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Introduction

Test Details: Goals of this test

Data Center Multi-Layer VPC design aggregation layer failure scenarios are depicted in this document. The tests involve a multiple VPC domain design with VPC extended from Core to Aggregation as well as Aggregation to Access. The Failure scenarios covered in this test document are the following:

- Failure of the Peer Keepalive link - simulated by the shutdown of Ethernet1/1 on AGG1 router
- Failure of a single link in the Peer-link bundle - simulated by shutting down either Ethernet2/1 on the AGG1 router
- Failure of the peer-link port-channel - simulated by shutting down the Port-channel 3000 interface between AGG1 and AGG2 routers
- SFM module failure on Aggregation router
- Supervisor failure/switchover on an aggregation router
- Linecard failure on the AGG1 router
- Failure of an aggregation node

Data to Record

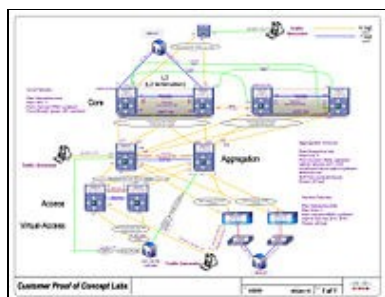
Verification of operation of VPC and its configuration using the following commands:

- show vpc brief
- show port-channel summary
- show port-channel traffic
- show run int port-channel xxxx
- show run vpc

Estimated Time: 120 minutes

Topology

Click on thumbnail to enlarge:



Procedures

1. This document highlights the failure scenarios with the above mentioned topology in the Aggregation layer.

2. The following failures were conducted on the Aggregation layer to verify the operation and resiliency of VPC in a multi-domain VPC environment with the entire Data Center running on VPC.

- Failure of the Peer Keepalive link - simulated by the shutdown of Ethernet1/1 on AGG1 router
- Failure of a single link in the Peer-link bundle- Simulated by shutting down either Ethernet2/1 on the AGG1 router
- Failure of the peer-link port-channel- Simulated by shutting down the Port-channel 3000 interface between AGG1 and AGG2 routers
- SFM module failure on Aggregation router
- Supervisor Failure/switchover on an aggregation router
- Linecard failure on the AGG1 router
- Failure of an aggregation node

Baseline Configurations for VPC on all routers

Configs for Core1-VDC1

```
CORE1-F10# show run vpc
```

```
!Command: show running-config vpc
```

```
version 4.2(1)
```

```
feature vpc
```

```
vpc domain 1
```

```
peer-keepalive destination 11.21.1.2 source 11.21.1.1 vrf peerkeepalive
```

```
interface port-channel50
```

```
vpc 50
```

```
interface port-channel100
```

```
vpc 100
```

```
interface port-channel1000
```

```
vpc peer-link
```

```
CORE1-F10# show run int vlan 100
```

```
!Command: show running-config interface Vlan100
```

```
version 4.2(1)
```

```
interface Vlan100
  no shutdown
  description Server Subnet - Vlan 100
  ip address 100.100.11.1/24
  ip router ospf 100 area 0.0.0.0
  hsrp 100
    preempt delay minimum 15
    priority 120
    timers 1 3
    ip 100.100.11.254
```

```
CORE1-F10# show run int port-channel 50
```

```
!Command: show running-config interface port-channel50
```

```
version 4.2(1)
```

```
interface port-channel50
  description Port-Channel to Northbound Test Port (via 6500)
  switchport
  switchport mode trunk
  vpc 50
  switchport trunk allowed vlan 1,100
  spanning-tree port type edge trunk
  spanning-tree bpdudfilter enable
```

```
CORE1-F10# show run int port-channel 100
```

```
!Command: show running-config interface port-channel100
```

```
version 4.2(1)
```

```
interface port-channel100
  description vPC to Aggregation Layer
  switchport
  switchport mode trunk
  vpc 100
  switchport trunk allowed vlan 1,100
```

```
CORE1-F10# show run int port-channel 1000
```

```
!Command: show running-config interface port-channel1000
```

```
version 4.2(1)
```

```
interface port-channel1000
  description vPC Peerlink (eth 2/1,eth 4/1)
  switchport
  switchport mode trunk
  vpc peer-link
  switchport trunk allowed vlan 1,50,100
  spanning-tree port type network
```

```
CORE1-F10# show port-channel summary
```

```
Flags:  D - Down          P - Up in port-channel (members)
        I - Individual    H - Hot-standby (LACP only)
        s - Suspended     r - Module-removed
        S - Switched      R - Routed
```

U - Up (port-channel)

```
-----
Group Port-      Type      Protocol  Member Ports
  Channel
-----
50    Po50(SU)   Eth       LACP      Eth2/26(P)
100   Po100(SU)  Eth       LACP      Eth2/9(P)   Eth2/10(P)
1000  Po1000(SU) Eth       LACP      Eth2/1(P)   Eth4/1(P)
CORE1-F10# show run int eth 2/26
```

!Command: show running-config interface Ethernet2/26

version 4.2(1)

```
interface Ethernet2/26
  description Connection to Catalyst 6500 te5/1 (for Connectivity)
  switchport
  switchport mode trunk
  switchport trunk allowed vlan 1,100
  rate-mode dedicated force
  channel-group 50 mode active
  no shutdown
```

CORE1-F10# show run int eth 2/9

!Command: show running-config interface Ethernet2/9

version 4.2(1)

```
interface Ethernet2/9
  description Connection to AGG2 eth 2/17
  switchport
  switchport mode trunk
  switchport trunk allowed vlan 1,100
  rate-mode dedicated force
  channel-group 100 mode active
  no shutdown
```

CORE1-F10# show run int eth 2/10

!Command: show running-config interface Ethernet2/10

version 4.2(1)

```
interface Ethernet2/10
  description Connection to AGG1 eth 2/17
  switchport
  switchport mode trunk
  switchport trunk allowed vlan 1,100
  rate-mode dedicated force
  channel-group 100 mode active
  no shutdown
```

CORE1-F10# show run int eth 2/1

!Command: show running-config interface Ethernet2/1

version 4.2(1)

```
interface Ethernet2/1
```

```

description vPC Peerlink Member Port #1 (por 1000)
switchport
switchport mode trunk
switchport trunk allowed vlan 1,50,100
rate-mode dedicated force
udld aggressive
channel-group 1000 mode active
no shutdown

```

CORE1-F10# show run int eth 4/1

!Command: show running-config interface Ethernet4/1

```
version 4.2(1)
```

```

interface Ethernet4/1
description vPC Peerlink Member Port #2 (por 1000)
switchport
switchport mode trunk
switchport trunk allowed vlan 1,50,100
rate-mode dedicated force
udld aggressive
channel-group 1000 mode active
no shutdown

```

CORE1-F10# show vpc brief

Legend:

(*) - local vPC is down, forwarding via vPC peer-link

```

vPC domain id           : 1
Peer status             : peer adjacency formed ok
vPC keep-alive status   : peer is alive
Configuration consistency status: success
vPC role                : secondary
Number of vPCs configured : 2
Peer Gateway            : Disabled
Dual-active excluded VLANs : -

```

vPC Peer-link status

```

-----
id  Port   Status Active vlans
--  ----  -
1   Po1000 up      1,100
-----

```

vPC status

```

-----
id  Port   Status Consistency Reason           Active vlans
--  ----  -
50  Po50   up      success    success           1,100
100 Po100  up      success    success           1,100
-----

```

Configs for Core2-VDC1

CORE2-F11# show run vpc

!Command: show running-config vpc

```
version 4.2(1)
feature vpc
```

```
vpc domain 1
```

Data_Center_Multi-Layer_VPC_Design_Aggregation_Layer_Failure_Scenarios_(LACP)_Configuration_Example:_Part_I

```
peer-keepalive destination 11.21.1.1 source 11.21.1.2 vrf peerkeepalive
```

```
interface port-channel50
 vpc 50
```

```
interface port-channel100
 vpc 100
```

```
interface port-channel1000
 vpc peer-link
```

```
CORE2-F11# show run int port-channel 50
```

```
!Command: show running-config interface port-channel50
```

```
version 4.2(1)
```

```
interface port-channel50
 description Port-Channel to Northbound Test Port (via 6500)
 switchport
 switchport mode trunk
 vpc 50
 switchport trunk allowed vlan 1,100
 spanning-tree port type edge trunk
 spanning-tree bpdufilter enable
```

```
CORE2-F11# show run int port-channel 100
```

```
!Command: show running-config interface port-channel100
```

```
version 4.2(1)
```

```
interface port-channel100
 description vPC to Aggregation Layer
 switchport
 switchport mode trunk
 switchport trunk allowed vlan 1,100
 vpc 100
```

```
CORE2-F11# show run int port-channel 1000
```

```
!Command: show running-config interface port-channel1000
```

```
version 4.2(1)
```

```
interface port-channel1000
 description vPC Peerlink (eth 2/1, eth 4/1)
 switchport
 switchport mode trunk
 vpc peer-link
 switchport trunk allowed vlan 1,100
 spanning-tree port type network
```

```
CORE2-F11# show port-channel summary
```

```
Flags:  D - Down          P - Up in port-channel (members)
        I - Individual    H - Hot-standby (LACP only)
        s - Suspended     r - Module-removed
        S - Switched      R - Routed
        U - Up (port-channel)
```

Data_Center_Multi-Layer_VPC_Design_Aggregation_Layer_Failure_Scenarios_(LACP)_Configuration_Example:_Part_I

Group	Port-Channel	Type	Protocol	Member Ports
50	Po50(SU)	Eth	LACP	Eth2/26(P)
100	Po100(SU)	Eth	LACP	Eth2/9(P) Eth2/10(P)
1000	Po1000(SU)	Eth	LACP	Eth2/1(P) Eth4/1(P)

```
CORE2-F11# show run int eth 2/26
```

```
!Command: show running-config interface Ethernet2/26
```

```
version 4.2(1)
```

```
interface Ethernet2/26
  description Connection to Catalyst 6500 te5/1 (for Connectivity)
  switchport
  switchport mode trunk
  switchport trunk allowed vlan 1,100
  rate-mode dedicated force
  channel-group 50 mode active
  no shutdown
```

```
CORE2-F11# show run int eth 2/9
```

```
!Command: show running-config interface Ethernet2/9
```

```
version 4.2(1)
```

```
interface Ethernet2/9
  description Connection to AGG1 eth 2/18
  switchport
  switchport mode trunk
  switchport trunk allowed vlan 1,100
  rate-mode dedicated force
  channel-group 100 mode active
  no shutdown
```

```
CORE2-F11# show run int eth 2/10
```

```
!Command: show running-config interface Ethernet2/10
```

```
version 4.2(1)
```

```
interface Ethernet2/10
  description Connection to AGG2 eth 2/18
  switchport
  switchport mode trunk
  switchport trunk allowed vlan 1,100
  rate-mode dedicated force
  channel-group 100 mode active
  no shutdown
```

```
CORE2-F11# show run int eth 2/1
```

```
!Command: show running-config interface Ethernet2/1
```

```
version 4.2(1)
```

```
interface Ethernet2/1
  description vPC Peerlink Member Port #1 (por 1000)
  switchport
```

```
switchport mode trunk
switchport trunk allowed vlan 1,100
rate-mode dedicated force
udld aggressive
channel-group 1000 mode active
no shutdown
```

```
CORE2-F11# show run int eth 4/1
```

```
!Command: show running-config interface Ethernet4/1
```

```
version 4.2(1)
```

```
interface Ethernet4/1
description vPC Peerlink Member Port #2 (por 1000)
switchport
switchport mode trunk
switchport trunk allowed vlan 1,100
rate-mode dedicated force
udld aggressive
channel-group 1000 mode active
no shutdown
```

```
CORE2-F11# show run int vlan 100
```

```
!Command: show running-config interface Vlan100
```

```
version 4.2(1)
```

```
interface Vlan100
no shutdown
description Server Subnet - Vlan 100
ip address 100.100.11.2/24
ip router ospf 100 area 0.0.0.0
hsrp 100
preempt delay minimum 15
timers 1 3
ip 100.100.11.254
```

Configuration of AGG1

```
AGG1-F12# show run vpc
```

```
!Command: show running-config vpc
```

```
version 4.2(1)
```

```
feature vpc
```

```
vpc domain 2
```

```
role priority 1
```

```
peer-keepalive destination 111.211.1.2 source 111.211.1.1 vrf peerkeepalive
```

```
interface port-channel10
```

```
vpc 10
```

```
interface port-channel20
```

```
vpc 20
```

```
interface port-channel100
```

```
vpc 100
```



```
interface port-channel200
 vpc 200
```

```
interface port-channel300
 vpc 300
```

```
interface port-channel600
 vpc 600
```

```
interface port-channel3000
 vpc peer-link
```

```
AGG1-F12# show run int port-channel 10
```

```
!Command: show running-config interface port-channel10
```

```
version 4.2(1)
```

```
interface port-channel10
 description Port Channel to ACC3 Nexus 5K
 switchport
 switchport mode trunk
 vpc 10
 switchport trunk allowed vlan 1,100,200
```

```
AGG1-F12# show run int port-channel 20
```

```
!Command: show running-config interface port-channel20
```

```
version 4.2(1)
```

```
interface port-channel20
 description Port Channel to ACC4 Nexus 5K
 switchport
 switchport mode trunk
 vpc 20
 switchport trunk allowed vlan 1,100,200
```

```
AGG1-F12# show run int port-channel 100
```

```
!Command: show running-config interface port-channel100
```

```
version 4.2(1)
```

```
interface port-channel100
 description Port Channel to Core Layer - VDC1
 switchport
 switchport mode trunk
 vpc 100
 switchport trunk allowed vlan 1,100
```

```
AGG1-F12# show run int port-channel 200
```

```
!Command: show running-config interface port-channel200
```

```
version 4.2(1)
```

```
interface port-channel200
 description Port Channel to Core Layer - VDC2
 switchport
```

Data_Center_Multi-Layer_VPC_Design_Aggregation_Layer_Failure_Scenarios_(LACP)_Configuration_Example:_Part_I

```
switchport mode trunk
switchport trunk allowed vlan 1,200
vpc 200
```

AGG1-F12# show run int port-channel 300

!Command: show running-config interface port-channel300

```
version 4.2(1)
```

```
interface port-channel300
description Port Channel to Access Layer
switchport
switchport mode trunk
switchport trunk allowed vlan 1,100,200
vpc 300
```

AGG1-F12# show run int port-channel 600

!Command: show running-config interface port-channel600

```
version 4.2(1)
```

```
interface port-channel600
description Port Channel to SVR-WIN TEAM2 (100.100.11.201)
switchport
vpc 600
switchport access vlan 100
```

AGG1-F12# show run int port-channel 3000

!Command: show running-config interface port-channel3000

```
version 4.2(1)
```

```
interface port-channel3000
description vPC Peerlink
switchport
switchport mode trunk
vpc peer-link
switchport trunk allowed vlan 1,100,200
spanning-tree port type network
```

AGG1-F12# show port-channel summary

```
Flags: D - Down          P - Up in port-channel (members)
       I - Individual    H - Hot-standby (LACP only)
       s - Suspended     r - Module-removed
       S - Switched     R - Routed
       U - Up (port-channel)
```

Group	Port-Channel	Type	Protocol	Member Ports
10	Po10 (SU)	Eth	LACP	Eth3/1 (P)
20	Po20 (SU)	Eth	LACP	Eth3/2 (P)
100	Po100 (SU)	Eth	LACP	Eth2/17 (P) Eth2/18 (P)
200	Po200 (SU)	Eth	LACP	Eth2/25 (P) Eth2/26 (P)
300	Po300 (SU)	Eth	LACP	Eth3/9 (P) Eth3/10 (P)
600	Po600 (SU)	Eth	NONE	Eth3/17 (P)
3000	Po3000 (SU)	Eth	LACP	Eth2/1 (P) Eth2/2 (P) Eth3/25 (P) Eth3/26 (P)

Data_Center_Multi-Layer_VPC_Design_Aggregation_Layer_Failure_Scenarios_(LACP)_Configuration_Example:_Part_I

```
AGG1-F12# show run int eth 3/1
```

```
!Command: show running-config interface Ethernet3/1
```

```
version 4.2(1)
```

```
interface Ethernet3/1
  description Member Port #1 for Port-Channel 10 (N5K ACC3)
  switchport
  switchport mode trunk
  switchport trunk allowed vlan 1,100,200
  rate-mode dedicated force
  channel-group 10 mode active
  no shutdown
```

```
AGG1-F12# show run int eth 2/1
```

```
!Command: show running-config interface Ethernet2/1
```

```
version 4.2(1)
```

```
interface Ethernet2/1
  description Member port for Peerlink #1
  switchport
  switchport mode trunk
  switchport trunk allowed vlan 1,100,200
  rate-mode dedicated force
  channel-group 3000 mode active
  no shutdown
```

```
AGG1-F12# show vpc brief
```

```
Legend:
```

```
(*) - local vPC is down, forwarding via vPC peer-link
```

```
vPC domain id          : 2
Peer status            : peer adjacency formed ok
vPC keep-alive status  : peer is alive
Configuration consistency status: success
vPC role               : primary
Number of vPCs configured : 6
Peer Gateway           : Disabled
Dual-active excluded VLANs : -
```

```
vPC Peer-link status
```

```
-----
id  Port    Status Active vlans
--  -
1   Po3000 up      1,100,200
-----
```

```
vPC status
```

```
-----
id  Port    Status Consistency Reason           Active vlans
--  -
10  Po10    up      success    success           1,100,200
20  Po20    up      success    success           1,100,200
100 Po100   up      success    success           1,100
200 Po200   up      success    success           1,200
300 Po300   up      success    success           1,100,200
600 Po600   up      success    success           100
-----
```

Configuration of AGG2:

Baseline Configurations for VPC on all routers

```
AGG2-F13# show run vpc
```

```
!Command: show running-config vpc
```

```
version 4.2(1)  
feature vpc
```

```
vpc domain 2  
  peer-keepalive destination 111.211.1.1 source 111.211.1.2 vrf peerkeepalive
```

```
interface port-channel10  
  vpc 10
```

```
interface port-channel20  
  vpc 20
```

```
interface port-channel100  
  vpc 100
```

```
interface port-channel200  
  vpc 200
```

```
interface port-channel300  
  vpc 300
```

```
interface port-channel600  
  vpc 600
```

```
interface port-channel3000  
  vpc peer-link
```

```
AGG2-F13# show run int port-channel 10
```

```
!Command: show running-config interface port-channel10
```

```
version 4.2(1)
```

```
interface port-channel10  
  description Port Channel to ACC3 (N5K)  
  switchport  
  switchport mode trunk  
  vpc 10  
  switchport trunk allowed vlan 1,100,200
```

```
AGG2-F13# show run int port-channel 20
```

```
!Command: show running-config interface port-channel20
```

```
version 4.2(1)
```

```
interface port-channel20  
  description Port Channel to ACC4 (N5K)  
  switchport  
  switchport mode trunk  
  vpc 20  
  switchport trunk allowed vlan 1,100,200
```

```
AGG2-F13# show run int port-channel 100
```

```
!Command: show running-config interface port-channel100
```

```
version 4.2(1)

interface port-channel100
  description Port Channel to Core Layer VDC1
  switchport
  switchport mode trunk
  vpc 100
  switchport trunk allowed vlan 1,100,200

AGG2-F13# show run int port-channel 200

!Command: show running-config interface port-channel200

version 4.2(1)

interface port-channel200
  description Port Channel to Core Layer VDC2
  switchport
  switchport mode trunk
  vpc 200
  switchport trunk allowed vlan 1,100,200

AGG2-F13# show run int port-channel 300

!Command: show running-config interface port-channel300

version 4.2(1)

interface port-channel300
  description Port Channel to Access Layer N7Ks
  switchport
  switchport mode trunk
  vpc 300
  switchport trunk allowed vlan 1,100,200

AGG2-F13# show run int port-channel 600

!Command: show running-config interface port-channel600

version 4.2(1)

interface port-channel600
  description Port Channel to SVR-WIN TEAM2 (100.100.11.201)
  switchport
  vpc 600
  switchport access vlan 100

AGG2-F13# show run int port-channel 3000

!Command: show running-config interface port-channel3000

version 4.2(1)

interface port-channel3000
  description vPC Peerlink
  switchport
  switchport mode trunk
  switchport trunk allowed vlan 1,100,200
```

```
vpc peer-link
spanning-tree port type network
```

```
AGG2-F13# show port-channel summary
```

```
Flags: D - Down          P - Up in port-channel (members)
       I - Individual    H - Hot-standby (LACP only)
       s - Suspended     r - Module-removed
       S - Switched      R - Routed
       U - Up (port-channel)
```

```
-----
Group Port-      Type      Protocol  Member Ports
Channel
-----
10    Po10(SU)    Eth       LACP      Eth3/1(P)
20    Po20(SU)    Eth       LACP      Eth3/2(P)
100   Po100(SU)   Eth       LACP      Eth2/17(P)  Eth2/18(P)
200   Po200(SU)   Eth       LACP      Eth2/25(P)  Eth2/26(P)
300   Po300(SU)   Eth       LACP      Eth3/9(P)   Eth3/10(P)
600   Po600(SU)   Eth       NONE      Eth3/17(P)
1000  Po1000(SD)  Eth       NONE      --
3000  Po3000(SU)  Eth       LACP      Eth2/1(P)   Eth2/2(P)   Eth2/9(P)
                                           Eth2/10(P)
```

```
AGG2-F13# show run int eth 3/1
```

```
!Command: show running-config interface Ethernet3/1
```

```
version 4.2(1)
```

```
interface Ethernet3/1
  description Member Port #1 for Port-Channel 10 (N5K ACC3)
  switchport
  switchport mode trunk
  switchport trunk allowed vlan 1,100,200
  rate-mode dedicated force
  channel-group 10 mode active
  no shutdown
```

```
AGG2-F13# show run int eth 2/1
```

```
!Command: show running-config interface Ethernet2/1
```

```
version 4.2(1)
```

```
interface Ethernet2/1
  description Peer keep-alive Member Port #1
  switchport
  switchport mode trunk
  switchport trunk allowed vlan 1,100,200
  rate-mode dedicated force
  channel-group 3000 mode active
  no shutdown
```

```
AGG2-F13# show vpc brief
```

```
Legend:
```

```
(*) - local vPC is down, forwarding via vPC peer-link
```

```
vPC domain id          : 2
Peer status            : peer adjacency formed ok
vPC keep-alive status  : peer is alive
Configuration consistency status: success
vPC role               : secondary
Number of vPCs configured : 6
```

```
Peer Gateway           : Disabled
Dual-active excluded VLANs : -
```

```
vPC Peer-link status
```

```
-----
id   Port      Status Active vlans
--   -
1    Po3000 up      1,100,200
-----
```

```
vPC status
```

```
-----
id   Port      Status Consistency Reason           Active vlans
--   -
10   Po10      up      success    success           1,100,200
20   Po20      up      success    success           1,100,200
100  Po100     up      success    success           1,100
200  Po200     up      success    success           1,200
300  Po300     up      success    success           1,100,200
600  Po600     up      success    success           100
-----
```

```
AGG2-F13#
```

Configuration of ACC1:

```
ACC1-I13# show run vpc
```

```
!Command: show running-config vpc
```

```
version 4.2(1)
feature vpc
```

```
vpc domain 1
  role priority 1
  peer-keepalive destination 112.212.1.2 source 112.212.1.1 vrf peerkeepalive
```

```
interface port-channel300
  vpc 300
```

```
interface port-channel500
  vpc 500
```

```
interface port-channel4000
  vpc peer-link
```

```
ACC1-I13# show run int port-channel 300
```

```
!Command: show running-config interface port-channel300
```

```
version 4.2(1)
```

```
interface port-channel300
  description Port Channel to AGG Layer N7Ks
  switchport
  switchport mode trunk
  switchport trunk allowed vlan 1,100,200
  vpc 300
```

```
ACC1-I13# show run int port-channel 500
```

```
!Command: show running-config interface port-channel500
```

```

version 4.2(1)

interface port-channel500
  description Port Channel to SVR-WIN (vPC 500)
  switchport
  vpc 500
  switchport access vlan 100

ACC1-I13# show run int port-channel 4000

!Command: show running-config interface port-channel4000

```

```

version 4.2(1)

interface port-channel4000
  description Peerlink Port Channel (eth2/1 - eth2/2)
  switchport
  switchport mode trunk
  vpc peer-link
  switchport trunk allowed vlan 1,100,200
  spanning-tree port type network

```

```

ACC1-I13# show port-channel summary
Flags:  D - Down          P - Up in port-channel (members)
        I - Individual   H - Hot-standby (LACP only)
        s - Suspended    r - Module-removed
        S - Switched     R - Routed
        U - Up (port-channel)

```

```

-----
Group Port-      Type      Protocol  Member Ports
   Channel
-----
300   Po300(SU)   Eth       LACP      Eth2/9(P)   Eth2/10(P)
500   Po500(SU)   Eth       NONE      Eth2/17(P)
4000 Po4000(SU)   Eth       LACP      Eth2/1(P)   Eth2/2(P)
ACC1-I13# show run int eth 2/9

```

```

!Command: show running-config interface Ethernet2/9

```

```

version 4.2(1)

interface Ethernet2/9
  description Member Port #1 - vPC 300 to AGG Layer
  switchport
  switchport mode trunk
  switchport trunk allowed vlan 1,100,200
  rate-mode dedicated force
  channel-group 300 mode active
  no shutdown

```

```

ACC1-I13# show run int eth 2/17

```

```

!Command: show running-config interface Ethernet2/17

```

```

version 4.2(1)

interface Ethernet2/17
  description Connects to SVR-WIN TEAM1 (100.100.11.202)
  switchport

```



```

switchport access vlan 100
rate-mode dedicated force
channel-group 500
no shutdown

```

```
ACC1-I13# show run int eth 2/1
```

```
!Command: show running-config interface Ethernet2/1
```

```
version 4.2(1)
```

```

interface Ethernet2/1
description Peerlink Member Port #1
switchport
switchport mode trunk
switchport trunk allowed vlan 1,100,200
rate-mode dedicated force
channel-group 4000 mode active
no shutdown

```

```
ACC1-I13# show vpc brief
```

```
Legend:
```

```
(*) - local vPC is down, forwarding via vPC peer-link
```

```

vPC domain id           : 1
Peer status             : peer adjacency formed ok
vPC keep-alive status   : peer is alive
Configuration consistency status: success
vPC role                 : primary
Number of vPCs configured : 2
Peer Gateway            : Disabled
Dual-active excluded VLANs : -

```

```
vPC Peer-link status
```

```

-----
id  Port    Status Active vlans
--  -
1   Po4000 up      1,100,200

```

```
vPC status
```

```

-----
id  Port    Status Consistency Reason           Active vlans
--  -
300 Po300   up      success    success           1,100,200
500 Po500   up      success    success           100

```

Configuration of ACC2:

```
ACC2-I12# show run vpc
```

```
!Command: show running-config vpc
```

```
version 4.2(1)
```

```
feature vpc
```

```
vpc domain 1
```

```
peer-keepalive destination 112.212.1.1 source 112.212.1.2 vrf peerkeepalive
```

```
interface port-channel300
```

```
vpc 300
```

```
interface port-channel500
 vpc 500
```

```
interface port-channel4000
 vpc peer-link
```

```
ACC2-I12# show run int port-channel 300
```

```
!Command: show running-config interface port-channel300
```

```
version 4.2(1)
```

```
interface port-channel300
 description vPC to AGG Layer N7Ks
 switchport
 switchport mode trunk
 vpc 300
 switchport trunk allowed vlan 1,100,200
```

```
ACC2-I12# show run int port-channel 500
```

```
!Command: show running-config interface port-channel500
```

```
version 4.2(1)
```

```
interface port-channel500
 description Port Channel to SVR-WIN TEAM1 (eth 2/17)
 switchport
 vpc 500
 switchport access vlan 100
```

```
ACC2-I12# show run int port-channel 4000
```

```
!Command: show running-config interface port-channel4000
```

```
version 4.2(1)
```

```
interface port-channel4000
 description vPC Peerlink (eth 2/1 - eth 2/2)
 switchport
 switchport mode trunk
 vpc peer-link
 switchport trunk allowed vlan 1,100,200
 spanning-tree port type network
```

```
ACC2-I12# show port-channel summary
```

```
Flags: D - Down          P - Up in port-channel (members)
       I - Individual    H - Hot-standby (LACP only)
       s - Suspended     r - Module-removed
       S - Switched      R - Routed
       U - Up (port-channel)
```

```
-----
```

Group	Port-Channel	Type	Protocol	Member Ports
300	Po300(SU)	Eth	LACP	Eth2/9(P) Eth2/10(P)
500	Po500(SU)	Eth	NONE	Eth2/17(P)
4000	Po4000(SU)	Eth	LACP	Eth2/1(P) Eth2/2(P)

```
-----
ACC2-I12# show run int eth 2/9
```

```
!Command: show running-config interface Ethernet2/9
```

```
version 4.2(1)

interface Ethernet2/9
  switchport
  switchport mode trunk
  switchport trunk allowed vlan 1,100,200
  rate-mode dedicated force
  channel-group 300 mode active
  no shutdown
```

```
ACC2-I12# show run int eth 2/17
```

```
!Command: show running-config interface Ethernet2/17
```

```
version 4.2(1)

interface Ethernet2/17
  switchport
  switchport access vlan 100
  rate-mode dedicated force
  channel-group 500
  no shutdown
```

```
ACC2-I12# show run int eth 2/1
```

```
!Command: show running-config interface Ethernet2/1
```

```
version 4.2(1)

interface Ethernet2/1
  description Peerlink Member Port #1
  switchport
  switchport mode trunk
  switchport trunk allowed vlan 1,100,200
  rate-mode dedicated force
  channel-group 4000 mode active
  no shutdown
```

```
ACC2-I12# show vpc brief
```

```
Legend:
```

```
(*) - local vPC is down, forwarding via vPC peer-link
```

```
vPC domain id           : 1
Peer status              : peer adjacency formed ok
vPC keep-alive status   : peer is alive
Configuration consistency status: success
vPC role                 : secondary
Number of vPCs configured : 2
Peer Gateway             : Disabled
Dual-active excluded VLANs : -
```

```
vPC Peer-link status
```

```
-----
id  Port    Status Active vlans
--  -
1   Po4000 up    1,100,200
-----
```

```
vPC status
```

id	Port	Status	Consistency	Reason	Active vlans
300	Po300	up	success	success	1,100,200
500	Po500	up	success	success	100

Configuration of ACC3:

```
n5k-F10# show port-channel summary
Flags: D - Down          P - Up in port-channel (members)
       I - Individual    H - Hot-standby (LACP only)
       s - Suspended     r - Module-removed
       S - Switched     R - Routed
       U - Up (port-channel)
-----
Group Port-      Type      Protocol  Member Ports
  Channel
-----
10   Po10(SU)   Eth       LACP      Eth1/1(P)  Eth1/2(P)
n5k-F10# show run int port-channel 10
version 4.0(1a)N2(1a)

interface port-channel10
  switchport mode trunk
  switchport trunk allowed vlan 1,100,200

n5k-F10# show run int eth 1/1
version 4.0(1a)N2(1a)

interface Ethernet1/1
  switchport mode trunk
  switchport trunk allowed vlan 1,100,200
  channel-group 10 mode active

n5k-F10# show run int eth 1/2
version 4.0(1a)N2(1a)

interface Ethernet1/2
  switchport mode trunk
  switchport trunk allowed vlan 1,100,200
  channel-group 10 mode active

n5k-F10# show run int eth 1/7
version 4.0(1a)N2(1a)

interface Ethernet1/7
  spanning-tree port type edge
  switchport access vlan 100
```

Configuration of ACC4:

```
n5k-F11# show port-channel summary
Flags: D - Down          P - Up in port-channel (members)
       I - Individual    H - Hot-standby (LACP only)
       s - Suspended     r - Module-removed
       S - Switched     R - Routed
       U - Up (port-channel)
-----
Group Port-      Type      Protocol  Member Ports
  Channel
-----
20   Po20(SU)   Eth       LACP      Eth1/1(P)  Eth1/2(P)
n5k-F11# show run int eth 1/1
```

```
version 4.0(1a)N2(1a)

interface Ethernet1/1
  switchport mode trunk
  switchport trunk allowed vlan 1,100,200
  channel-group 20 mode active

n5k-F11# show run int eth 1/2
version 4.0(1a)N2(1a)

interface Ethernet1/2
  switchport mode trunk
  switchport trunk allowed vlan 1,100,200
  channel-group 20 mode active

n5k-F11# show run int port-channel 20
version 4.0(1a)N2(1a)

interface port-channel20
  switchport mode trunk
  switchport trunk allowed vlan 1,100,200
```

Related Information

[Technical Support & Documentation - Cisco Systems](#)