

# IP Fabric CISCO NX-OS – Quick Guide

## Created by: dejavudf

**UNDERLAY:** BGP

**OVERLAY:** MP-BGP EVPN + VXLAN

### **NX-OS Features:**

```
nv overlay evpn
feature bgp
feature fabric forwarding
feature interface-vlan
feature vn-segment-vlan-based
feature nv overlay

install feature-set fabric

feature-set fabric

cli alias name status show system resources

cli alias name wr copy run start
```

**Underlay mode:** eBGP two AS (SPINE AS X and LEAFs AS Y) or Ebgp Multi AS (SPINE AS X and LEAFs AS n)

### **-> Spines Underlay BGP Configuration:**

```
Point-to-Point (/30) or unnumbered interfaces via loopback (/32)
ebgp-multihop 2 or more
update-source Loopback
address-family ipv4:
send-community both
next-hop-self (DISABLED)
allowas-in (NOT NEED)
disable-peer-as-check

route-map NH-UNCHANGED permit 100
set ip next-hop unchanged

address-family l2vpn evpn:
retain Route-Target all (global l2vpn evpn)
send-community both
rewrite-evpn-rt-asn (NEED IF RT AUTO)
route-map NH-UNCHANGED out
```

**-> Leaf Underlay BGP Configuration:**

```
update-source loopback
ebgp-multihop 2 or more
disable-peer-as-check
address-family ipv4 unicast:
  allowas-in 3
  send-community
  send-community extended
  next-hop-self
address-family l2vpn evpn:
  allowas-in 3
  send-community
  send-community extended
vrf X
  address-family ipv4 unicast
  advertise l2vpn evpn
  redistribute direct route-map LAB (ROUTE-MAP IS NEED)
```

**-> Overlay VXLAN L2VNI Configuration:**

**VLAN VNI MAP (L2):**

```
vlan X
  vn-segment Y
```

**VLAN INTERFACE (L2):**

```
interface VLAN X
  no shutdown
  vrf member X
  ip forward (NO IP ADDRESS IS NEED)
```

**-> Overlay VXLAN L3VNI Configuration:**

**VLAN VNI MAP (L3):**

```
vlan H
  vn-segment Y (SPECIFIC VLAN DEDICATED FOR VRF)
```

```
vlan Z (L3 VLAN/NETWORK)
  vn-segment P
```

## **VRF (L2 and L3):**

```
vrf context X
vni Y
rd auto
address-family ipv4 unicast
route-target both auto
route-target both auto evpn
```

```
interface H (SPECIFIC VLAN DEDICATED FOR VRF)
no shutdown
vrf member X
ip forward (NO IP ADDRESS IS NEEDED)
```

## **INTERFACE VLAN (L3):**

```
interface Z
no shutdown
vrf member X
ip address x.y.z.h/y (SAME NETWORK OR DIFFERENT NETWORK ON LEAFS)
fabric forwarding mode anycast-gateway (USED ONLY ON SAME NETWORKS)
```

GLOBAL: fabric forwarding anycast-gateway-mac aabb.ccdd.eeff (SAME ADDRESS ON BOTH LEAFS)

## **-> VXLAN (VTEP) interface:**

```
interface nve1
no shutdown
host-reachability protocol bgp
source-interface loopback
member vni 2001 (L2VNI)
    ingress-replication protocol bgp (UNICAST FOR BUM VIA BGP) or
    mcast-group 239.x.y.z (Multicast for BUM)
member vni 2002 (L2VNI)
    ingress-replication protocol bgp (UNICAST FOR BUM VIA BGP) or
    mcast-group 239.x.y.h (Multicast for BUM)
member vni 383901 associate-vrf (L3VNI)
member vni 383902 associate-vrf (L3VNI)
```

## **-> EVPN L2:**

```
evpn
vni X l2 (L2)
route-target import auto
route-target export auto
```

**-> Interface VLAN configuration:**

**VXLAN VNI mapping:**

```
interface Ethernet X/Y  
switchport mode access  
switchport access vlan X
```