-name* **groups** command on VTEP 2:

```
Leaf-02# show ip igmp vrf red groups

IGMP Connected Group Membership
Group Address    Interface              Uptime    Expires   Last Reporter   Group Accounted
226.1.1.1        Vlan102                  00:58:18  00:02:28  10.1.102.12
224.0.1.40       Vlan500                  01:07:17  00:02:16  172.16.254.4


Leaf-02#
```

The following example shows the output for the **show ipv6 mld vrf** *vrf-name* **groups** command on VTEP 2:

```
Leaf-02# show ipv6 mld vrf red groups

MLD Connected Group Membership
Group Address                           Interface
    Uptime    Expires
FF06:1::1                               Vlan102
   00:58:28  00:03:56

Leaf-02#
```

The following example shows the output for the **show ipv6 pim vrf** *vrf-name* **group-map** command on VTEP 2:

```
Leaf-02# show ipv6 pim vrf red group-map ff00::/8

IP PIM Group Mapping Table
(* indicates group mappings being used)

FF00::/8*
    SM, RP: FC00:2:255::255
    RPF: Vl500,FC00:172:16:254::5
    Info source: Static
    Uptime: 18:47:04, Groups: 1
FF00::/8
    SM
    Info source: Default
    Uptime: 2d21h, Groups: 0

Leaf-02#
```

The following example shows the output for the **show ip pim vrf** *vrf-name* **rp mapping** command on VTEP 2:

```
Leaf-02# show ip pim vrf red rp mapping

PIM Group-to-RP Mappings

Group(s): 224.0.0.0/4, Static
    RP: 10.2.255.255 (?)

Leaf-02#
```

The following example shows the output for the **show ipv6 mroute vrf** *vrf-name* command on VTEP 2:

```
Leaf-02# show ipv6 mroute vrf red

Multicast Routing Table
Flags: D - Dense, S - Sparse, B - Bidir Group, s - SSM Group,
       C - Connected, L - Local, I - Received Source Specific Host Report,
       P - Pruned, R - RP-bit set, F - Register flag, T - SPT-bit set,
       J - Join SPT, Y - Joined MDT-data group,
       y - Sending to MDT-data group
       g - BGP signal originated, G - BGP Signal received,
       N - BGP Shared-Tree Prune received, n - BGP C-Mroute suppressed,
       q - BGP Src-Active originated, Q - BGP Src-Active received
       E - Extranet
Timers: Uptime/Expires
Interface state: Interface, State

(*, FF06:1::1), 00:50:43/never, RP FC00:2:255::255, flags: SCJg
  Incoming interface: Vlan500
  RPF nbr: FC00:172:16:254::5
  Immediate Outgoing interface list:
    Vlan102, Forward, 00:50:43/never

(FD00:10:1:101::11, FF06:1::1), 00:49:55/00:01:16, flags: SJTgQ
  Incoming interface: Vlan500
  RPF nbr: FC00:172:16:254::3
  Immediate Outgoing interface list:
    Vlan102, Forward, 00:49:55/never

Leaf-02#
```

The following example shows the output for the **show ip mroute vrf** *vrf-name* command on VTEP 2:

```
Leaf-02# show ip mroute vrf red

IP Multicast Routing Table
Flags: D - Dense, S - Sparse, B - Bidir Group, s - SSM Group, C - Connected,
       L - Local, P - Pruned, R - RP-bit set, F - Register flag,
       T - SPT-bit set, J - Join SPT, M - MSDP created entry, E - Extranet,
       X - Proxy Join Timer Running, A - Candidate for MSDP Advertisement,
       U - URD, I - Received Source Specific Host Report,
       Z - Multicast Tunnel, z - MDT-data group sender,
       Y - Joined MDT-data group, y - Sending to MDT-data group,
       G - Received BGP C-Mroute, g - Sent BGP C-Mroute,
       N - Received BGP Shared-Tree Prune, n - BGP C-Mroute suppressed,
       Q - Received BGP S-A Route, q - Sent BGP S-A Route,
       V - RD & Vector, v - Vector, p - PIM Joins on route,
       x - VxLAN group, c - PFP-SA cache created entry,
       * - determined by Assert, # - iif-starg configured on rpf intf,
       e - encap-helper tunnel flag, l - LISP decap ref count contributor
Outgoing interface flags: H - Hardware switched, A - Assert winner, p - PIM Join
                          t - LISP transit group
 Timers: Uptime/Expires
 Interface state: Interface, Next-Hop or VCD, State/Mode

(*, 226.1.1.1), 00:50:51/stopped, RP 10.2.255.255, flags: SJCg
  Incoming interface: Vlan500, RPF nbr FC00:172:16:254::5
  Outgoing interface list:
    Vlan102, Forward/Sparse, 00:50:51/00:02:50, flags:
```

```
(10.1.101.11, 226.1.1.1), 00:50:00/00:02:52, flags: TgQ
  Incoming interface: Vlan500, RPF nbr FC00:172:16:254::3
  Outgoing interface list:
    Vlan102, Forward/Sparse, 00:50:00/00:02:50, flags:

(*, 224.0.1.40), 01:05:09/00:02:47, RP 10.2.255.255, flags: SJPCLgx
  Incoming interface: Vlan500, RPF nbr FC00:172:16:254::5
  Outgoing interface list: Null

Leaf-02#
```

The following example shows the output for the **show ipv6 mfib vrf** *vrf-name* command on VTEP 2:

```
Leaf-02# show ipv6 mfib vrf red

Entry Flags:    C - Directly Connected, S - Signal, IA - Inherit A flag,
                ET - Data Rate Exceeds Threshold, K - Keepalive
                DDE - Data Driven Event, HW - Hardware Installed
                ME - MoFRR ECMP entry, MNE - MoFRR Non-ECMP entry, MP - MFIB
                MoFRR Primary, RP - MRIB MoFRR Primary, P - MoFRR Primary
                MS  - MoFRR  Entry in Sync, MC - MoFRR entry in MoFRR Client,
                e   - Encap helper tunnel flag.
I/O Item Flags: IC - Internal Copy, NP - Not platform switched,
                NS - Negate Signalling, SP - Signal Present,
                A - Accept, F - Forward, RA - MRIB Accept, RF - MRIB Forward,
                MA - MFIB Accept, A2 - Accept backup,
                RA2 - MRIB Accept backup, MA2 - MFIB Accept backup

Forwarding Counts: Pkt Count/Pkts per second/Avg Pkt Size/Kbits per second
Other counts:      Total/RPF failed/Other drops
I/O Item Counts:   HW Pkt Count/FS Pkt Count/PS Pkt Count   Egress Rate in pps
VRF red
 (*,FF00::/8) Flags: C HW
   SW Forwarding: 0/0/0/0, Other: 6/6/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FF00::/15) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FF02::/16) Flags:
   SW Forwarding: 0/0/0/0, Other: 0/0/0
 (*,FF06:1::1) Flags: C HW
   SW Forwarding: 0/0/0/0, Other: 1/1/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
   Vlan500, VXLAN v6 Decap Flags: A NS
   Vlan102 Flags: F NS
     Pkts: 0/0/0    Rate: 0 pps
 (FD00:10:1:101::11,FF06:1::1) Flags: HW
   SW Forwarding: 1/0/42/0, Other: 1/1/0
   HW Forwarding:   299775/100/68/53, Other: 0/0/0
   Vlan500, VXLAN v6 Decap Flags: A
   Vlan102 Flags: F NS
     Pkts: 0/0/1    Rate: 0 pps
 (*,FF10::/15) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FF12::/16) Flags:
   SW Forwarding: 0/0/0/0, Other: 0/0/0
 (*,FF20::/15) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FF22::/16) Flags:
   SW Forwarding: 0/0/0/0, Other: 0/0/0
```

```
(*,FF30::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF32::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF33::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF34::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF35::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF36::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF37::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF38::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF39::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3A::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3B::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3C::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3D::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3E::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3F::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF40::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF42::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF50::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF52::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF60::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF62::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF70::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF72::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
```

```
 (*,FF80::/15) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FF82::/16) Flags:
   SW Forwarding: 0/0/0/0, Other: 0/0/0
 (*,FF90::/15) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FF92::/16) Flags:
   SW Forwarding: 0/0/0/0, Other: 0/0/0
 (*,FFA0::/15) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FFA2::/16) Flags:
   SW Forwarding: 0/0/0/0, Other: 0/0/0
 (*,FFB0::/15) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FFB2::/16) Flags:
   SW Forwarding: 0/0/0/0, Other: 0/0/0
 (*,FFC0::/15) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FFC2::/16) Flags:
   SW Forwarding: 0/0/0/0, Other: 0/0/0
 (*,FFD0::/15) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FFD2::/16) Flags:
   SW Forwarding: 0/0/0/0, Other: 0/0/0
 (*,FFE0::/15) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FFE2::/16) Flags:
   SW Forwarding: 0/0/0/0, Other: 0/0/0
 (*,FFF0::/15) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FFF2::/16) Flags:
   SW Forwarding: 0/0/0/0, Other: 0/0/0

Leaf-02#
```

The following example shows the output for the **show ip mfib vrf** *vrf-name* command on VTEP 2:

```
Leaf-02# show ip mfib vrf red

Entry Flags:    C - Directly Connected, S - Signal, IA - Inherit A flag,
                ET - Data Rate Exceeds Threshold, K - Keepalive
                DDE - Data Driven Event, HW - Hardware Installed
                ME - MoFRR ECMP entry, MNE - MoFRR Non-ECMP entry, MP - MFIB
                MoFRR Primary, RP - MRIB MoFRR Primary, P - MoFRR Primary
                MS  - MoFRR  Entry in Sync, MC - MoFRR entry in MoFRR Client,
                e   - Encap helper tunnel flag.
I/O Item Flags: IC - Internal Copy, NP - Not platform switched,
                NS - Negate Signalling, SP - Signal Present,
                A - Accept, F - Forward, RA - MRIB Accept, RF - MRIB Forward,
                MA - MFIB Accept, A2 - Accept backup,
                RA2 - MRIB Accept backup, MA2 - MFIB Accept backup

Forwarding Counts: Pkt Count/Pkts per second/Avg Pkt Size/Kbits per second
Other counts:      Total/RPF failed/Other drops
I/O Item Counts:   HW Pkt Count/FS Pkt Count/PS Pkt Count   Egress Rate in pps
```

```
VRF red
 (*,224.0.0.0/4) Flags: C HW
   SW Forwarding: 0/0/0/0, Other: 11/11/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,224.0.1.40) Flags: C HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
   Vlan500, VXLAN Decap Flags: A IC NS
 (*,226.1.1.1) Flags: C HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
   Vlan500, VXLAN Decap Flags: A NS
   Vlan102 Flags: F NS
     Pkts: 0/0/0    Rate: 0 pps
 (10.1.101.11,226.1.1.1) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   300778/100/68/53, Other: 0/0/0
   Vlan500, VXLAN Decap Flags: A
   Vlan102 Flags: F NS
     Pkts: 0/0/0    Rate: 0 pps
 (*,232.0.0.0/8) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0

Leaf-02#
```

The following example shows the output for the **show ipv6 mroute** command on VTEP 2:

```
Leaf-02# show ipv6 mroute

Multicast Routing Table
Flags: D - Dense, S - Sparse, B - Bidir Group, s - SSM Group,
       C - Connected, L - Local, I - Received Source Specific Host Report,
       P - Pruned, R - RP-bit set, F - Register flag, T - SPT-bit set,
       J - Join SPT, Y - Joined MDT-data group,
       y - Sending to MDT-data group
       g - BGP signal originated, G - BGP Signal received,
       N - BGP Shared-Tree Prune received, n - BGP C-Mroute suppressed,
       q - BGP Src-Active originated, Q - BGP Src-Active received
       E - Extranet
Timers: Uptime/Expires
Interface state: Interface, State

(*, FF07::9), 19:38:47/never, RP FC00:172:16:255::255, flags: SCJ
  Incoming interface: GigabitEthernet1/0/1
  RPF nbr: FE80::ED0:F8FF:FE32:F4D6
  Immediate Outgoing interface list:
    Tunnel0, Forward, 19:38:47/never

(FC00:172:16:254::3, FF07::9), 00:58:14/00:00:16, flags: SJT
  Incoming interface: GigabitEthernet1/0/41
  RPF nbr: FE80::8AFC:5DFF:FEED:6FD0
  Inherited Outgoing interface list:
    Tunnel0, Forward, 19:38:47/never

(*, FF0E::11), 19:38:47/never, RP FC00:172:16:255::255, flags: SCJ
  Incoming interface: GigabitEthernet1/0/1
  RPF nbr: FE80::ED0:F8FF:FE32:F4D6
  Immediate Outgoing interface list:
    Tunnel0, Forward, 19:38:47/never

(FC00:172:16:254::3, FF0E::11), 03:22:27/00:02:00, flags: SJT
  Incoming interface: GigabitEthernet1/0/41
```

```
  RPF nbr: FE80::8AFC:5DFF:FEED:6FD0
  Inherited Outgoing interface list:
    Tunnel0, Forward, 19:38:47/never

(FC00:172:16:254::4, FF0E::11), 18:22:48/00:02:56, flags: SFJT
  Incoming interface: Loopback1
  RPF nbr: FE80::6226:AAFF:FEBD:1540
  Immediate Outgoing interface list:
    GigabitEthernet1/0/1, Forward, 18:04:30/00:03:19
  Inherited Outgoing interface list:
    Tunnel0, Forward, 19:38:47/never

(FC00:172:16:254::5, FF0E::11), 01:15:15/00:03:28, flags: SJT
  Incoming interface: GigabitEthernet1/0/1
  RPF nbr: FE80::ED0:F8FF:FE32:F4D6
  Inherited Outgoing interface list:
    Tunnel0, Forward, 19:38:47/never

(*, FF0E::12), 18:18:38/never, RP FC00:172:16:255::255, flags: SCJ
  Incoming interface: GigabitEthernet1/0/1
  RPF nbr: FE80::ED0:F8FF:FE32:F4D6
  Immediate Outgoing interface list:
    Tunnel0, Forward, 18:18:38/never

(FC00:172:16:254::3, FF0E::12), 00:27:06/00:02:48, flags: SJT
  Incoming interface: GigabitEthernet1/0/41
  RPF nbr: FE80::8AFC:5DFF:FEED:6FD0
  Inherited Outgoing interface list:
    Tunnel0, Forward, 18:18:38/never

(FC00:172:16:254::4, FF0E::12), 18:17:05/00:00:24, flags: SFJT
  Incoming interface: Loopback1
  RPF nbr: FE80::6226:AAFF:FEBD:1540
  Immediate Outgoing interface list:
    GigabitEthernet1/0/1, Forward, 18:05:39/00:03:19
  Inherited Outgoing interface list:
    Tunnel0, Forward, 18:18:38/never

(FC00:172:16:254::5, FF0E::12), 02:17:21/00:00:25, flags: SJT
  Incoming interface: GigabitEthernet1/0/1
  RPF nbr: FE80::ED0:F8FF:FE32:F4D6
  Inherited Outgoing interface list:
    Tunnel0, Forward, 18:18:38/never

Leaf-02#
```

The following example shows the output for the **show ipv6 mfib** command on VTEP 2:

```
Leaf-02# show ipv6 mfib

Entry Flags:    C - Directly Connected, S - Signal, IA - Inherit A flag,
                ET - Data Rate Exceeds Threshold, K - Keepalive
                DDE - Data Driven Event, HW - Hardware Installed
                ME - MoFRR ECMP entry, MNE - MoFRR Non-ECMP entry, MP - MFIB
                MoFRR Primary, RP - MRIB MoFRR Primary, P - MoFRR Primary
                MS  - MoFRR  Entry in Sync, MC - MoFRR entry in MoFRR Client,
                e   - Encap helper tunnel flag.
I/O Item Flags: IC - Internal Copy, NP - Not platform switched,
                NS - Negate Signalling, SP - Signal Present,
                A - Accept, F - Forward, RA - MRIB Accept, RF - MRIB Forward,
                MA - MFIB Accept, A2 - Accept backup,
                RA2 - MRIB Accept backup, MA2 - MFIB Accept backup
```

```
Forwarding Counts: Pkt Count/Pkts per second/Avg Pkt Size/Kbits per second
Other counts:      Total/RPF failed/Other drops
I/O Item Counts:   HW Pkt Count/FS Pkt Count/PS Pkt Count   Egress Rate in pps
Default
 (*,FF00::/8) Flags: C HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FF00::/15) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FF02::/16) Flags:
   SW Forwarding: 0/0/0/0, Other: 3/3/0
 (*,FF07::9) Flags: C HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   37/0/129/0, Other: 0/0/0
   GigabitEthernet1/0/1 Flags: A NS
   Tunnel0, VXLAN v6 Decap Flags: F NS
     Pkts: 0/0/0    Rate: 0 pps
 (FC00:172:16:254::3,FF07::9) Flags: HW
   SW Forwarding: 11/0/112/0, Other: 0/0/0
   HW Forwarding:   699491/200/130/203, Other: 0/0/0
   GigabitEthernet1/0/41 Flags: A
   Tunnel0, VXLAN v6 Decap Flags: F NS
     Pkts: 0/0/11    Rate: 0 pps
 (*,FF0E::11) Flags: C HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   72/0/213/0, Other: 0/0/0
   GigabitEthernet1/0/1 Flags: A NS
   Tunnel0, VXLAN v6 Decap Flags: F NS
     Pkts: 0/0/0    Rate: 0 pps
 (FC00:172:16:254::3,FF0E::11) Flags: HW
   SW Forwarding: 2/0/200/0, Other: 0/0/0
   HW Forwarding:   172/0/219/0, Other: 0/0/0
   GigabitEthernet1/0/41 Flags: A
   Tunnel0, VXLAN v6 Decap Flags: F NS
     Pkts: 0/0/2    Rate: 0 pps
 (FC00:172:16:254::4,FF0E::11) Flags: HW
   SW Forwarding: 1/0/174/0, Other: 0/0/0
   HW Forwarding:   915/0/210/0, Other: 0/0/0
   Null0 Flags: A
   GigabitEthernet1/0/1 Flags: F NS
     Pkts: 0/0/0    Rate: 0 pps
 (FC00:172:16:254::5,FF0E::11) Flags: HW
   SW Forwarding: 1/0/226/0, Other: 0/0/0
   HW Forwarding:   64/0/221/0, Other: 0/0/0
   GigabitEthernet1/0/1 Flags: A
   Tunnel0, VXLAN v6 Decap Flags: F NS
     Pkts: 0/0/1    Rate: 0 pps
 (*,FF0E::12) Flags: C HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   81/0/220/0, Other: 0/0/0
   GigabitEthernet1/0/1 Flags: A NS
   Tunnel0, VXLAN v6 Decap Flags: F NS
     Pkts: 0/0/0    Rate: 0 pps
 (FC00:172:16:254::3,FF0E::12) Flags: HW
   SW Forwarding: 2/0/200/0, Other: 0/0/0
   HW Forwarding:   22/0/222/0, Other: 0/0/0
   GigabitEthernet1/0/41 Flags: A
   Tunnel0, VXLAN v6 Decap Flags: F NS
     Pkts: 0/0/2    Rate: 0 pps
 (FC00:172:16:254::4,FF0E::12) Flags: HW
   SW Forwarding: 1/0/174/0, Other: 0/0/0
   HW Forwarding:   1814/0/184/0, Other: 0/0/0
   Null0 Flags: A
```

```
  GigabitEthernet1/0/1 Flags: F NS
    Pkts: 0/0/0    Rate: 0 pps
(FC00:172:16:254::5,FF0E::12) Flags: HW
  SW Forwarding: 1/0/226/0, Other: 0/0/0
  HW Forwarding:   227/0/196/0, Other: 0/0/0
  GigabitEthernet1/0/1 Flags: A NS
  Tunnel0, VXLAN v6 Decap Flags: F NS
    Pkts: 0/0/1    Rate: 0 pps
(*,FF10::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF12::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF20::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF22::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF30::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF32::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF33::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF34::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF35::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF36::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF37::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF38::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF39::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3A::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3B::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3C::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3D::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3E::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3F::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF40::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
```

```
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FF42::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0
  (*,FF50::/15) Flags: HW
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FF52::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0
  (*,FF60::/15) Flags: HW
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FF62::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0
  (*,FF70::/15) Flags: HW
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FF72::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0
  (*,FF80::/15) Flags: HW
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FF82::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0
  (*,FF90::/15) Flags: HW
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FF92::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0
  (*,FFA0::/15) Flags: HW
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FFA2::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0
  (*,FFB0::/15) Flags: HW
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FFB2::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0
  (*,FFC0::/15) Flags: HW
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FFC2::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0
  (*,FFD0::/15) Flags: HW
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FFD2::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0
  (*,FFE0::/15) Flags: HW
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FFE2::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0
  (*,FFF0::/15) Flags: HW
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FFF2::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0

Leaf-02#
```

Return to Verifying TRM with PIM-SM for IPv4 and IPv6 Multicast Traffic when the RP is Inside the BGP EVPN VXLANv6 Fabric.

Outputs to Verify the Configuration on VTEP 3

The following example shows the output for the **show ipv6 mroute vrf** *vrf-name* command on VTEP 3:

```
Leaf-03# show ipv6 mroute vrf red

Multicast Routing Table
Flags: D - Dense, S - Sparse, B - Bidir Group, s - SSM Group,
       C - Connected, L - Local, I - Received Source Specific Host Report,
       P - Pruned, R - RP-bit set, F - Register flag, T - SPT-bit set,
       J - Join SPT, Y - Joined MDT-data group,
       y - Sending to MDT-data group
       g - BGP signal originated, G - BGP Signal received,
       N - BGP Shared-Tree Prune received, n - BGP C-Mroute suppressed,
       q - BGP Src-Active originated, Q - BGP Src-Active received
       E - Extranet
Timers: Uptime/Expires
Interface state: Interface, State

(*, FF06:1::1), 01:00:53/never, RP FC00:2:255::255, flags: SCJG
  Incoming interface: Tunnel7
  RPF nbr: FC00:2:255::255
  Immediate Outgoing interface list:
    Vlan102, Forward, 01:00:53/never
    Vlan500, Forward, 01:00:46/never

(FD00:10:1:101::11, FF06:1::1), 00:59:58/00:03:19, flags: SJTg
  Incoming interface: Vlan500
  RPF nbr: FC00:172:16:254::3
  Immediate Outgoing interface list:
    Vlan102, Forward, 00:59:57/never

Leaf-03#
```

The following example shows the output for the **show ip mroute vrf** *vrf-name* command on VTEP 3:

```
Leaf-03# show ip mroute vrf red

IP Multicast Routing Table
Flags: D - Dense, S - Sparse, B - Bidir Group, s - SSM Group, C - Connected,
       L - Local, P - Pruned, R - RP-bit set, F - Register flag,
       T - SPT-bit set, J - Join SPT, M - MSDP created entry, E - Extranet,
       X - Proxy Join Timer Running, A - Candidate for MSDP Advertisement,
       U - URD, I - Received Source Specific Host Report,
       Z - Multicast Tunnel, z - MDT-data group sender,
       Y - Joined MDT-data group, y - Sending to MDT-data group,
       G - Received BGP C-Mroute, g - Sent BGP C-Mroute,
       N - Received BGP Shared-Tree Prune, n - BGP C-Mroute suppressed,
       Q - Received BGP S-A Route, q - Sent BGP S-A Route,
       V - RD & Vector, v - Vector, p - PIM Joins on route,
       x - VxLAN group, c - PFP-SA cache created entry,
       * - determined by Assert, # - iif-starg configured on rpf intf,
       e - encap-helper tunnel flag, l - LISP decap ref count contributor
Outgoing interface flags: H - Hardware switched, A - Assert winner, p - PIM Join
                          t - LISP transit group
 Timers: Uptime/Expires
 Interface state: Interface, Next-Hop or VCD, State/Mode

(*, 226.1.1.1), 01:00:55/stopped, RP 10.2.255.255, flags: SJCGx
  Incoming interface: Null, RPF nbr 0.0.0.0
```

```
  Outgoing interface list:
    Vlan500, VXLAN v6 Encap: (50002, FF07::9), Forward/Sparse, 01:00:52/stopped, flags:
    Vlan102, Forward/Sparse, 01:00:55/00:02:49, flags:

(10.1.101.11, 226.1.1.1), 01:00:02/00:02:17, flags: Tgx
  Incoming interface: Vlan500, RPF nbr FC00:172:16:254::3
  Outgoing interface list:
    Vlan102, Forward/Sparse, 01:00:02/00:02:49, flags:

(*, 224.0.1.40), 01:14:55/00:02:40, RP 10.2.255.255, flags: SJCLGx
  Incoming interface: Null, RPF nbr 0.0.0.0
  Outgoing interface list:
    Loopback2, Forward/Sparse, 01:14:55/00:02:40, flags:
    Vlan500, VXLAN v6 Encap: (50002, FF07::9), Forward/Sparse, 01:09:51/stopped, flags:

Leaf-03#
```

The following example shows the output for the **show ipv6 mfib vrf** *vrf-name* command on VTEP 3:

```
Leaf-03# show ipv6 mfib vrf red

Entry Flags:    C - Directly Connected, S - Signal, IA - Inherit A flag,
                ET - Data Rate Exceeds Threshold, K - Keepalive
                DDE - Data Driven Event, HW - Hardware Installed
                ME - MoFRR ECMP entry, MNE - MoFRR Non-ECMP entry, MP - MFIB
                MoFRR Primary, RP - MRIB MoFRR Primary, P - MoFRR Primary
                MS  - MoFRR  Entry in Sync, MC - MoFRR entry in MoFRR Client,
                e   - Encap helper tunnel flag.
I/O Item Flags: IC - Internal Copy, NP - Not platform switched,
                NS - Negate Signalling, SP - Signal Present,
                A - Accept, F - Forward, RA - MRIB Accept, RF - MRIB Forward,
                MA - MFIB Accept, A2 - Accept backup,
                RA2 - MRIB Accept backup, MA2 - MFIB Accept backup

Forwarding Counts: Pkt Count/Pkts per second/Avg Pkt Size/Kbits per second
Other counts:      Total/RPF failed/Other drops
I/O Item Counts:   HW Pkt Count/FS Pkt Count/PS Pkt Count   Egress Rate in pps
VRF red
 (*,FF00::/8) Flags: C HW
   SW Forwarding: 0/0/0/0, Other: 6/6/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
   Tunnel7 Flags: NS NP
 (*,FF00::/15) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FF02::/16) Flags:
   SW Forwarding: 0/0/0/0, Other: 1/1/0
 (*,FF06:1::1) Flags: C HW
   SW Forwarding: 4/0/42/0, Other: 1/1/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
   Tunnel7 Flags: A NS NP
   Vlan102 Flags: F NS
     Pkts: 0/0/4    Rate: 0 pps
   Vlan500, VXLAN v6 Encap (50002, FF07::9) Flags: F
     Pkts: 0/0/4    Rate: 0 pps
 (FD00:10:1:101::11,FF06:1::1) Flags: HW
   SW Forwarding: 6/0/42/0, Other: 1/1/0
   HW Forwarding:   360563/101/68/53, Other: 0/0/0
   Vlan500, VXLAN v6 Decap Flags: A
   Vlan102 Flags: F NS
     Pkts: 0/0/6    Rate: 0 pps
 (*,FF10::/15) Flags: HW
```

```
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF12::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF20::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF22::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF30::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF32::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF33::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF34::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF35::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF36::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF37::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF38::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF39::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3A::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3B::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3C::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3D::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3E::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3F::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF40::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF42::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF50::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF52::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF60::/15) Flags: HW
```

```
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FF62::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0
  (*,FF70::/15) Flags: HW
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FF72::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0
  (*,FF80::/15) Flags: HW
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FF82::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0
  (*,FF90::/15) Flags: HW
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FF92::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0
  (*,FFA0::/15) Flags: HW
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FFA2::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0
  (*,FFB0::/15) Flags: HW
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FFB2::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0
  (*,FFC0::/15) Flags: HW
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FFC2::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0
  (*,FFD0::/15) Flags: HW
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FFD2::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0
  (*,FFE0::/15) Flags: HW
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FFE2::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0
  (*,FFF0::/15) Flags: HW
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FFF2::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0

Leaf-03#
```

The following example shows the output for the **show ip mfib vrf** *vrf-name* command on VTEP 3:

```
Leaf-03# show ip mfib vrf red

Entry Flags:    C - Directly Connected, S - Signal, IA - Inherit A flag,
                ET - Data Rate Exceeds Threshold, K - Keepalive
                DDE - Data Driven Event, HW - Hardware Installed
                ME - MoFRR ECMP entry, MNE - MoFRR Non-ECMP entry, MP - MFIB
                MoFRR Primary, RP - MRIB MoFRR Primary, P - MoFRR Primary
                MS  - MoFRR  Entry in Sync, MC - MoFRR entry in MoFRR Client,
                e   - Encap helper tunnel flag.
```

```
I/O Item Flags: IC - Internal Copy, NP - Not platform switched,
                NS - Negate Signalling, SP - Signal Present,
                A - Accept, F - Forward, RA - MRIB Accept, RF - MRIB Forward,
                MA - MFIB Accept, A2 - Accept backup,
                RA2 - MRIB Accept backup, MA2 - MFIB Accept backup

Forwarding Counts: Pkt Count/Pkts per second/Avg Pkt Size/Kbits per second
Other counts:      Total/RPF failed/Other drops
I/O Item Counts:   HW Pkt Count/FS Pkt Count/PS Pkt Count   Egress Rate in pps
VRF red
 (*,224.0.0.0/4) Flags: C HW
   SW Forwarding: 0/0/0/0, Other: 74/74/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,224.0.1.40) Flags: C HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
   Tunnel5 Flags: A NP
   Loopback2 Flags: F IC NS
     Pkts: 0/0/0    Rate: 0 pps
   Vlan500, VXLAN v6 Encap (50002, FF07::9) Flags: F
     Pkts: 0/0/0    Rate: 0 pps
 (*,226.1.1.1) Flags: C HW
   SW Forwarding: 4/0/42/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
   Tunnel5 Flags: A NP
   Vlan102 Flags: F NS
     Pkts: 0/0/4    Rate: 0 pps
   Vlan500, VXLAN v6 Encap (50002, FF07::9) Flags: F
     Pkts: 0/0/4    Rate: 0 pps
 (10.1.101.11,226.1.1.1) Flags: HW
   SW Forwarding: 6/0/42/0, Other: 0/0/0
   HW Forwarding:   361553/99/68/52, Other: 0/0/0
   Vlan500, VXLAN Decap Flags: A
   Vlan102 Flags: F NS
     Pkts: 0/0/6    Rate: 0 pps

Leaf-03#
```

The following example shows the output for the **show bgp ipv6 mvpn all** command on VTEP 3:

```
Leaf-03# show bgp ipv6 mvpn all

BGP table version is 59208, local router ID is 3.3.3.3
Status codes: s suppressed, d damped, h history, * valid, > best, i - internal,
              r RIB-failure, S Stale, m multipath, b backup-path, f RT-Filter,
              x best-external, a additional-path, c RIB-compressed,
              t secondary path, L long-lived-stale,
Origin codes: i - IGP, e - EGP, ? - incomplete
RPKI validation codes: V valid, I invalid, N Not found

     Network          Next Hop            Metric LocPrf Weight Path
Route Distinguisher: 1002:1
 * i  [5][1002:1][FD00:10:1:101::11][FF06:1::1]/42
                      FC00:172:16:255::3
                                                0    100      0 ?
 *>i                   FC00:172:16:255::3
                                                0    100      0 ?
Route Distinguisher: 1003:1 (default for vrf red)
 *>i  [5][1003:1][FD00:10:1:101::11][FF06:1::1]/42
                      FC00:172:16:255::3
                                                0    100      0 ?
 * i  [6][1003:1][1001][FC00:2:255::255][FF06:1::1]/46
                      FC00:172:16:255::4
```

```
                                                    0    100      0 ?
 *>i                   FC00:172:16:255::4
     Network          Next Hop            Metric LocPrf Weight Path
                                                    0    100      0 ?
Route Distinguisher: 172.16.254.3:101
 *>   [7][172.16.254.3:101][1001][FD00:10:1:101::11][FF06:1::1]/46
                       ::                                32768 ?

Leaf-03#
```

The following example shows the output for the **show bgp ipv4 mvpn all** command on VTEP 3:

```
Leaf-03# show bgp ipv4 mvpn all

BGP table version is 129748, local router ID is 3.3.3.3
Status codes: s suppressed, d damped, h history, * valid, > best, i - internal,
              r RIB-failure, S Stale, m multipath, b backup-path, f RT-Filter,
              x best-external, a additional-path, c RIB-compressed,
              t secondary path, L long-lived-stale,
Origin codes: i - IGP, e - EGP, ? - incomplete
RPKI validation codes: V valid, I invalid, N Not found

     Network          Next Hop            Metric LocPrf Weight Path
Route Distinguisher: 1002:1
 *>i  [5][1002:1][10.1.101.11][226.1.1.1]/18
                      FC00:172:16:255::3
                                                    0    100      0 ?
 * i                    FC00:172:16:255::3
                                                    0    100      0 ?
Route Distinguisher: 1003:1 (default for vrf red)
 *>i  [5][1003:1][10.1.101.11][226.1.1.1]/18
                      FC00:172:16:255::3
                                                    0    100      0 ?
 *>i  [6][1003:1][1001][10.2.255.255/32][224.0.1.40/32]/22
                      FC00:172:16:255::3
                                                    0    100      0 ?
 * i                    FC00:172:16:255::3
     Network          Next Hop            Metric LocPrf Weight Path
                                                    0    100      0 ?
 * i  [6][1003:1][1001][10.2.255.255/32][226.1.1.1/32]/22
                      FC00:172:16:255::4
                                                    0    100      0 ?
 *>i                   FC00:172:16:255::4
                                                    0    100      0 ?
Route Distinguisher: 172.16.254.3:101
 *>   [7][172.16.254.3:101][1001][10.1.101.11/32][226.1.1.1/32]/22
                      0.0.0.0                           32768 ?

Leaf-03#
```

The following example shows the output for the **show ipv6 mroute** command on VTEP 3:

```
Leaf-03# show ipv6 mroute

Multicast Routing Table
Flags: D - Dense, S - Sparse, B - Bidir Group, s - SSM Group,
       C - Connected, L - Local, I - Received Source Specific Host Report,
       P - Pruned, R - RP-bit set, F - Register flag, T - SPT-bit set,
       J - Join SPT, Y - Joined MDT-data group,
       y - Sending to MDT-data group
       g - BGP signal originated, G - BGP Signal received,
       N - BGP Shared-Tree Prune received, n - BGP C-Mroute suppressed,
```

```
       q - BGP Src-Active originated, Q - BGP Src-Active received
       E - Extranet
Timers: Uptime/Expires
Interface state: Interface, State

(*, FF07::9), 20:29:35/never, RP FC00:172:16:255::255, flags: SCJ
  Incoming interface: GigabitEthernet1/0/3
  RPF nbr: FE80::ED0:F8FF:FE32:F4D8
  Immediate Outgoing interface list:
    Tunnel2, Forward, 20:29:35/never

(FC00:172:16:254::3, FF07::9), 01:49:16/00:00:32, flags: SJT
  Incoming interface: GigabitEthernet1/0/3
  RPF nbr: FE80::ED0:F8FF:FE32:F4D8
  Inherited Outgoing interface list:
    Tunnel2, Forward, 20:29:35/never

(*, FF0E::11), 19:10:03/never, RP FC00:172:16:255::255, flags: SCJ
  Incoming interface: GigabitEthernet1/0/3
  RPF nbr: FE80::ED0:F8FF:FE32:F4D8
  Immediate Outgoing interface list:
    Tunnel2, Forward, 19:10:03/never

(FC00:172:16:254::3, FF0E::11), 00:03:21/00:00:08, flags: SJT
  Incoming interface: GigabitEthernet1/0/3
  RPF nbr: FE80::ED0:F8FF:FE32:F4D8
  Inherited Outgoing interface list:
    Tunnel2, Forward, 19:10:03/never

(FC00:172:16:254::4, FF0E::11), 00:18:11/00:02:00, flags: SJT
  Incoming interface: GigabitEthernet1/0/3
  RPF nbr: FE80::ED0:F8FF:FE32:F4D8
  Inherited Outgoing interface list:
    Tunnel2, Forward, 19:10:03/never

(FC00:172:16:254::5, FF0E::11), 19:20:59/00:02:32, flags: SFJT
  Incoming interface: Loopback1
  RPF nbr: FE80::A23D:6EFF:FEA7:E500
  Immediate Outgoing interface list:
    GigabitEthernet1/0/3, Forward, 18:56:43/00:02:38
  Inherited Outgoing interface list:
    Tunnel2, Forward, 19:10:03/never

(*, FF0E::12), 19:09:57/never, RP FC00:172:16:255::255, flags: SCJ
  Incoming interface: GigabitEthernet1/0/3
  RPF nbr: FE80::ED0:F8FF:FE32:F4D8
  Immediate Outgoing interface list:
    Tunnel2, Forward, 19:09:57/never

(FC00:172:16:254::3, FF0E::12), 01:18:59/00:00:49, flags: SJT
  Incoming interface: GigabitEthernet1/0/3
  RPF nbr: FE80::ED0:F8FF:FE32:F4D8
  Inherited Outgoing interface list:
    Tunnel2, Forward, 19:09:57/never

(FC00:172:16:254::4, FF0E::12), 00:02:19/00:01:10, flags: SJT
  Incoming interface: GigabitEthernet1/0/3
  RPF nbr: FE80::ED0:F8FF:FE32:F4D8
  Inherited Outgoing interface list:
    Tunnel2, Forward, 19:09:57/never

(FC00:172:16:254::5, FF0E::12), 19:08:47/00:03:04, flags: SFJT
  Incoming interface: Loopback1
  RPF nbr: FE80::A23D:6EFF:FEA7:E500
```

```
  Immediate Outgoing interface list:
    GigabitEthernet1/0/3, Forward, 18:56:15/00:03:18
  Inherited Outgoing interface list:
    Tunnel2, Forward, 19:09:57/never

Leaf-03#
```

The following example shows the output for the **show ipv6 mfib** command on VTEP 3:

```
Leaf-03# show ipv6 mfib

Entry Flags:    C - Directly Connected, S - Signal, IA - Inherit A flag,
                ET - Data Rate Exceeds Threshold, K - Keepalive
                DDE - Data Driven Event, HW - Hardware Installed
                ME - MoFRR ECMP entry, MNE - MoFRR Non-ECMP entry, MP - MFIB
                MoFRR Primary, RP - MRIB MoFRR Primary, P - MoFRR Primary
                MS  - MoFRR  Entry in Sync, MC - MoFRR entry in MoFRR Client,
                e   - Encap helper tunnel flag.
I/O Item Flags: IC - Internal Copy, NP - Not platform switched,
                NS - Negate Signalling, SP - Signal Present,
                A - Accept, F - Forward, RA - MRIB Accept, RF - MRIB Forward,
                MA - MFIB Accept, A2 - Accept backup,
                RA2 - MRIB Accept backup, MA2 - MFIB Accept backup

Forwarding Counts: Pkt Count/Pkts per second/Avg Pkt Size/Kbits per second
Other counts:      Total/RPF failed/Other drops
I/O Item Counts:   HW Pkt Count/FS Pkt Count/PS Pkt Count   Egress Rate in pps
Default
 (*,FF00::/8) Flags: C HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FF00::/15) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FF02::/16) Flags:
   SW Forwarding: 0/0/0/0, Other: 8/8/0
 (*,FF07::9) Flags: C HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   30/0/129/0, Other: 0/0/0
   GigabitEthernet1/0/3 Flags: A NS
   Tunnel2, VXLAN v6 Decap Flags: F NS
     Pkts: 0/0/0    Rate: 0 pps
 (FC00:172:16:254::3,FF07::9) Flags: HW
   SW Forwarding: 8/0/112/0, Other: 0/0/0
   HW Forwarding:   1543120/202/130/205, Other: 0/0/0
   GigabitEthernet1/0/3 Flags: A
   Tunnel2, VXLAN v6 Decap Flags: F NS
     Pkts: 0/0/8    Rate: 0 pps
 (*,FF0E::11) Flags: C HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   82/0/221/0, Other: 0/0/0
   GigabitEthernet1/0/3 Flags: A NS
   Tunnel2, VXLAN v6 Decap Flags: F NS
     Pkts: 0/0/0    Rate: 0 pps
 (FC00:172:16:254::3,FF0E::11) Flags: HW
   SW Forwarding: 1/0/226/0, Other: 0/0/0
   HW Forwarding:   14/0/221/0, Other: 0/0/0
   GigabitEthernet1/0/3 Flags: A
   Tunnel2, VXLAN v6 Decap Flags: F NS
     Pkts: 0/0/1    Rate: 0 pps
 (FC00:172:16:254::4,FF0E::11) Flags: HW
   SW Forwarding: 2/0/200/0, Other: 0/0/0
   HW Forwarding:   30/0/221/0, Other: 0/0/0
```

```
  GigabitEthernet1/0/3 Flags: A NS
  Tunnel2, VXLAN v6 Decap Flags: F NS
    Pkts: 0/0/2    Rate: 0 pps
(FC00:172:16:254::5,FF0E::11) Flags: HW
  SW Forwarding: 1/0/226/0, Other: 0/0/0
  HW Forwarding:   980/0/209/0, Other: 0/0/0
  Null0 Flags: A NS
  GigabitEthernet1/0/3 Flags: F NS
    Pkts: 0/0/0    Rate: 0 pps
(*,FF0E::12) Flags: C HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   56/0/212/0, Other: 0/0/0
  GigabitEthernet1/0/3 Flags: A NS
  Tunnel2, VXLAN v6 Decap Flags: F NS
    Pkts: 0/0/0    Rate: 0 pps
(FC00:172:16:254::3,FF0E::12) Flags: HW
  SW Forwarding: 1/0/226/0, Other: 0/0/0
  HW Forwarding:   80/0/222/0, Other: 0/0/0
  GigabitEthernet1/0/3 Flags: A
  Tunnel2, VXLAN v6 Decap Flags: F NS
    Pkts: 0/0/1    Rate: 0 pps
(FC00:172:16:254::4,FF0E::12) Flags: HW
  SW Forwarding: 1/0/166/0, Other: 0/0/0
  HW Forwarding:   31/0/194/0, Other: 0/0/0
  GigabitEthernet1/0/3 Flags: A
  Tunnel2, VXLAN v6 Decap Flags: F NS
    Pkts: 0/0/1    Rate: 0 pps
(FC00:172:16:254::5,FF0E::12) Flags: HW
  SW Forwarding: 1/0/174/0, Other: 0/0/0
  HW Forwarding:   1945/0/184/0, Other: 0/0/0
  Null0 Flags: A
  GigabitEthernet1/0/3 Flags: F NS
    Pkts: 0/0/0    Rate: 0 pps
(*,FF10::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF12::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF20::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF22::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF30::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF32::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF33::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF34::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF35::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF36::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF37::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF38::/32) Flags: HW
```

```
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF39::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3A::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3B::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3C::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3D::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3E::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3F::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF40::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF42::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF50::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF52::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF60::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF62::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF70::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF72::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF80::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF82::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF90::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF92::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FFA0::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FFA2::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FFB0::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FFB2::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FFC0::/15) Flags: HW
```

```
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FFC2::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0
  (*,FFD0::/15) Flags: HW
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FFD2::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0
  (*,FFE0::/15) Flags: HW
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FFE2::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0
  (*,FFF0::/15) Flags: HW
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FFF2::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0

Leaf-03#
```

The following example shows the output for the **show bgp l2vpn evpn all** command on VTEP 3:

```
Leaf-03# show bgp l2vpn evpn all

BGP table version is 2252, local router ID is 3.3.3.3
Status codes: s suppressed, d damped, h history, * valid, > best, i - internal,
              r RIB-failure, S Stale, m multipath, b backup-path, f RT-Filter,
              x best-external, a additional-path, c RIB-compressed,
              t secondary path, L long-lived-stale,
Origin codes: i - IGP, e - EGP, ? - incomplete
RPKI validation codes: V valid, I invalid, N Not found

     Network          Next Hop            Metric LocPrf Weight Path
Route Distinguisher: 172.16.254.3:101
 *>i  [2][172.16.254.3:101][0][48][001101000001][0][*]/20
                      FC00:172:16:254::3
                                                0    100      0 ?
 * i                    FC00:172:16:254::3
                                                0    100      0 ?
 *>i  [2][172.16.254.3:101][0][48][001101000001][32][10.1.101.11]/24
                      FC00:172:16:254::3
                                                0    100      0 ?
 * i                    FC00:172:16:254::3
                                                0    100      0 ?
 *>i  [2][172.16.254.3:101][0][48][001101000001][128][FD00:10:1:101::11]/36
                      FC00:172:16:254::3
                                                0    100      0 ?
     Network          Next Hop            Metric LocPrf Weight Path
 * i                    FC00:172:16:254::3
                                                0    100      0 ?
 * i  [2][172.16.254.3:101][0][48][001101000001][128][FD00:10:1:101:211:1FF:FE00:1]/36
                      FC00:172:16:254::3
                                                0    100      0 ?
 *>i                   FC00:172:16:254::3
                                                0    100      0 ?
 * i  [2][172.16.254.3:101][0][48][001101000001][128][FE80::211:1FF:FE00:1]/36
                      FC00:172:16:254::3
                                                0    100      0 ?
 *>i                   FC00:172:16:254::3
                                                0    100      0 ?
 * i  [2][172.16.254.3:101][0][48][682C7B9A5B41][32][10.1.101.1]/24
```

```
                     FC00:172:16:254::3
                                                    0    100      0 ?
 *>i                  FC00:172:16:254::3
                                                    0    100      0 ?
 * i  [2][172.16.254.3:101][0][48][682C7B9A5B41][128][FD00:10:1:101::1]/36
                     FC00:172:16:254::3
                                                    0    100      0 ?
 *>i                  FC00:172:16:254::3
     Network          Next Hop            Metric LocPrf Weight Path
                                                    0    100      0 ?
Route Distinguisher: 172.16.254.3:102
 * i  [2][172.16.254.3:102][0][48][682C7B9A5B4D][32][10.1.102.1]/24
                     FC00:172:16:254::3
                                                    0    100      0 ?
 *>i                  FC00:172:16:254::3
                                                    0    100      0 ?
 * i  [2][172.16.254.3:102][0][48][682C7B9A5B4D][128][FD00:10:1:102::1]/36
                     FC00:172:16:254::3
                                                    0    100      0 ?
 *>i                  FC00:172:16:254::3
                                                    0    100      0 ?
Route Distinguisher: 172.16.254.4:101
 * i  [2][172.16.254.4:101][0][48][6026AABD1542][32][10.1.101.1]/24
                     FC00:172:16:254::4
                                                    0    100      0 ?
 *>i                  FC00:172:16:254::4
                                                    0    100      0 ?
 * i  [2][172.16.254.4:101][0][48][6026AABD1542][128][FD00:10:1:101::1]/36
                     FC00:172:16:254::4
                                                    0    100      0 ?
 *>i                  FC00:172:16:254::4
     Network          Next Hop            Metric LocPrf Weight Path
                                                    0    100      0 ?
Route Distinguisher: 172.16.254.4:102
 * i  [2][172.16.254.4:102][0][48][001501000001][0][*]/20
                     FC00:172:16:254::4
                                                    0    100      0 ?
 *>i                  FC00:172:16:254::4
                                                    0    100      0 ?
 *>i  [2][172.16.254.4:102][0][48][001501000001][32][10.1.102.12]/24
                     FC00:172:16:254::4
                                                    0    100      0 ?
 * i                  FC00:172:16:254::4
                                                    0    100      0 ?
 *>i  [2][172.16.254.4:102][0][48][001501000001][128][FD00:10:1:102::12]/36
                     FC00:172:16:254::4
                                                    0    100      0 ?
 * i                  FC00:172:16:254::4
                                                    0    100      0 ?
 * i  [2][172.16.254.4:102][0][48][001501000001][128][FD00:10:1:102:215:1FF:FE00:1]/36
                     FC00:172:16:254::4
                                                    0    100      0 ?
 *>i                  FC00:172:16:254::4
     Network          Next Hop            Metric LocPrf Weight Path
                                                    0    100      0 ?
 *>i  [2][172.16.254.4:102][0][48][001501000001][128][FE80::215:1FF:FE00:1]/36
                     FC00:172:16:254::4
                                                    0    100      0 ?
 * i                  FC00:172:16:254::4
                                                    0    100      0 ?
 * i  [2][172.16.254.4:102][0][48][6026AABD1542][32][10.1.102.1]/24
                     FC00:172:16:254::4
                                                    0    100      0 ?
 *>i                  FC00:172:16:254::4
```

```
                                                    0    100      0 ?
 * i  [2][172.16.254.4:102][0][48][6026AABD1542][128][FD00:10:1:102::1]/36
                     FC00:172:16:254::4
                                                    0    100      0 ?
 *>i                  FC00:172:16:254::4
                                                    0    100      0 ?
Route Distinguisher: 172.16.254.5:101
 *>i  [2][172.16.254.5:101][0][48][001101000001][0][*]/20
                     FC00:172:16:254::3
                                                    0    100      0 ?
 *>i  [2][172.16.254.5:101][0][48][001101000001][32][10.1.101.11]/24
                     FC00:172:16:254::3
    Network          Next Hop            Metric LocPrf Weight Path
                                                    0    100      0 ?
 *>i  [2][172.16.254.5:101][0][48][001101000001][128][FD00:10:1:101::11]/36
                     FC00:172:16:254::3
                                                    0    100      0 ?
 *>i  [2][172.16.254.5:101][0][48][001101000001][128][FD00:10:1:101:211:1FF:FE00:1]/36
                     FC00:172:16:254::3
                                                    0    100      0 ?
 *>i  [2][172.16.254.5:101][0][48][001101000001][128][FE80::211:1FF:FE00:1]/36
                     FC00:172:16:254::3
                                                    0    100      0 ?
 *>i  [2][172.16.254.5:101][0][48][6026AABD1542][32][10.1.101.1]/24
                     FC00:172:16:254::4
                                                    0    100      0 ?
 *>i  [2][172.16.254.5:101][0][48][6026AABD1542][128][FD00:10:1:101::1]/36
                     FC00:172:16:254::4
                                                    0    100      0 ?
 *>i  [2][172.16.254.5:101][0][48][682C7B9A5B41][32][10.1.101.1]/24
                     FC00:172:16:254::3
                                                    0    100      0 ?
 *>i  [2][172.16.254.5:101][0][48][682C7B9A5B41][128][FD00:10:1:101::1]/36
                     FC00:172:16:254::3
    Network          Next Hop            Metric LocPrf Weight Path
                                                    0    100      0 ?
 *>   [2][172.16.254.5:101][0][48][A03D6EA7E541][32][10.1.101.1]/24
                     ::                                    32768 ?
 *>   [2][172.16.254.5:101][0][48][A03D6EA7E541][128][FD00:10:1:101::1]/36
                     ::                                    32768 ?
Route Distinguisher: 172.16.254.5:102
 *>   [2][172.16.254.5:102][0][48][001301000001][0][*]/20
                     ::                                    32768 ?
 *>   [2][172.16.254.5:102][0][48][001301000001][32][10.1.102.13]/24
                     ::                                    32768 ?
 *>   [2][172.16.254.5:102][0][48][001301000001][128][FD00:10:1:102::13]/36
                     ::                                    32768 ?
 *>   [2][172.16.254.5:102][0][48][001301000001][128][FD00:10:1:102:213:1FF:FE00:1]/36
                     ::                                    32768 ?
 *>   [2][172.16.254.5:102][0][48][001301000001][128][FE80::213:1FF:FE00:1]/36
                     ::                                    32768 ?
 *>i  [2][172.16.254.5:102][0][48][001501000001][0][*]/20
                     FC00:172:16:254::4
                                                    0    100      0 ?
 *>i  [2][172.16.254.5:102][0][48][001501000001][32][10.1.102.12]/24
                     FC00:172:16:254::4
    Network          Next Hop            Metric LocPrf Weight Path
                                                    0    100      0 ?
 *>i  [2][172.16.254.5:102][0][48][001501000001][128][FD00:10:1:102::12]/36
                     FC00:172:16:254::4
                                                    0    100      0 ?
 *>i  [2][172.16.254.5:102][0][48][001501000001][128][FD00:10:1:102:215:1FF:FE00:1]/36
                     FC00:172:16:254::4
                                                    0    100      0 ?
```

```
 *>i  [2][172.16.254.5:102][0][48][001501000001][128][FE80::215:1FF:FE00:1]/36
                     FC00:172:16:254::4
                                                 0    100      0 ?
 *>i  [2][172.16.254.5:102][0][48][6026AABD1542][32][10.1.102.1]/24
                     FC00:172:16:254::4
                                                 0    100      0 ?
 *>i  [2][172.16.254.5:102][0][48][6026AABD1542][128][FD00:10:1:102::1]/36
                     FC00:172:16:254::4
                                                 0    100      0 ?
 *>i  [2][172.16.254.5:102][0][48][682C7B9A5B4D][32][10.1.102.1]/24
                     FC00:172:16:254::3
                                                 0    100      0 ?
 *>i  [2][172.16.254.5:102][0][48][682C7B9A5B4D][128][FD00:10:1:102::1]/36
                     FC00:172:16:254::3
    Network          Next Hop            Metric LocPrf Weight Path
                                                 0    100      0 ?
 *>   [2][172.16.254.5:102][0][48][A03D6EA7E54D][32][10.1.102.1]/24
                     ::                                    32768 ?
 *>   [2][172.16.254.5:102][0][48][A03D6EA7E54D][128][FD00:10:1:102::1]/36
                     ::                                    32768 ?
Route Distinguisher: 1001:1
 * i  [5][1001:1][0][24][10.1.101.0]/17
                     FC00:172:16:254::4
                                                 0    100      0 ?
 *>i                  FC00:172:16:254::4
                                                 0    100      0 ?
 * i  [5][1001:1][0][24][10.1.102.0]/17
                     FC00:172:16:254::4
                                                 0    100      0 ?
 *>i                  FC00:172:16:254::4
                                                 0    100      0 ?
 *>i  [5][1001:1][0][32][10.2.254.255]/17
                     FC00:172:16:254::4
                                                 0    100      0 ?
 * i                  FC00:172:16:254::4
                                                 0    100      0 ?
 * i  [5][1001:1][0][64][FD00:10:1:101::]/29
    Network          Next Hop            Metric LocPrf Weight Path
                     FC00:172:16:254::4
                                                 0    100      0 ?
 *>i                  FC00:172:16:254::4
                                                 0    100      0 ?
 * i  [5][1001:1][0][64][FD00:10:1:102::]/29
                     FC00:172:16:254::4
                                                 0    100      0 ?
 *>i                  FC00:172:16:254::4
                                                 0    100      0 ?
 *>i  [5][1001:1][0][128][FC00:2:254::255]/29
                     FC00:172:16:254::4
                                                 0    100      0 ?
 * i                  FC00:172:16:254::4
                                                 0    100      0 ?
Route Distinguisher: 1002:1
 * i  [5][1002:1][0][24][10.1.101.0]/17
                     FC00:172:16:254::3
                                                 0    100      0 ?
 *>i                  FC00:172:16:254::3
                                                 0    100      0 ?
 * i  [5][1002:1][0][24][10.1.102.0]/17
                     FC00:172:16:254::3
    Network          Next Hop            Metric LocPrf Weight Path
                                                 0    100      0 ?
 *>i                  FC00:172:16:254::3
                                                 0    100      0 ?
```

```
 *>i  [5][1002:1][0][32][10.2.253.255]/17
                      FC00:172:16:254::3
                                                    0    100      0 ?
 * i                    FC00:172:16:254::3
                                                    0    100      0 ?
 * i  [5][1002:1][0][64][FD00:10:1:101::]/29
                      FC00:172:16:254::3
                                                    0    100      0 ?
 *>i                   FC00:172:16:254::3
                                                    0    100      0 ?
 * i  [5][1002:1][0][64][FD00:10:1:102::]/29
                      FC00:172:16:254::3
                                                    0    100      0 ?
 *>i                   FC00:172:16:254::3
                                                    0    100      0 ?
 *>i  [5][1002:1][0][128][FC00:2:253::255]/29
                      FC00:172:16:254::3
                                                    0    100      0 ?
 * i                    FC00:172:16:254::3
     Network          Next Hop            Metric LocPrf Weight Path
                                                    0    100      0 ?
Route Distinguisher: 1003:1 (default for vrf red)
 *>   [5][1003:1][0][24][10.1.101.0]/17
                      0.0.0.0                  0         32768 ?
 *>   [5][1003:1][0][24][10.1.102.0]/17
                      0.0.0.0                  0         32768 ?
 *>   [5][1003:1][0][32][10.2.255.255]/17
                      0.0.0.0                  0         32768 ?
 *>   [5][1003:1][0][64][FD00:10:1:101::]/29
                      ::                       0         32768 ?
 *>   [5][1003:1][0][64][FD00:10:1:102::]/29
                      ::                       0         32768 ?
 *>   [5][1003:1][0][128][FC00:2:255::255]/29
                      ::                       0         32768 ?

Leaf-03#
```

The following example shows the output for the **show ipv6 pim vrf** *vrf-name* **group-map** command on VTEP 3:

```
Leaf-03# show ipv6 pim vrf red group-map ff00::/8

IP PIM Group Mapping Table
(* indicates group mappings being used)

FF00::/8*
    SM, RP: FC00:2:255::255
    RPF: Tu7,FC00:2:255::255 (us)
    Info source: Static
    Uptime: 19:47:02, Groups: 1
FF00::/8
    SM
    Info source: Default
    Uptime: 4d23h, Groups: 0

Leaf-03#
```

The following example shows the output for the **show ip pim vrf red rp mapping** command on VTEP 3:

```
Leaf-03# show ip pim vrf red rp mapping
```

```
PIM Group-to-RP Mappings

Group(s): 224.0.0.0/4, Static
    RP: 10.2.255.255 (?)

Leaf-03#
```

The following example shows the output for the **show ipv6 mroute** command on VTEP 3:

```
Leaf-03# show ipv6 mroute

Multicast Routing Table
Flags: D - Dense, S - Sparse, B - Bidir Group, s - SSM Group,
       C - Connected, L - Local, I - Received Source Specific Host Report,
       P - Pruned, R - RP-bit set, F - Register flag, T - SPT-bit set,
       J - Join SPT, Y - Joined MDT-data group,
       y - Sending to MDT-data group
       g - BGP signal originated, G - BGP Signal received,
       N - BGP Shared-Tree Prune received, n - BGP C-Mroute suppressed,
       q - BGP Src-Active originated, Q - BGP Src-Active received
       E - Extranet
Timers: Uptime/Expires
Interface state: Interface, State

(*, FF07::9), 20:54:47/never, RP FC00:172:16:255::255, flags: SCJ
  Incoming interface: GigabitEthernet1/0/3
  RPF nbr: FE80::ED0:F8FF:FE32:F4D8
  Immediate Outgoing interface list:
    Tunnel2, Forward, 20:54:47/never

(FC00:172:16:254::3, FF07::9), 02:14:28/00:01:04, flags: SJT
  Incoming interface: GigabitEthernet1/0/3
  RPF nbr: FE80::ED0:F8FF:FE32:F4D8
  Inherited Outgoing interface list:
    Tunnel2, Forward, 20:54:47/never

(*, FF0E::11), 19:35:15/never, RP FC00:172:16:255::255, flags: SCJ
  Incoming interface: GigabitEthernet1/0/3
  RPF nbr: FE80::ED0:F8FF:FE32:F4D8
  Immediate Outgoing interface list:
    Tunnel2, Forward, 19:35:15/never

(FC00:172:16:254::3, FF0E::11), 00:23:34/00:01:04, flags: SJT
  Incoming interface: GigabitEthernet1/0/3
  RPF nbr: FE80::ED0:F8FF:FE32:F4D8
  Inherited Outgoing interface list:
    Tunnel2, Forward, 19:35:15/never

(FC00:172:16:254::4, FF0E::11), 00:43:24/00:01:28, flags: SJT
  Incoming interface: GigabitEthernet1/0/3
  RPF nbr: FE80::ED0:F8FF:FE32:F4D8
  Inherited Outgoing interface list:
    Tunnel2, Forward, 19:35:15/never

(FC00:172:16:254::5, FF0E::11), 19:46:12/00:02:24, flags: SFJT
  Incoming interface: Loopback1
  RPF nbr: FE80::A23D:6EFF:FEA7:E500
  Immediate Outgoing interface list:
    GigabitEthernet1/0/3, Forward, 19:21:55/00:03:25
  Inherited Outgoing interface list:
    Tunnel2, Forward, 19:35:15/never

(*, FF0E::12), 19:35:10/never, RP FC00:172:16:255::255, flags: SCJ
```

```
  Incoming interface: GigabitEthernet1/0/3
  RPF nbr: FE80::ED0:F8FF:FE32:F4D8
  Immediate Outgoing interface list:
    Tunnel2, Forward, 19:35:10/never

(FC00:172:16:254::3, FF0E::12), 01:44:12/00:00:33, flags: SJT
  Incoming interface: GigabitEthernet1/0/3
  RPF nbr: FE80::ED0:F8FF:FE32:F4D8
  Inherited Outgoing interface list:
    Tunnel2, Forward, 19:35:10/never

(FC00:172:16:254::4, FF0E::12), 00:22:54/00:01:20, flags: SJT
  Incoming interface: GigabitEthernet1/0/3
  RPF nbr: FE80::ED0:F8FF:FE32:F4D8
  Inherited Outgoing interface list:
    Tunnel2, Forward, 19:35:10/never

(FC00:172:16:254::5, FF0E::12), 19:33:59/00:02:48, flags: SFJT
  Incoming interface: Loopback1
  RPF nbr: FE80::A23D:6EFF:FEA7:E500
  Immediate Outgoing interface list:
    GigabitEthernet1/0/3, Forward, 19:21:27/00:03:05
  Inherited Outgoing interface list:
    Tunnel2, Forward, 19:35:10/never

Leaf-03#
```

The following example shows the output for the **show ipv6 mfib** command on VTEP 3:

```
Leaf-03# show ipv6 mfib

Entry Flags:    C - Directly Connected, S - Signal, IA - Inherit A flag,
                ET - Data Rate Exceeds Threshold, K - Keepalive
                DDE - Data Driven Event, HW - Hardware Installed
                ME - MoFRR ECMP entry, MNE - MoFRR Non-ECMP entry, MP - MFIB
                MoFRR Primary, RP - MRIB MoFRR Primary, P - MoFRR Primary
                MS  - MoFRR  Entry in Sync, MC - MoFRR entry in MoFRR Client,
                e   - Encap helper tunnel flag.
I/O Item Flags: IC - Internal Copy, NP - Not platform switched,
                NS - Negate Signalling, SP - Signal Present,
                A - Accept, F - Forward, RA - MRIB Accept, RF - MRIB Forward,
                MA - MFIB Accept, A2 - Accept backup,
                RA2 - MRIB Accept backup, MA2 - MFIB Accept backup

Forwarding Counts: Pkt Count/Pkts per second/Avg Pkt Size/Kbits per second
Other counts:      Total/RPF failed/Other drops
I/O Item Counts:   HW Pkt Count/FS Pkt Count/PS Pkt Count   Egress Rate in pps
Default
 (*,FF00::/8) Flags: C HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FF00::/15) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FF02::/16) Flags:
   SW Forwarding: 0/0/0/0, Other: 8/8/0
 (*,FF07::9) Flags: C HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   30/0/129/0, Other: 0/0/0
   GigabitEthernet1/0/3 Flags: A NS
   Tunnel2, VXLAN v6 Decap Flags: F NS
     Pkts: 0/0/0    Rate: 0 pps
 (FC00:172:16:254::3,FF07::9) Flags: HW
```

```
  SW Forwarding: 8/0/112/0, Other: 0/0/0
  HW Forwarding:   1615118/198/130/201, Other: 0/0/0
  GigabitEthernet1/0/3 Flags: A
  Tunnel2, VXLAN v6 Decap Flags: F NS
    Pkts: 0/0/8    Rate: 0 pps
(*,FF0E::11) Flags: C HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   82/0/221/0, Other: 0/0/0
  GigabitEthernet1/0/3 Flags: A NS
  Tunnel2, VXLAN v6 Decap Flags: F NS
    Pkts: 0/0/0    Rate: 0 pps
(FC00:172:16:254::3,FF0E::11) Flags: HW
  SW Forwarding: 1/0/226/0, Other: 0/0/0
  HW Forwarding:   19/0/222/0, Other: 0/0/0
  GigabitEthernet1/0/3 Flags: A
  Tunnel2, VXLAN v6 Decap Flags: F NS
    Pkts: 0/0/1    Rate: 0 pps
(FC00:172:16:254::4,FF0E::11) Flags: HW
  SW Forwarding: 2/0/200/0, Other: 0/0/0
  HW Forwarding:   35/0/221/0, Other: 0/0/0
  GigabitEthernet1/0/3 Flags: A
  Tunnel2, VXLAN v6 Decap Flags: F NS
    Pkts: 0/0/2    Rate: 0 pps
(FC00:172:16:254::5,FF0E::11) Flags: HW
  SW Forwarding: 1/0/226/0, Other: 0/0/0
  HW Forwarding:   985/0/209/0, Other: 0/0/0
  Null0 Flags: A
  GigabitEthernet1/0/3 Flags: F NS
    Pkts: 0/0/0    Rate: 0 pps
(*,FF0E::12) Flags: C HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   56/0/212/0, Other: 0/0/0
  GigabitEthernet1/0/3 Flags: A NS
  Tunnel2, VXLAN v6 Decap Flags: F NS
    Pkts: 0/0/0    Rate: 0 pps
(FC00:172:16:254::3,FF0E::12) Flags: HW
  SW Forwarding: 1/0/226/0, Other: 0/0/0
  HW Forwarding:   85/0/222/0, Other: 0/0/0
  GigabitEthernet1/0/3 Flags: A NS
  Tunnel2, VXLAN v6 Decap Flags: F NS
    Pkts: 0/0/1    Rate: 0 pps
(FC00:172:16:254::4,FF0E::12) Flags: HW
  SW Forwarding: 1/0/166/0, Other: 0/0/0
  HW Forwarding:   42/0/194/0, Other: 0/0/0
  GigabitEthernet1/0/3 Flags: A
  Tunnel2, VXLAN v6 Decap Flags: F NS
    Pkts: 0/0/1    Rate: 0 pps
(FC00:172:16:254::5,FF0E::12) Flags: HW
  SW Forwarding: 1/0/174/0, Other: 0/0/0
  HW Forwarding:   1956/0/184/0, Other: 0/0/0
  Null0 Flags: A
  GigabitEthernet1/0/3 Flags: F NS
    Pkts: 0/0/0    Rate: 0 pps
(*,FF10::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF12::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF20::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF22::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF30::/15) Flags: HW
```

```
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF32::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF33::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF34::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF35::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF36::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF37::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF38::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF39::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3A::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3B::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3C::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3D::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3E::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3F::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF40::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF42::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF50::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF52::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF60::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF62::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF70::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF72::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF80::/15) Flags: HW
```

```
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FF82::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0
  (*,FF90::/15) Flags: HW
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FF92::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0
  (*,FFA0::/15) Flags: HW
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FFA2::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0
  (*,FFB0::/15) Flags: HW
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FFB2::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0
  (*,FFC0::/15) Flags: HW
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FFC2::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0
  (*,FFD0::/15) Flags: HW
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FFD2::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0
  (*,FFE0::/15) Flags: HW
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FFE2::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0
  (*,FFF0::/15) Flags: HW
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FFF2::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0

Leaf-03#
```

Return to Verifying TRM with PIM-SM for IPv4 and IPv6 Multicast Traffic when the RP is Inside the BGP EVPN VXLANv6 Fabric.

Outputs to Verify the Configuration on Spine Switch 1

The following example shows the output for the **show bgp ipv6 mvpn all** command on Spine Switch 1:

```
Spine-01# show bgp ipv6 mvpn all

BGP table version is 17, local router ID is 4.4.4.4
Status codes: s suppressed, d damped, h history, * valid, > best, i - internal,
              r RIB-failure, S Stale, m multipath, b backup-path, f RT-Filter,
              x best-external, a additional-path, c RIB-compressed,
              t secondary path, L long-lived-stale,
Origin codes: i - IGP, e - EGP, ? - incomplete
RPKI validation codes: V valid, I invalid, N Not found

     Network          Next Hop            Metric LocPrf Weight Path
Route Distinguisher: 1002:1
```

```
 *>i  [5][1002:1][FD00:10:1:101::11][FF06:1::1]/42
                      FC00:172:16:255::3
                                                    0    100      0 ?
Route Distinguisher: 1003:1
 *>i  [6][1003:1][1001][FC00:2:255::255][FF06:1::1]/46
                      FC00:172:16:255::4
                                                    0    100      0 ?
Route Distinguisher: 172.16.254.3:101
 *>i  [7][172.16.254.3:101][1001][FD00:10:1:101::11][FF06:1::1]/46
                      FC00:172:16:255::4
                                                    0    100      0 ?
 * i                   FC00:172:16:255::5
                                                    0    100      0 ?

Spine-01#
```

The following example shows the output for the **show bgp ipv4 mvpn all** command on Spine Switch 1:

```
Spine-01# show bgp ipv4 mvpn all

BGP table version is 19, local router ID is 4.4.4.4
Status codes: s suppressed, d damped, h history, * valid, > best, i - internal,
              r RIB-failure, S Stale, m multipath, b backup-path, f RT-Filter,
              x best-external, a additional-path, c RIB-compressed,
              t secondary path, L long-lived-stale,
Origin codes: i - IGP, e - EGP, ? - incomplete
RPKI validation codes: V valid, I invalid, N Not found

     Network          Next Hop            Metric LocPrf Weight Path
Route Distinguisher: 1002:1
 *>i  [5][1002:1][10.1.101.11][226.1.1.1]/18
                      FC00:172:16:255::3
                                                    0    100      0 ?
Route Distinguisher: 1003:1
 * i  [6][1003:1][1001][10.2.255.255/32][224.0.1.40/32]/22
                      FC00:172:16:255::4
                                                    0    100      0 ?
 *>i                  FC00:172:16:255::3
                                                    0    100      0 ?
 *>i  [6][1003:1][1001][10.2.255.255/32][226.1.1.1/32]/22
                      FC00:172:16:255::4
                                                    0    100      0 ?
Route Distinguisher: 172.16.254.3:101
     Network          Next Hop            Metric LocPrf Weight Path
 *>i  [7][172.16.254.3:101][1001][10.1.101.11/32][226.1.1.1/32]/22
                      FC00:172:16:255::4
                                                    0    100      0 ?
 * i                   FC00:172:16:255::5
                                                    0    100      0 ?

Spine-01#
```

The following example shows the output for the **show ipv6 mroute** command on Spine Switch 1:

```
Spine-01# show ipv6 mroute

Multicast Routing Table
Flags: D - Dense, S - Sparse, B - Bidir Group, s - SSM Group,
       C - Connected, L - Local, I - Received Source Specific Host Report,
       P - Pruned, R - RP-bit set, F - Register flag, T - SPT-bit set,
       J - Join SPT, Y - Joined MDT-data group,
```

```
       y - Sending to MDT-data group
       g - BGP signal originated, G - BGP Signal received,
       N - BGP Shared-Tree Prune received, n - BGP C-Mroute suppressed,
       q - BGP Src-Active originated, Q - BGP Src-Active received
       E - Extranet
Timers: Uptime/Expires
Interface state: Interface, State

(*, FF07::9), 15:59:25/00:03:28, RP FC00:172:16:255::255, flags: S
  Incoming interface: Tunnel1
  RPF nbr: FC00:172:16:255::255
  Immediate Outgoing interface list:
    GigabitEthernet1/0/1, Forward, 15:59:25/00:03:14
    GigabitEthernet1/0/3, Forward, 15:59:02/00:03:27
    GigabitEthernet1/0/2, Forward, 15:59:01/00:03:28

(FC00:172:16:254::3, FF07::9), 02:15:27/00:03:29, RP FC00:172:16:255::255, flags: SR
  Incoming interface: Tunnel1
  RPF nbr: FC00:172:16:255::255
  Immediate Outgoing interface list:
    GigabitEthernet1/0/1, Null, 02:15:27/00:03:14
    GigabitEthernet1/0/2, Null, 02:15:26/00:03:28
  Inherited Outgoing interface list:
    GigabitEthernet1/0/3, Forward, 15:59:02/00:03:27

(FC00:172:16:254::3, FF07::9), 02:15:26/00:03:29, flags: S
  Incoming interface: GigabitEthernet1/0/1
  RPF nbr: FE80::6A2C:7BFF:FE9A:5B64
  Immediate Outgoing interface list:
    GigabitEthernet1/0/3, Forward, 02:15:26/00:03:07
  Inherited Outgoing interface list:
    GigabitEthernet1/0/2, Forward, 15:59:01/00:03:28

(*, FF0E::11), 15:59:25/00:03:27, RP FC00:172:16:255::255, flags: S
  Incoming interface: Tunnel1
  RPF nbr: FC00:172:16:255::255
  Immediate Outgoing interface list:
    GigabitEthernet1/0/1, Forward, 15:59:25/00:03:14
    GigabitEthernet1/0/3, Forward, 15:59:02/00:03:27
    GigabitEthernet1/0/2, Forward, 15:59:01/00:02:38

(FC00:172:16:254::3, FF0E::11), 15:59:25/00:02:50, RP FC00:172:16:255::255, flags: SR
  Incoming interface: Tunnel1
  RPF nbr: FC00:172:16:255::255
  Immediate Outgoing interface list:
    GigabitEthernet1/0/1, Null, 15:59:25/00:03:14
    GigabitEthernet1/0/2, Null, 04:39:10/00:02:38
  Inherited Outgoing interface list:
    GigabitEthernet1/0/3, Forward, 15:59:02/00:03:27

(FC00:172:16:254::3, FF0E::11), 15:59:32/00:02:50, flags: ST
  Incoming interface: GigabitEthernet1/0/1
  RPF nbr: FE80::6A2C:7BFF:FE9A:5B64
  Immediate Outgoing interface list:
    GigabitEthernet1/0/3, Forward, 00:24:32/00:02:57
  Inherited Outgoing interface list:
    GigabitEthernet1/0/2, Forward, 15:59:01/00:02:38

(FC00:172:16:254::4, FF0E::11), 15:59:01/00:03:20, RP FC00:172:16:255::255, flags: SR
  Incoming interface: Tunnel1
  RPF nbr: FC00:172:16:255::255
  Immediate Outgoing interface list:
    GigabitEthernet1/0/2, Null, 15:59:01/00:02:38
  Inherited Outgoing interface list:
```

```
    GigabitEthernet1/0/1, Forward, 15:59:25/00:03:14
    GigabitEthernet1/0/3, Forward, 15:59:02/00:03:27

(FC00:172:16:254::4, FF0E::11), 15:59:28/00:03:20, flags: ST
  Incoming interface: GigabitEthernet1/0/2
  RPF nbr: FE80::6226:AAFF:FEBD:1542
  Immediate Outgoing interface list:
    GigabitEthernet1/0/1, Forward, 00:49:51/00:03:14
    GigabitEthernet1/0/3, Forward, 00:44:22/00:03:07

(FC00:172:16:254::5, FF0E::11), 15:59:02/00:02:37, RP FC00:172:16:255::255, flags: SR
  Incoming interface: Tunnel1
  RPF nbr: FC00:172:16:255::255
  Immediate Outgoing interface list:
    GigabitEthernet1/0/3, Null, 15:59:02/00:03:27
  Inherited Outgoing interface list:
    GigabitEthernet1/0/1, Forward, 15:59:25/00:03:14
    GigabitEthernet1/0/2, Forward, 15:59:01/00:02:38

(FC00:172:16:254::5, FF0E::11), 15:59:19/00:02:37, flags: ST
  Incoming interface: GigabitEthernet1/0/3
  RPF nbr: FE80::A23D:6EFF:FEA7:E558
  Immediate Outgoing interface list:
    GigabitEthernet1/0/2, Forward, 01:04:51/00:02:38
  Inherited Outgoing interface list:
    GigabitEthernet1/0/1, Forward, 15:59:25/00:03:14

(*, FF0E::12), 15:59:25/00:03:27, RP FC00:172:16:255::255, flags: S
  Incoming interface: Tunnel1
  RPF nbr: FC00:172:16:255::255
  Immediate Outgoing interface list:
    GigabitEthernet1/0/1, Forward, 15:59:25/00:03:04
    GigabitEthernet1/0/3, Forward, 15:59:02/00:03:27
    GigabitEthernet1/0/2, Forward, 15:58:51/00:02:38

(FC00:172:16:254::3, FF0E::12), 15:59:25/00:03:08, RP FC00:172:16:255::255, flags: SR
  Incoming interface: Tunnel1
  RPF nbr: FC00:172:16:255::255
  Immediate Outgoing interface list:
    GigabitEthernet1/0/1, Null, 15:59:25/00:03:04
    GigabitEthernet1/0/2, Null, 01:43:10/00:02:38
  Inherited Outgoing interface list:
    GigabitEthernet1/0/3, Forward, 15:59:02/00:03:27

(FC00:172:16:254::3, FF0E::12), 15:59:32/00:03:08, flags: ST
  Incoming interface: GigabitEthernet1/0/1
  RPF nbr: FE80::6A2C:7BFF:FE9A:5B64
  Immediate Outgoing interface list:
    GigabitEthernet1/0/3, Forward, 01:45:10/00:03:27
  Inherited Outgoing interface list:
    GigabitEthernet1/0/2, Forward, 15:58:51/00:02:38

(FC00:172:16:254::4, FF0E::12), 15:58:51/00:03:13, RP FC00:172:16:255::255, flags: SR
  Incoming interface: Tunnel1
  RPF nbr: FC00:172:16:255::255
  Immediate Outgoing interface list:
    GigabitEthernet1/0/2, Null, 15:58:51/00:02:38
  Inherited Outgoing interface list:
    GigabitEthernet1/0/1, Forward, 15:59:25/00:03:04
    GigabitEthernet1/0/3, Forward, 15:59:02/00:03:27

(FC00:172:16:254::4, FF0E::12), 15:59:25/00:03:13, flags: ST
  Incoming interface: GigabitEthernet1/0/2
  RPF nbr: FE80::6226:AAFF:FEBD:1542
```

```
  Immediate Outgoing interface list:
    GigabitEthernet1/0/3, Forward, 00:23:52/00:02:37
    GigabitEthernet1/0/1, Forward, 00:23:52/00:03:04

(FC00:172:16:254::5, FF0E::12), 15:59:02/00:03:29, RP FC00:172:16:255::255, flags: SR
  Incoming interface: Tunnel1
  RPF nbr: FC00:172:16:255::255
  Immediate Outgoing interface list:
    GigabitEthernet1/0/3, Null, 15:59:02/00:03:27
  Inherited Outgoing interface list:
    GigabitEthernet1/0/1, Forward, 15:59:25/00:03:04
    GigabitEthernet1/0/2, Forward, 15:58:51/00:02:38

(FC00:172:16:254::5, FF0E::12), 15:59:38/00:03:29, flags: ST
  Incoming interface: GigabitEthernet1/0/3
  RPF nbr: FE80::A23D:6EFF:FEA7:E558
  Immediate Outgoing interface list:
    GigabitEthernet1/0/2, Forward, 01:02:12/00:02:38
    GigabitEthernet1/0/1, Forward, 00:56:03/00:03:04

Spine-01#
```

The following example shows the output for the **show ipv6 mfib** command on Spine Switch 1:

```
Spine-01# show ipv6 mfib

Entry Flags:    C - Directly Connected, S - Signal, IA - Inherit A flag,
                ET - Data Rate Exceeds Threshold, K - Keepalive
                DDE - Data Driven Event, HW - Hardware Installed
                ME - MoFRR ECMP entry, MNE - MoFRR Non-ECMP entry, MP - MFIB
                MoFRR Primary, RP - MRIB MoFRR Primary, P - MoFRR Primary
                MS  - MoFRR  Entry in Sync, MC - MoFRR entry in MoFRR Client,
                e   - Encap helper tunnel flag.
I/O Item Flags: IC - Internal Copy, NP - Not platform switched,
                NS - Negate Signalling, SP - Signal Present,
                A - Accept, F - Forward, RA - MRIB Accept, RF - MRIB Forward,
                MA - MFIB Accept, A2 - Accept backup,
                RA2 - MRIB Accept backup, MA2 - MFIB Accept backup

Forwarding Counts: Pkt Count/Pkts per second/Avg Pkt Size/Kbits per second
Other counts:      Total/RPF failed/Other drops
I/O Item Counts:   HW Pkt Count/FS Pkt Count/PS Pkt Count   Egress Rate in pps
Default
 (*,FF00::/8) Flags: C HW
   SW Forwarding: 0/0/0/0, Other: 99/99/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
   Tunnel1 Flags: NS NP
 (*,FF00::/15) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FF02::/16) Flags:
   SW Forwarding: 0/0/0/0, Other: 19/19/0
 (*,FF07::9) Flags: C HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
   Tunnel1 Flags: A NP
   GigabitEthernet1/0/3 Flags: F NS
     Pkts: 0/0/0    Rate: 0 pps
   GigabitEthernet1/0/2 Flags: F NS
     Pkts: 0/0/0    Rate: 0 pps
   GigabitEthernet1/0/1 Flags: F NS
     Pkts: 0/0/0    Rate: 0 pps
 (FC00:172:16:254::3,FF07::9) Flags: C HW
```

```
  SW Forwarding: 1627796/200/112/175, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
  Tunnel1 Flags: A NP
  GigabitEthernet1/0/3 Flags: F NS
    Pkts: 0/0/1627796    Rate: 0 pps
  GigabitEthernet1/0/1 Flags: NS
(*,FF0E::11) Flags: C HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
  Tunnel1 Flags: A NP
  GigabitEthernet1/0/3 Flags: F NS
    Pkts: 0/0/0    Rate: 0 pps
  GigabitEthernet1/0/2 Flags: F NS
    Pkts: 0/0/0    Rate: 0 pps
  GigabitEthernet1/0/1 Flags: F NS
    Pkts: 0/0/0    Rate: 0 pps
(FC00:172:16:254::3,FF0E::11) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   792/0/221/0, Other: 0/0/0
  GigabitEthernet1/0/1 Flags: A
  GigabitEthernet1/0/3 Flags: F NS
    Pkts: 0/0/0    Rate: 0 pps
(FC00:172:16:254::4,FF0E::11) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   792/0/222/0, Other: 0/0/0
  GigabitEthernet1/0/2 Flags: A
  GigabitEthernet1/0/3 Flags: F NS
    Pkts: 0/0/0    Rate: 0 pps
  GigabitEthernet1/0/1 Flags: F NS
    Pkts: 0/0/0    Rate: 0 pps
(FC00:172:16:254::5,FF0E::11) Flags: HW
  SW Forwarding: 2/0/226/0, Other: 0/0/0
  HW Forwarding:   790/0/222/0, Other: 0/0/0
  GigabitEthernet1/0/3 Flags: A
  GigabitEthernet1/0/2 Flags: F NS
    Pkts: 0/0/2    Rate: 0 pps
  GigabitEthernet1/0/1 Flags: F NS
    Pkts: 0/0/2    Rate: 0 pps
(*,FF0E::12) Flags: C HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
  Tunnel1 Flags: A NP
  GigabitEthernet1/0/3 Flags: F NS
    Pkts: 0/0/0    Rate: 0 pps
  GigabitEthernet1/0/2 Flags: F NS
    Pkts: 0/0/0    Rate: 0 pps
  GigabitEthernet1/0/1 Flags: F NS
    Pkts: 0/0/0    Rate: 0 pps
(FC00:172:16:254::3,FF0E::12) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   791/0/222/0, Other: 0/0/0
  GigabitEthernet1/0/1 Flags: A
  GigabitEthernet1/0/3 Flags: F NS
    Pkts: 0/0/0    Rate: 0 pps
(FC00:172:16:254::4,FF0E::12) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   1691/0/195/0, Other: 0/0/0
  GigabitEthernet1/0/2 Flags: A
  GigabitEthernet1/0/3 Flags: F NS
    Pkts: 0/0/0    Rate: 0 pps
  GigabitEthernet1/0/1 Flags: F NS
    Pkts: 0/0/0    Rate: 0 pps
(FC00:172:16:254::5,FF0E::12) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
```

```
  HW Forwarding:   1692/0/195/0, Other: 0/0/0
  GigabitEthernet1/0/3 Flags: A
  GigabitEthernet1/0/2 Flags: F NS
    Pkts: 0/0/0    Rate: 0 pps
  GigabitEthernet1/0/1 Flags: F NS
    Pkts: 0/0/0    Rate: 0 pps
(*,FF10::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF12::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF20::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF22::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF30::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF32::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF33::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF34::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF35::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF36::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF37::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF38::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF39::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3A::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3B::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3C::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3D::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3E::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3F::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF40::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF42::/16) Flags:
```

```
    SW Forwarding: 0/0/0/0, Other: 0/0/0
  (*,FF50::/15) Flags: HW
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FF52::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0
  (*,FF60::/15) Flags: HW
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FF62::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0
  (*,FF70::/15) Flags: HW
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FF72::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0
  (*,FF80::/15) Flags: HW
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FF82::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0
  (*,FF90::/15) Flags: HW
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FF92::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0
  (*,FFA0::/15) Flags: HW
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FFA2::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0
  (*,FFB0::/15) Flags: HW
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FFB2::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0
  (*,FFC0::/15) Flags: HW
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FFC2::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0
  (*,FFD0::/15) Flags: HW
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FFD2::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0
  (*,FFE0::/15) Flags: HW
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FFE2::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0
  (*,FFF0::/15) Flags: HW
    SW Forwarding: 0/0/0/0, Other: 0/0/0
    HW Forwarding:   0/0/0/0, Other: 0/0/0
  (*,FFF2::/16) Flags:
    SW Forwarding: 0/0/0/0, Other: 0/0/0

Spine-01#
```

Return to Verifying TRM with PIM-SM for IPv4 and IPv6 Multicast Traffic when the RP is Inside the BGP EVPN VXLANv6 Fabric.

Outputs to Verify the Configuration on Spine Switch 2

The following example shows the output for the **show bgp ipv6 mvpn all** command on Spine Switch 2:

```
Spine-02# show bgp ipv6 mvpn all

BGP table version is 21, local router ID is 14.14.14.14
Status codes: s suppressed, d damped, h history, * valid, > best, i - internal,
              r RIB-failure, S Stale, m multipath, b backup-path, f RT-Filter,
              x best-external, a additional-path, c RIB-compressed,
              t secondary path, L long-lived-stale,
Origin codes: i - IGP, e - EGP, ? - incomplete
RPKI validation codes: V valid, I invalid, N Not found

     Network          Next Hop            Metric LocPrf Weight Path
Route Distinguisher: 1002:1
 *>i  [5][1002:1][FD00:10:1:101::11][FF06:1::1]/42
                      FC00:172:16:255::3
                                                  0    100      0 ?
Route Distinguisher: 1003:1
 *>i  [6][1003:1][1001][FC00:2:255::255][FF06:1::1]/46
                      FC00:172:16:255::4
                                                  0    100      0 ?
Route Distinguisher: 172.16.254.3:101
 *>i  [7][172.16.254.3:101][1001][FD00:10:1:101::11][FF06:1::1]/46
                      FC00:172:16:255::4
                                                  0    100      0 ?
 * i                   FC00:172:16:255::5
     Network          Next Hop            Metric LocPrf Weight Path
                                                  0    100      0 ?

Spine-02#
```

The following example shows the output for the **show bgp ipv4 mvpn all** command on Spine Switch 2:

```
Spine-02# show bgp ipv4 mvpn all

BGP table version is 23, local router ID is 14.14.14.14
Status codes: s suppressed, d damped, h history, * valid, > best, i - internal,
              r RIB-failure, S Stale, m multipath, b backup-path, f RT-Filter,
              x best-external, a additional-path, c RIB-compressed,
              t secondary path, L long-lived-stale,
Origin codes: i - IGP, e - EGP, ? - incomplete
RPKI validation codes: V valid, I invalid, N Not found

     Network          Next Hop            Metric LocPrf Weight Path
Route Distinguisher: 1002:1
 *>i  [5][1002:1][10.1.101.11][226.1.1.1]/18
                      FC00:172:16:255::3
                                                  0    100      0 ?
Route Distinguisher: 1003:1
 * i  [6][1003:1][1001][10.2.255.255/32][224.0.1.40/32]/22
                      FC00:172:16:255::4
                                                  0    100      0 ?
 *>i                   FC00:172:16:255::3
                                                  0    100      0 ?
 *>i  [6][1003:1][1001][10.2.255.255/32][226.1.1.1/32]/22
                      FC00:172:16:255::4
                                                  0    100      0 ?
     Network          Next Hop            Metric LocPrf Weight Path
```

```
Route Distinguisher: 172.16.254.3:101
 *>i  [7][172.16.254.3:101][1001][10.1.101.11/32][226.1.1.1/32]/22
                      FC00:172:16:255::4
                                                0    100      0 ?
 * i                    FC00:172:16:255::5
                                                0    100      0 ?
Spine-02#
```

The following example shows the output for the **show ipv6 mroute** command on Spine Switch 2:

```
Spine-02# show ipv6 mroute

Multicast Routing Table
Flags: D - Dense, S - Sparse, B - Bidir Group, s - SSM Group,
       C - Connected, L - Local, I - Received Source Specific Host Report,
       P - Pruned, R - RP-bit set, F - Register flag, T - SPT-bit set,
       J - Join SPT, Y - Joined MDT-data group,
       y - Sending to MDT-data group
       g - BGP signal originated, G - BGP Signal received,
       N - BGP Shared-Tree Prune received, n - BGP C-Mroute suppressed,
       q - BGP Src-Active originated, Q - BGP Src-Active received
       E - Extranet
Timers: Uptime/Expires
Interface state: Interface, State

(FC00:172:16:254::3, FF07::9), 02:16:54/00:02:50, flags: ST
  Incoming interface: TenGigabitEthernet1/0/9
  RPF nbr: FE80::6A2C:7BFF:FE9A:5B76
  Immediate Outgoing interface list:
    TenGigabitEthernet1/0/15, Forward, 02:16:54/00:02:50

(FC00:172:16:254::3, FF0E::11), 04:41:06/00:02:30, flags: ST
  Incoming interface: TenGigabitEthernet1/0/9
  RPF nbr: FE80::6A2C:7BFF:FE9A:5B76
  Immediate Outgoing interface list:
    TenGigabitEthernet1/0/15, Forward, 04:41:06/00:02:30

Spine-02#
```

The following example shows the output for the **show ipv6 mfib** command on Spine Switch 2:

```
Spine-02# show ipv6 mfib

Entry Flags:    C - Directly Connected, S - Signal, IA - Inherit A flag,
                ET - Data Rate Exceeds Threshold, K - Keepalive
                DDE - Data Driven Event, HW - Hardware Installed
                ME - MoFRR ECMP entry, MNE - MoFRR Non-ECMP entry, MP - MFIB
                MoFRR Primary, RP - MRIB MoFRR Primary, P - MoFRR Primary
                MS  - MoFRR  Entry in Sync, MC - MoFRR entry in MoFRR Client,
                e   - Encap helper tunnel flag.
I/O Item Flags: IC - Internal Copy, NP - Not platform switched,
                NS - Negate Signalling, SP - Signal Present,
                A - Accept, F - Forward, RA - MRIB Accept, RF - MRIB Forward,
                MA - MFIB Accept, A2 - Accept backup,
                RA2 - MRIB Accept backup, MA2 - MFIB Accept backup

Forwarding Counts: Pkt Count/Pkts per second/Avg Pkt Size/Kbits per second
Other counts:      Total/RPF failed/Other drops
I/O Item Counts:   HW Pkt Count/FS Pkt Count/PS Pkt Count   Egress Rate in pps
Default
 (*,FF00::/8) Flags: C HW
   SW Forwarding: 0/0/0/0, Other: 1/1/0
```

```
  HW Forwarding:   0/0/0/0, Other: 0/0/0
  Tunnel2 Flags: NS NP
(*,FF00::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF02::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 23/23/0
(FC00:172:16:254::3,FF07::9) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   1643348/198/130/201, Other: 0/0/0
  TenGigabitEthernet1/0/9 Flags: A
  TenGigabitEthernet1/0/15 Flags: F NS
    Pkts: 0/0/0    Rate: 0 pps
(FC00:172:16:254::3,FF0E::11) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   237/0/220/0, Other: 0/0/0
  TenGigabitEthernet1/0/9 Flags: A
  TenGigabitEthernet1/0/15 Flags: F NS
    Pkts: 0/0/0    Rate: 0 pps
(*,FF10::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF12::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF20::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF22::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF30::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF32::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF33::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF34::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF35::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF36::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF37::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF38::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF39::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3A::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3B::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3C::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
```

```
(*,FF3D::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3E::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF3F::/32) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF40::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF42::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF50::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF52::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF60::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF62::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF70::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF72::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF80::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF82::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FF90::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FF92::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FFA0::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FFA2::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FFB0::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FFB2::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FFC0::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FFC2::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FFD0::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FFD2::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
(*,FFE0::/15) Flags: HW
  SW Forwarding: 0/0/0/0, Other: 0/0/0
  HW Forwarding:   0/0/0/0, Other: 0/0/0
(*,FFE2::/16) Flags:
  SW Forwarding: 0/0/0/0, Other: 0/0/0
```

```
 (*,FFF0::/15) Flags: HW
   SW Forwarding: 0/0/0/0, Other: 0/0/0
   HW Forwarding:   0/0/0/0, Other: 0/0/0
 (*,FFF2::/16) Flags:
   SW Forwarding: 0/0/0/0, Other: 0/0/0

Spine-02#
```

Return to Verifying TRM with PIM-SM for IPv4 and IPv6 Multicast Traffic when the RP is Inside the BGP EVPN VXLANv6 Fabric.