

vPC Multihoming

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About Multihoming

Cisco Nexus platform switches support vPC-based multihoming, where a pair of switches act as a single device for redundancy and both switches function in active mode. With Cisco Nexus platform switches in an EVPN environment, there are two solutions that support Layer 2 multihoming; these solutions are based on the traditional vPC (emulated or virtual IP address), where the MCT link is required and the BGP EVPN techniques.

While using the BGP EVPN control plane, each vPC pair uses a common virtual IP (VIP) to provide active/active redundancy. BGP EVPN based multihoming further provides fast convergence during certain failure scenarios, that otherwise cannot be achieved without a control protocol (data plane flood and learn).

Per-BD label on vPC Peers

To ensure that the vPC peers have the same per-BD label, you must specify the per-BD label to have the following value:

```
Label value = Label_base + VLAN_ID
```

The label base is configured on the same vPC peers. Currently, the VLAN configuration is identical on both the vPC peers, which ensures that both vPC peers have the same label.

In Cisco NX-OS Release 9.3(1), configuring the per-BD label is not supported. This release supports only evi auto.

Per-VRF label on vPC Peers

To ensure that the vPC peers have the same per-VRF label, you must specify the per-VRF label to have the following value:

```
Label value = Label_base + vrf_allocate_index
```

To configure the allocate-index for the vPC peers, do the following:

```
Router bgp 1
  vrf Tenant_A
    allocate-index 11
```

Configuring Backup Link

The backup link needs to be configured between the vPC peers. This link can be any Layer 3 link which is parallel to MCT.

Example

```
interface vlan 100
    ip add 10.1.1.1/24
        mpls ip forwarding

< enable underlay protocol >
```

Guidelines and Limitations for vPC Multihoming

vPC multihoming has the following guidelines and limitations:

- ESI-based multihoming is not supported.
- The physical and virtual secondary IP addresses should be both advertised via the MPLS labeled path.
- vPC consistency checking is not supported for the per-BD label configuration.

Configuration Examples for vPC Multihoming

This example shows the configuration for vPC multihoming:

- vPC Primary

```
interface loopback1
  ip address 192.169.15.1/32
  ip address 192.169.15.15/32 secondary

evpn
  encapsulation mpls
    source-interface loopback1

vlan 101
  evi auto

vrf context A
  evi 301

router bgp 1
  vrf A
    allocate-index 1001
```

- vPC Secondary

```
interface loopback1
  ip address 192.169.15.2/32
  ip address 192.169.15.15/32 secondary
```

```
evpn
  encapsulation mpls
    source-interface loopback1

vlan 101
  evi auto

vrf context A
  evi 301

router bgp 1
  vrf A
    allocate-index 1001
```