

VDC	VPC	Fabricpath (cont)	HSRP Localisation
system hap-reset vdc resource template <i>otv-te- mplate</i> limit-resource VRF min 8 max 16 vdc N7K1id 1 no limit-resource module-type allocate interface ethernet 3/1-8 ha-policy single-sup reload template <i>otv-template</i> Verification: sh vdc internal pss sh int e3/1 capabilities >>>> It will show the port-group.	feature vpc vpc domain 100 role priority 1 system-priority 1 peer-keepalive destination <i>8.8.8.2 source 8.8.8.1 vrf vpc- keepalive</i> dual-active exclude interface- vlan 10 ! interface port-channel100 vpc peer-link Verification: show vpc consistency-par- ameters global	! interface Ethernet1/1 switchport mode fabricpath fabricpath isis metric 50 VRRP feature vrrp ! interface Vlan31 no shutdown ip address 10.1.31.2 vrrp 1 priority 254 address 10.1.31.1 no shutdown	! VACL Filter: ip access-list ALL_IPs 10 permit ip any any ! ip access-list HSRP_IP 10 permit udp any 224.0.0.2/32 eq 1985 20 permit udp any 224.0.0.1- 02/32 eq 1985 ! vlan access-map HSRP_Localiz- ation 10 match ip address HSRP_IP action drop vlan access-map HSRP_Localiz- ation 20 match ip address ALL_IPs action forward ! vlan filter HSRP_Localization vlan-list 3001-3002 ! ! OTV MAC route filter: mac-list OTV_HSRP_VMA- C_deny seq 10 deny 0000.0- c07.ac00 ffff.ffff.ff00 mac-list OTV_HSRP_VMA- C_deny seq 20 deny 0000.0- c9f.f000 ffff.ffff.f000 mac-list OTV_HSRP_VMA- C_deny seq 30 permit 0000.0- 000.0000 0000.0000.0000 ! route-map OTV_HSRP_filter permit 10 match mac-list OTV_HSRP_- VMAC_deny ! otv-isis default vpn Overlay0 redistribute filter route-map OTV_HSRP_filter
VLAN	VPC+	HSRP	
vlan dot1Q tag native ! vlan 2 name VLAN2 Verification: sh int switchport	vpc domain 200 fabricpath switch-id 200 ! interface port-channel100 switchport mode fabricpath vpc peer-link	feature hsrp ! interface Vlan41 no shutdown ip address 10.1.41.252/24 hsrp version 2 hsrp 1 ip 10.1.41.254 authentication md5 key-chain mychain timers 1 3 preempt priority 255 ! key chain mychain key 1 key-string CCIEDC Verification: sh hsrp brief sh hsrp group 1*	
SVI (Switch Virtual Interface)	Fabricpath		
feature interface-vlan ! interface vlan 41 no shutdown ip address 10.1.41.252/24	install feature-set fabricpath feature-set fabricpath ! fabricpath switch-id 300 ! fabricpath timers linkup-delay 20 ! fabricpath domain default root-priority 255 maximum-paths 2 ! vlan 34 mode fabricpath		
VRF			
vrf context vpc-keepalive ! interface Vlan888 vrf member vpc-keepalive ip address 8.8.8.1/30			

Jumbo Frame

```
N7K:
system jumbomtu 9216
!
int e3/1
mtu 9216
!
N5K-1:
policy-map type network-qos
jumbo
class type network-qos class-
fcoe
pause no-drop
mtu 2158
!
class type network-qos class--
default
mtu 9216
!
system qos
service-policy type network-qos
jumbo
```

Netflow

```
feature netflow
!
flow exporter nf_collector
destination 10.1.1.1 use-vrf
management
source mgmt 0
version 9
!
flow monitor nf_monitor
record netflow-original
exporter nf_collector
!
interface Vlan1
ip flow monitor nf_monitor input
```

Verification:

```
show run netflow
show flow exporter
show flow monitor
show flow interface
```

OSPF

```
feature ospf
!
router ospf 1
router-id 1.1.1.1
!
interface Ethernet4/1
ip router ospf 1 area 0
ip ospf network point-to-point
```

Verification:

```
sh ip ospf neighbors summary
sh ip ospf neighbors
```

EIGRP

```
feature eigrp
feature bfd
!
route-map SVI permit 10
match interface vlan 40 vlan 50
!
router eigrp 1
bfd
autonomous-system 1
router-id 1.1.1.1
redistribute direct route-map SVI
!
interface Ethernet4/1
ip router eigrp 1
no ip redirects
ip summary-address eigrp 1
10.1.40.0/22
```

PIM

```
feature pim
!
ip pim rp-address 20.0.0.1
!
interface Ethernet4/1
ip pim sparse-mode
no shutdown
```

Verification:

```
show run pim
show pim neighbor
```

OTV

```
feature otv
!
otv site-vlan 80
otv site-identifier 0x1
!
interface Overlay1
otv join-interface Ethernet4/1
otv control-group 239.1.1.1
otv data-group 232.1.1.0/24
otv extend-vlan 90
no shutdown
!
interface Ethernet4/1
ip igmp version 3
no shutdown
```

Verification:

```
show ip igmp interface brief
show otv
show otv vlan
show otv adjacency
show otv route
```

Enhanced VPC

```
feature fex
!
fex 101
diag boot level bypass
!
inter eth 1/1-2
channel-group 101
no shut
!
inter po101
switchport
switchport mode fex
fex associate 101
vpc 101
no shut
```

ACL

```
ip access-list WAN
10 permit ip any 10.1.40.0/24
20 permit tcp any 10.1.41.0/24
eq 23
30 deny ip any 10.1.41.0/24
40 permit ip any any
!
inter eth 4/1
ip access-group WAN in
```

NTP

Default VDC:

```
clock protocol ntp vdc 3
!
VDC3:
ntp server 10.0.0.1 prefer
ntp source-interface eth 4/1
```

Syslog

```
logging server 10.0.0.1
logging source-interface lo0
```

MST

```
spanning-tree mode mst
!
spanning-tree mst configuration
name ccie
revision 5
instance 1 vlan 41,42
!
spanning-tree mst 1 root primary
```

STP

```
! SPT root primary
spanning-tree vlan 1-4094 root
primary
```

Verification:

```
sh spanning-tree root
sh spanning-tree summary
```

FCoE - Storage VDC

```

Default VDC:
!
install feature-set fcoe
!
license fcoe module 3
!
system qos
service-policy type network-qos
default-nq-7e-policy
!
port-channel load-balance src-
dst ip-l4port module 3
!
vdc Storage_VDCid 2type
storage
allocate fcoe-vlan-range 100
!
Storage VDC:
feature-set fcoe
feature npiv
feature lacp
feature lldp
!
vsan database
vsan 100
!
vlan 100
fcoe vsan 100

```

```

Verification:
show vlan fcoe
show policy-map system
show run ipqos

```

vfc

```

interface Ethernet 3/1
switchport
switchport mode trunk
switchport trunk allowed vlan 200
spanning-tree port type edge
trunk
!

```

vfc (cont)

```

interface vfc 4
bind interface Ethernet 3/1
switchport mode F
switchport trunk allowed vsan 2
!
vlan 200
fcoe vsan 2
!
vsan database
vsan 2interface vfc 4

```

```

Verification:
show int bri fcoe
show int vfc 4 trunk vsan

```

vfc-portchannel

```

feature lacp
!
interface port-channel1
switchport
switchport mode trunk
switchport trunk allowed vlan
100
no shutdown
!
interface Ethernet4/1
channel-group 1force mode
active
!
interface vfc-po1
switchport mode F
switchport trunk allowed vsan
100
no shutdown
!
vsan database
vsan 100interface vfc-po 1

```

F san-portchannel

```

feature npiv
feature fport-channel-trunk
!
interface port-channel 100
channel mode active
switchport mode f
switchport mode trunk on
switchport trunk allowed vsan
100
switchport rate-mode shared
!
interface fc1/9-12
channel-group 100force
no shutdown

```

E san-portchannel

```

N5K:
feature fcoe
!
vsan database
vsan 200
vsan 200loadbalancing src-dst-
id
! SID/DID
port-channel load-balance
ethernet source-dest-ip
!
fcdomain domain 0x1 static
vsan 200
fcdomain restart vsan 200
!
interface san-port-channel 22
channel mode active
switchport mode E
switchport trunk mode on
switchport trunk allowed vsan
add 200

```

E san-portchannel (cont)

```

switchport rate-mode dedicated

```

FCIP with FCSP

```

feature fcip
feature fcsp
!
fcsp dhchap password CCIEDC
fcsp dhchap devicename
NeighborSwitchWWNpassword
CCIEDC
!
int Gi1/1
ip address 10.3.1.1 255.255.2-
55.252
switchport mtu 2300
no shutdown
!
fcip profile 1
ip address 10.3.1.1
!
vsan database
vsan 100
!
interface port-channel 1
channel mode active
fcsp on
switchport mode e
switchport trunk allowed vsan
add 100
!
interface fcip1
use-profile 1
peer-info ipaddr 10.3.1.2
channel-group 1 force
no shutdown

```

```

show wwn switch
show fcsp dhchap database
show fcsp interface port-channel
1

```

FCIP via Firewall MDS-1: feature fcip int <i>gi1/1</i> ip addr 10.3.1.1 255.255.2-55.252 switchport mtu 2300 no shut ! fcip profile 10 ip add 10.3.1.1 port 3005 ! int fcip 10 use-profile 10 peer-info ipadd 10.3.1.2 passive-mode switchport mode e switchport trunk allowed vsan 100 no shut ! MDS-2: int <i>gi1/1</i> ip add 10.3.1.2 255.255.255.252 switchport mtu 2300 no shut ! fcip profile 10 ip add 10.3.1.2 ! int fcip 10 use-profile 10 peer-info ipadd 10.3.1.1 port 3005 switchport mode e switchport trunk allowed vsan 100 no shut Verification: show fcip profile show fcip summary	NPV feature fcoe feature npv ! slot 2 port 1-16 type fc poweroff module 2 no poweroff module 2 ! npv auto-load-balance disruptive FC Zone Creating zone: zoneset name <i>zs_vsan_100</i> vsan 100 zone name <i>zone_vsan_100</i> member pwwn 20:00:00:25:b5:-00:00:01 member pwwn 50:00:00:00:00:-00:00:01 ! zoneset activate name <i>zs_vsan_100</i> vsan 100 ! No zone (useful for troubleshooting but not for production): zone default-zone permit vsan 100 ! ! Basic mode - manual full zone database distribution: zoneset distribute vsan 100 ! ! Enhanced mode - Automatic full zone database distribution: zone mode enhanced ! show zone status vsan 100 Shortcuts sh cli history config-mode unformatted cli alias name <i>v2</i> switchto vdc <i>N7K-2</i>	FCoE Host int <i>eth1/20</i> switchport switchport mode trunk switchport trunk allowed vlan 1,100 spanning-tree port type edge trunk no shut int <i>vfc 20</i> bind interface <i>eth1/20</i> switchport mode F switchport trunk allowed vsan 100 no shut N1KV - manual subgroup port-profile type ethernet system-uplink channel-group auto mode on subgroup manual ! interface <i>e3/1</i> sub-group-id 0 To find the interface number: module <i>vem 3</i> execute <i>vemcmd</i> show port N1KV - iSCSI Multipath port-profile type <i>vethernet iscsi</i> capability iscsi-multipath system vlan 30 ! port-profile type ethernet system-uplink system vlan 1,30,40* N1KV - QoS policy-map type qos <i>silver</i> class class-default set cos 2 !	N1KV - QoS (cont) port-profile type <i>vethernet iscsi</i> service-policy type qos input <i>silver</i> ! system jumbomtu 9000 ! port-profile type ethernet system-uplink mtu 9000 N1KV - Setup ! Maximum number of ports in a non-uplink port-profile port-profile default max-ports 8 ! dv Port ID persists for the life of veth port-profile default port-binding static N1KV - relative subgroup ! Subgroup ID should start from 0 and increase by 1 for each additional uplink port-profile type <i>ethernet</i> system-uplink channel-group auto mode on mac-pinning relative
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