

Configuring a VXLANv6 Fabric

This chapter describes how to configure a VXLAN fabric with IPv6 underlay.

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Overview

From Cisco NDFC, you can create an Easy fabric with IPv6 only underlay. The IPv6 underlay is supported only for the **Data Center VXLAN EVPN** template. In the IPv6 underlay fabric, intra-fabric links, routing loopback, vPC peer link SVI, and NVE loopback interface for VTEP are configured with IPv6 addresses. EVPN BGP neighbor peering is also established using IPv6 addressing.

The following guidelines are applicable for IPv6 underlay:

- IPv6 underlay is supported for the Cisco Nexus 9000 Series switches with Cisco NX-OS Release 9.3(1) or higher.
- VXLANv6 is only supported Cisco Nexus 9332C, Cisco Nexus C9364C, and Cisco Nexus modules that end with EX, GX, FX, FX2, FX3, or FXP.

Note VXLANv6 is defined as a VXLAN fabric with IPv6 underlay.

- In VXLANv6, the platforms supported on spine are all Nexus 9000 Series and Nexus 3000 Series platforms.
- The overlay routing protocol supported for the IPv6 fabric is BGP EVPN.
- vPC with physical multichassis EtherChannel trunk (MCT) feature is supported for the IPv6 underlay network in NDFC. The vPC peer keep-alive can be loopback or management with IPv4 or IPv6 address.
- Brownfield migration is supported for the VXLANv6 fabrics. Note that L3 vPC keep-alive using IPv6 address is not supported for brownfield migration. This vPC configuration is deleted after the migration. However, L3 vPC keep-alive using IPv4 address is supported.
- DHCPv6 is supported for the IPv6 underlay network.
- The following features are not supported for VXLAN IPv6 underlay:

- Multicast underlay
- Tenant Routed Multicast (TRM)
- ISIS, OSPF, and BGP authentication
- VXLAN Multi-Site
- Dual stack underlay
- vPC Fabric Peering
- DCI SR-MPLS or MPLS-LDP handoff
- BFD
- Super Spine switch roles
- NGOAM

Creating VXLAN EVPN Fabric with IPv6 Underlay

This procedure shows how to create a VXLAN EVPN fabric with IPv6 underlay. Note that only the fields for creating a VXLAN fabric with IPv6 underlay are documented. For information about the remaining fields, see Creating a VXLAN EVPN Fabric Using the Data Center VXLAN EVPN Template.

Procedure

Step 1 Choose **LAN** > **Fabrics**.

Step 2 From the **Actions** drop-down list, choose **Create Fabric**.

The **Create Fabric** window appears.

Fabric Name – Enter the name of the fabric.

Fabric Template – From the drop-down list, choose **Data Center VXLAN EVPN**.

Step 3 The **General Parameters** tab is displayed by default. The fields in this tab are:

BGP ASN – Enter the BGP AS number for the fabric. You can enter either the 2 byte BGP ASN or 4 byte BGP ASN.

Enable IPv6 Underlay – Check the **Enable IPv6 Underlay** check box .

Enable IPv6 Link-Local Address – Check the **Enable IPv6 Link-Local Address** check box to use the link local addresses in the fabric between leaf-spine and spine-border interfaces. If you check this check box, the **Underlay Subnet IPv6 Mask** field is not editable. By default, the **Enable IPv6 Link-Local Address** field is enabled.

IPv6 underlay supports **p2p** networks only. Therefore, the **Fabric Interface Numbering** drop-down list is disabled.

Underlay Subnet IPv6 Mask – Specify the subnet mask for the fabric interface IPv6 addresses.

Underlay Routing Protocol – Specify the IGP used in the fabric, that is, OSPF or IS-IS for VXLANv6.

Step 4 All the fields under the **Replication** tab are disabled.

IPv6 underlay supports ingress replication mode only.

Step 5 Click the **VPC** tab.

vPC Peer Keep Alive option – Choose **management** or **loopback**. To use IP addresses assigned to the management port and the management VRF, choose management. To use IP addresses assigned to loopback interfaces and a non-management VRF, choose underlay routing loopback with IPv6 address for PKA. Both the options are supported for IPv6 underlay.

Step 6 Click the **Protocols** tab.

Underlay Anycast Loopback Id – Specify the underlay anycast loopback ID for IPv6 underlay. You cannot configure IPv6 address as secondary, an additional loopback interface is allocated on each vPC device. Its IPv6 address is used as the VIP.

Step 7 Click the **Resources** tab.

Manual Underlay IP Address Allocation: Check the check box to manually allocate underlay IP addresses. The dynamic underlay IP addresses fields are disabled.

Underlay Routing Loopback IPv6 Range: Specify loopback IPv6 addresses for protocol peering.

Underlay VTEP Loopback IPv6 Range: Specify loopback IPv6 addresses for VTEPs.

Underlay Subnet IPv6 Range: Specify the IPv6 address range that is used for assigning IP addresses for numbered and peer link SVIs. To edit this field, uncheck **Enable IPv6 Link-Local Address** check box under the **General Parameters** tab.

BGP Router ID Range for IPv6 Underlay: Specify the address range to assign BGP Router IDs. The IPv4 addressing is used for router with BGP and underlay routing protocols.

Step 8 Click the **Bootstrap** tab.

Enable Bootstrap: Check the **Enable Bootstrap** check box. If this check box is not chosen, none of the other fields on this tab are editable.

Enable Local DHCP Server: Check the check box to initiate automatic assignment of IP addresses assignment through the local DHCP server. The **DHCP Scope Start Address** and **DHCP Scope End Address** fields are editable only after you check this check box.

DHCP Version: Choose DHCPv4 from the drop-down list.

Step 9 Click **Save** to complete the creation of the fabric.

What to do next

Adding Switches to a Fabric