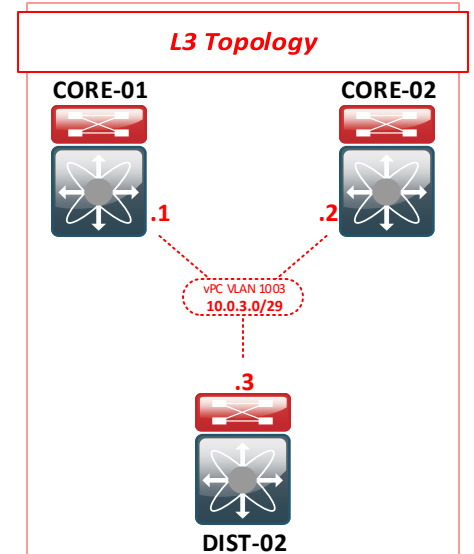
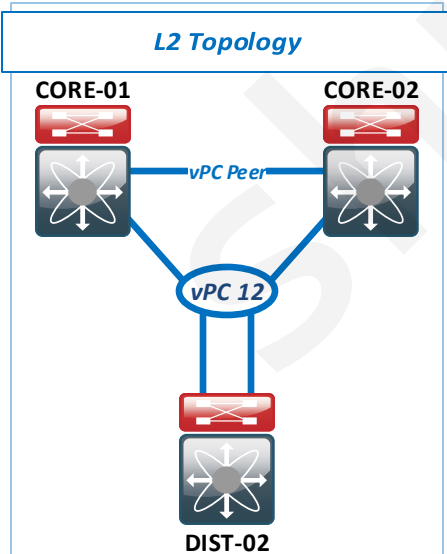
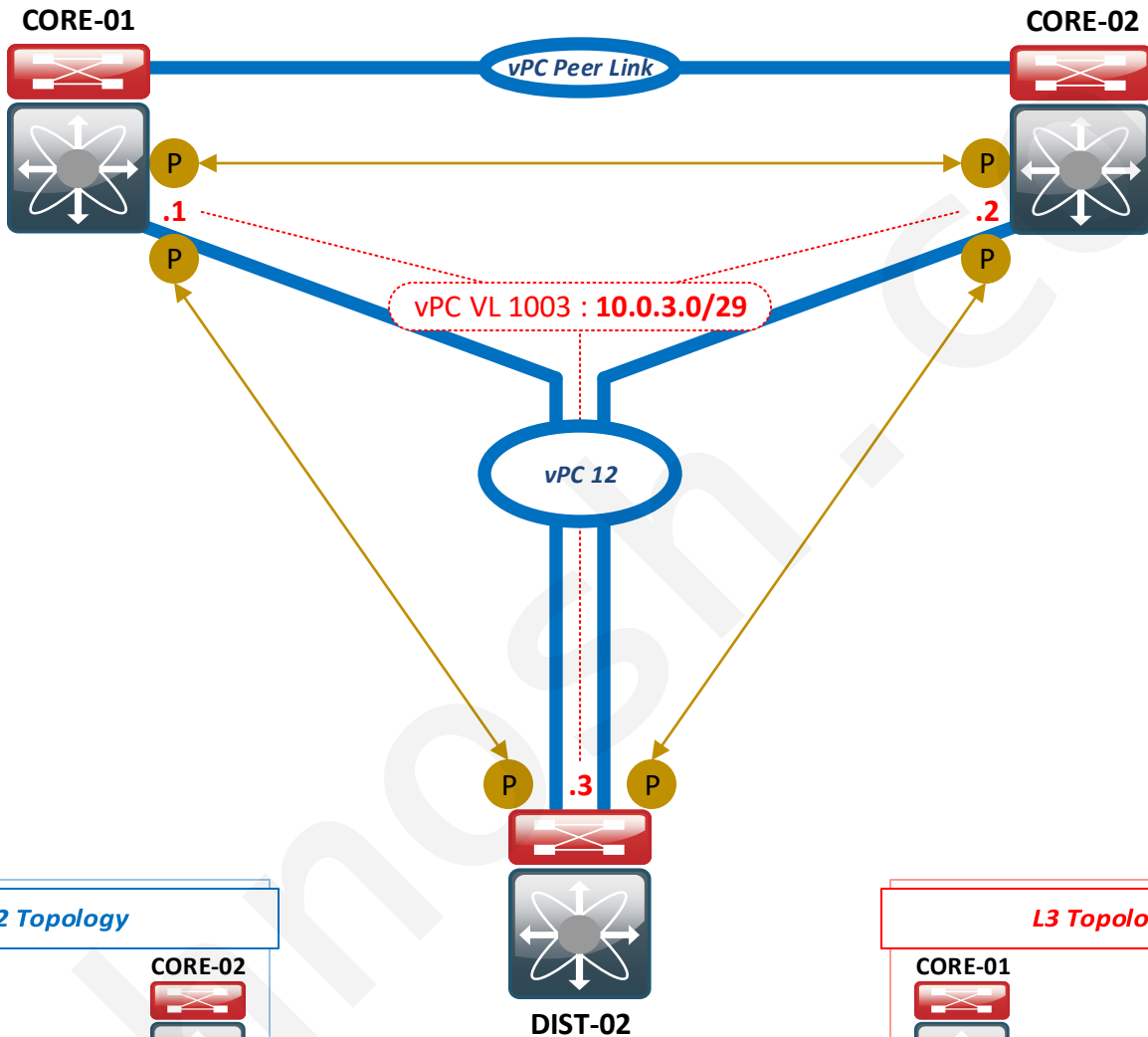


Layer 3 over vPC VLAN Single Transit Network, or L3 Segment



Case 2. Single transit network; Cores peering with each other and DIST-02. DIST-02 has EIGRP ECMP.

vPC VL 1003, 10.0.3.0/29 = CORE-01 <> CORE-02
 = CORE-01 <> DIST-02
 = CORE-02 <> DIST-02

EIGRP Adjacencies

CORE-01

```
!  
vlan 998  
  name NATIVE  
vlan 1003  
  name RT:Transit  
!  
vpc domain 1  
  peer-switch  
  role priority 1  
  system-priority 8192  
  peer-keepalive destination 172.16.31.255 source 172.16.31.254 vrf VPC-KA  
  peer-gateway  
  layer3 peer-router  
  ip arp synchronize  
!  
interface port-channel1  
  description CORE-02:VPC-PEER  
  switchport mode trunk  
  switchport trunk native vlan 998  
  switchport trunk allowed vlan 1-997,999-4094  
  spanning-tree port type network  
  vpc peer-link  
!  
interface port-channel12  
  description DIST-02:vPC  
  switchport mode trunk  
  switchport trunk native vlan 998  
  switchport trunk allowed vlan 1003  
  spanning-tree port type normal  
  spanning-tree guard root  
  vpc 12  
!  
interface loopback13  
  description LOOPBACK:GRT  
  ip address 172.31.255.251/32  
!  
interface Vlan1003  
  description TRANSIT:CORES to DIST-02  
  no shutdown  
  no ip redirects  
  ip address 10.0.3.1/29  
  ip router eigrp CORE  
  ip summary-address eigrp CORE 0.0.0.0/0  
  no ip passive-interface eigrp CORE  
!  
router eigrp CORE  
  autonomous-system 1  
  router-id 172.31.255.251  
  passive-interface default
```



CORE-02

```
!  
vlan 998  
  name NATIVE  
vlan 1003  
  name RT:Transit  
!  
vpc domain 1  
  peer-switch  
  role priority 2  
  system-priority 8192  
  peer-keepalive destination 172.16.31.254 source 172.16.31.255 vrf VPC-KA  
  peer-gateway  
  layer3 peer-router  
  ip arp synchronize  
!  
interface port-channel1  
  description CORE-01:VPC-PEER  
  switchport mode trunk  
  switchport trunk native vlan 998  
  switchport trunk allowed vlan 1-997,999-4094  
  spanning-tree port type network  
  vpc peer-link  
!  
interface port-channel12  
  description DIST-02:vPC  
  switchport mode trunk  
  switchport trunk native vlan 998  
  switchport trunk allowed vlan 1003  
  spanning-tree port type normal  
  spanning-tree guard root  
  vpc 12  
!  
interface loopback13  
  description LOOPBACK:GRT  
  ip address 172.31.255.252/32  
!  
interface Vlan1003  
  description TRANSIT:CORES to DIST-02  
  no shutdown  
  no ip redirects  
  ip address 10.0.3.2/29  
  ip router eigrp CORE  
  ip summary-address eigrp CORE 0.0.0.0/0  
  no ip passive-interface eigrp CORE  
!  
router eigrp CORE  
  autonomous-system 1  
  router-id 172.31.255.252  
  passive-interface default
```



DIST-02

```
!  
vlan 998  
  name NATIVE  
vlan 1003  
  name RT:CORES  
!  
interface port-channel12  
  description CORE:vPC  
  switchport mode trunk  
  switchport trunk native vlan 998  
  switchport trunk allowed vlan 1003  
  spanning-tree port type normal  
!  
interface loopback13  
  description LOOPBACK:GRT  
  ip address 172.31.255.253/32  
!  
interface Vlan1003  
  description TRANSIT:CORES to DIST-02  
  no shutdown  
  no ip redirects  
  ip address 10.0.3.3/29  
  ip router eigrp DIST  
  no ip passive-interface eigrp DIST  
!  
router eigrp DIST  
  autonomous-system 1  
  router-id 172.31.255.253  
  passive-interface default
```



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```
DIST-02# show ip ei nei
IP-EIGRP neighbors for process 1 VRF default
H   Address                Interface      Hold  Uptime   SRTT   RTO   Q   Seq
                               (sec)          (ms)          Cnt  Num
0   10.0.3.1                Vlan1003      14   23:50:30  569   3414  0   942
1   10.0.3.2                Vlan1003      13   23:50:20  135   810   0   1052
```

```
!
DIST-02# show ip ro ei
IP Route Table for VRF "default"
'*' denotes best ucast next-hop
'**' denotes best mcast next-hop
'[x/y]' denotes [preference/metric]
'%<string>' in via output denotes VRF <string>
```

```
0.0.0.0/0, ubest/mbest: 2/0
 *via 10.0.3.1, Vlan1003, [90/3072], 00:00:05, eigrp-DIST, internal
 *via 10.0.3.2, Vlan1003, [90/3072], 00:00:05, eigrp-DIST, internal
```



ECMP to 0/0 via **CORE-1** and **CORE-2**, both on **VL 1003**.

Caveats & Discoveries

(DUP!) ICMP echo-replies were observed in some cases; it seems that NX-OSv isn't disabling IP redirects on SVIs mapped over vPC VLANS [as the configuration guide suggests it should when the peer-gateway is enabled](#). Configuring `no ip redirects` on all SVIs is suggested. Even with this command added, DUP! events were still experienced in some cases. This *may* be an issue with VIRL, [as other users have reported some MAC learning concerns](#).

References

[Supported Topologies for Routing over Virtual Port Channel on Nexus Platforms](#)

[Cisco Nexus 9000 Series NX-OS Interfaces Configuration Guide, Release 7.x - Layer 3 over vPC Supported Topologies](#)

[Nexus 9396 duplicate ICMP echo-reply \(DUP!\)](#)