Nexus 5000 NPIV FCoE with FCoE NPV Attached UCS Configuration Example

TAC   **Document ID: 116248**

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May 01, 2014

Contents

Introduction

This document describes how to configure N_Port ID Virtualization (NPIV) or N_Port Virtualization (NPV) with Fibre Channel over Ethernet (FCoE) between the Cisco Unified Computing System (UCS) and a Nexus 5000 switch.

Prerequisites

Requirements

The information in this document is based on these software and hardware versions:

- UCS 5108
- UCS 61xx/62xx
- Nexus 5548UPor 5596UP

Components Used

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.
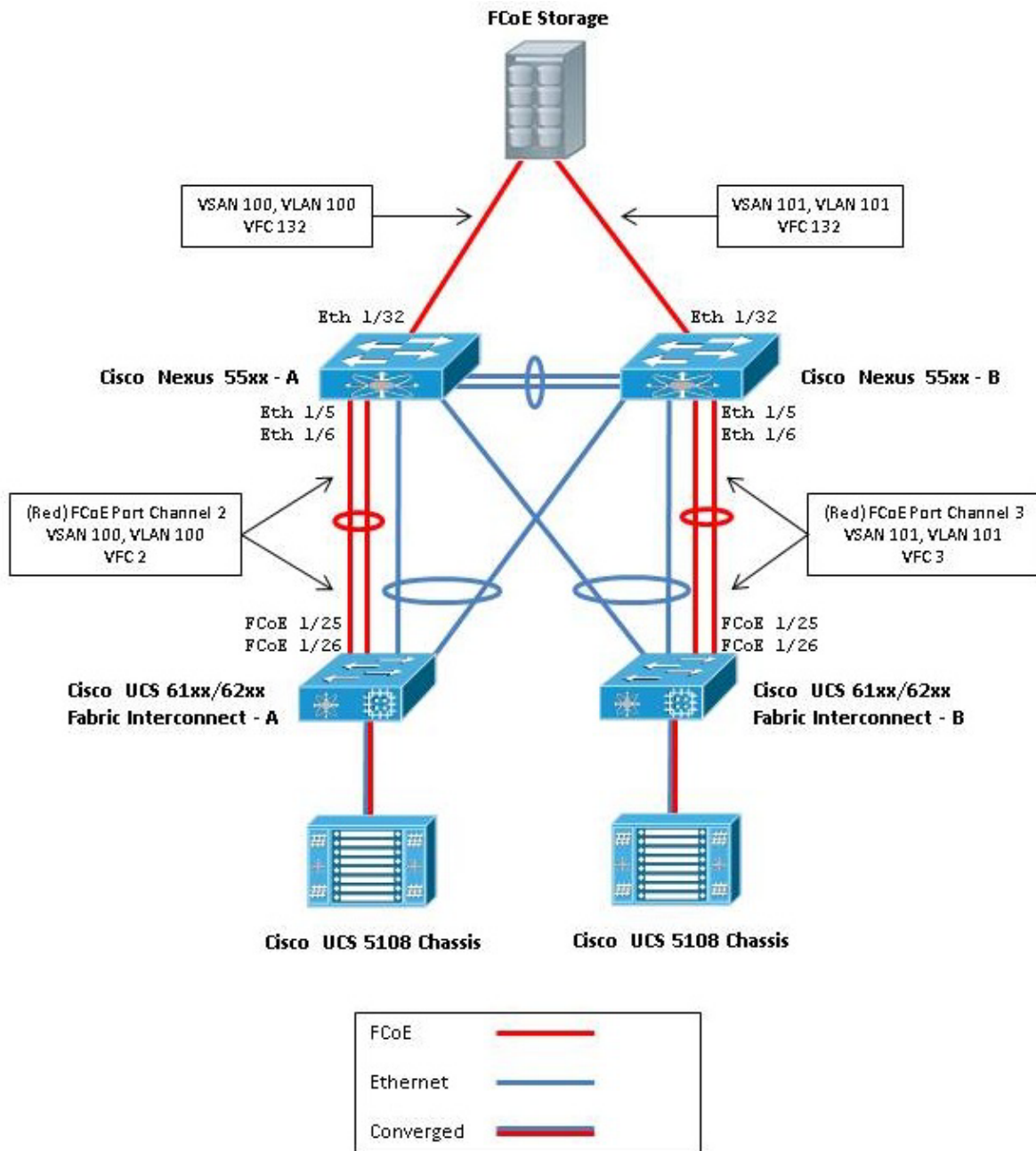
Configure

Network Diagram

Figure 1. Topology Used in the Configuration

Configure the UCS

There are two procedures outlined here to help you configure the UCS:

- Create FCoE virtual storage area networks (VSANs).
- Configure the UCS FCoE Port Channel.

Note: Separate the FCoE and Ethernet Uplinks between the Nexus 5000 switch and the fabric interconnect. The UCS is in the Fibre Channel (FC) End−Host Node, which is called the NPV mode in the Nexus products. Use different FCoE VLANs/VSANs for storage area network (SAN) A and SAN B. The FCoE VLAN must not be configured as a native VLAN.

It is important to note that the UCS does not support a non−default FC−Map when in NPV mode. For more information, reference Cisco bug IDs CSCuJ62005 and CSCud78290:

- CSCuj62005 – non–default FCMAP make vfc stuck at initializing
- CSCud78290 – Add Ability to Modify FC–MAP of FI

Create FCoE VSANs

You need to create VSANs and FCoE VLANs in UCS in order to carry the FCoE traffic. A best practice, but not a requirement, is to align the VSAN ID with the FCoE VLAN ID in order to help track and troubleshoot.

1. In UCSM, navigate to the SAN tab in the navigation pane, and choose **SAN Cloud.**
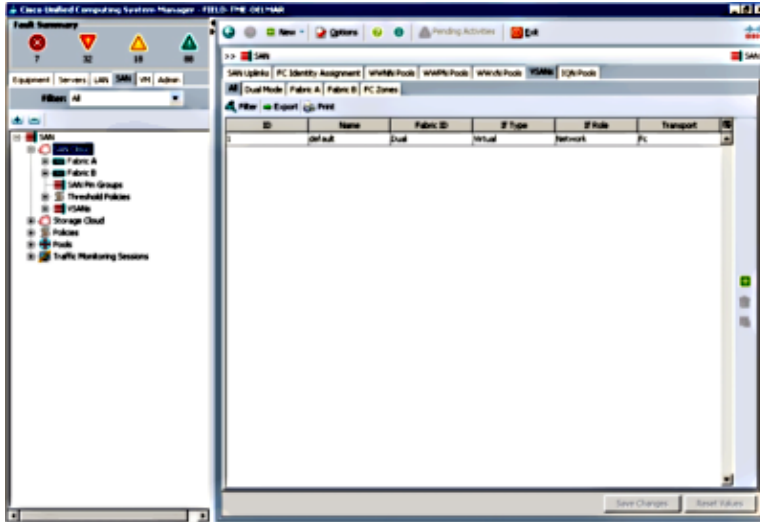
2. In the main window, click the **green** + button on the right in order to display the Create VSAN window.

3. Complete the fields as follows:

Name	Enter a name for the VSAN
FC Zoning	Disabled – This is only used when you implement local zoning features
Fabric Radio Buttons	Choose Fabric A
VSAN ID	Enter the VSAN ID for the VSAN that is created on Fabric A – This should correspond with the VSAN ID that will be created on the Nexus 5000–A
FCoE VLAN	Enter the FCoE VLAN ID for the VLAN which maps to this VSAN – This should correspond with the VLAN ID which will be created on the Nexus 5000–A
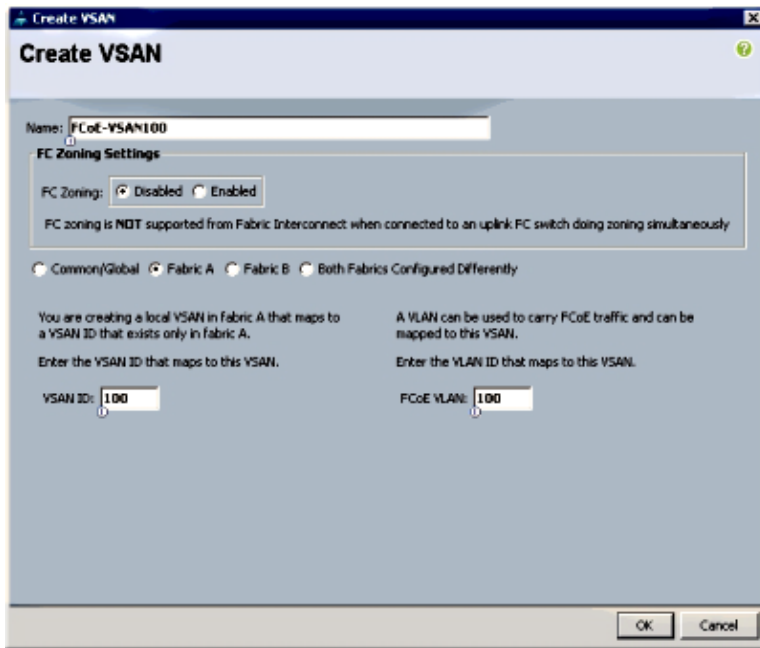
4. Click *OK* in order to display the Create VSAN success window. Click *OK*.

5. Repeat these steps for Fabric B. In the main window, click the *green* + button on the right in order to display the Create VSAN window.

6. Complete the fields as follows:

Name	Enter a name for the VSAN
FC Zoning	Disabled – This is only used when you implement local zoning features
Fabric Radio Buttons	Choose Fabric B
VSAN ID	Enter the VSAN ID for the VSAN that is created on Fabric B – This should correspond with the VSAN ID that will be created on the Nexus 5000–B
FCoE VLAN	Enter the FCoE VLAN ID for the VLAN which maps to this VSAN – This should correspond with the VLAN ID which will be created on the Nexus 5000–B
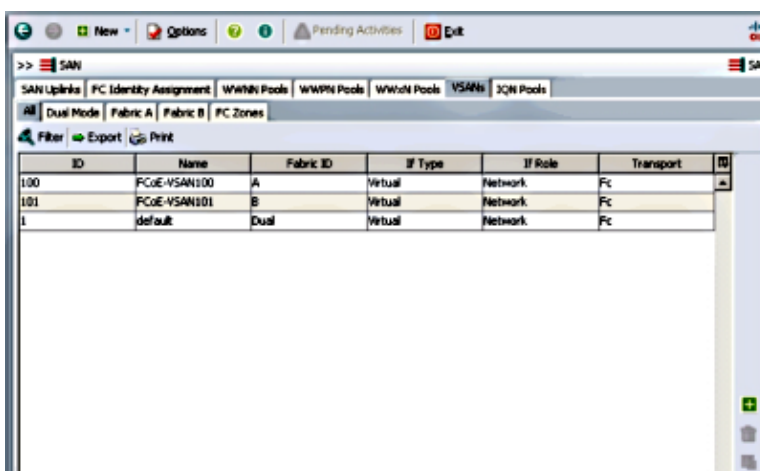
7. Click *OK* in order to display the Create VSAN success window. Click *OK*.

8. In the main window, verify that the VSANs have been created in their correct fabrics:

Note: A best practice, but not a requirement, is to configure different VSAN IDs across Fabric A and Fabric B.

Configure UCS FCoE Port Channel

Note: FCoE Port Channels provide aggregated bandwidth and multiple connection resiliency. The rest of this document assumes that you will use FCoE Port Channels. Port Channels require FC Uplink Trunking to be enabled within UCS. FC Uplink Trunking is global and trunks all VSANs on all uplinks. The same behavior applies to FCoE Uplink Ports.

1. Create and configure InterSwitch Link / Port Channels. Create an FCoE Uplink or a FCoE Port Channel between the Nexus 5000–A and FI–A.
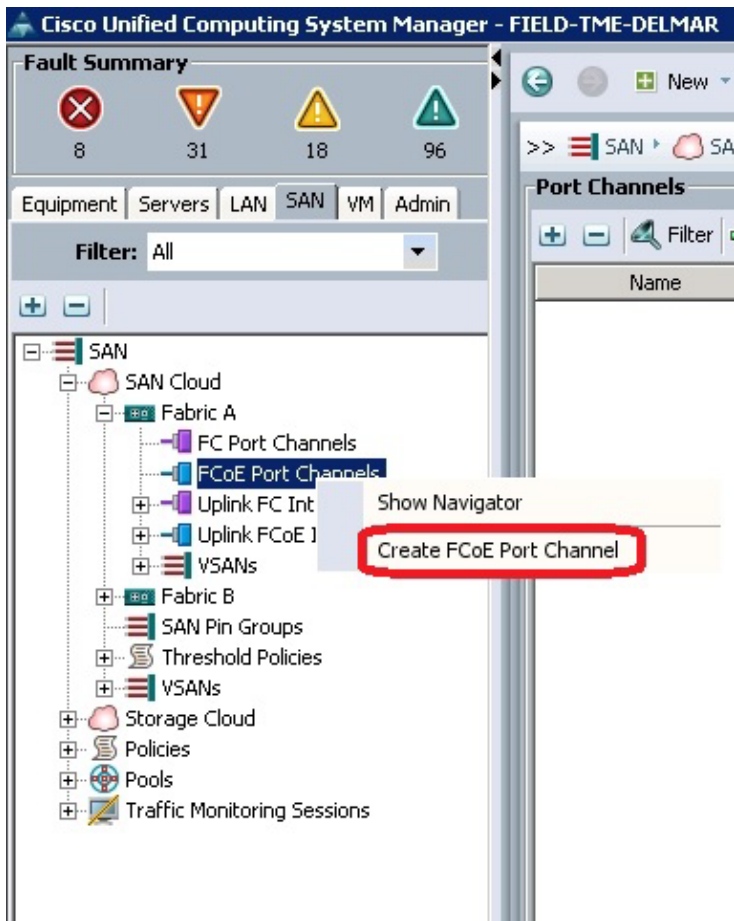
2. When the Cisco Unified Computing System Manager (UCSM) Set Port Channel Name window displays, enter the **Port Channel ID** (in this example, the Port Channel ID is 2) and **Name**.
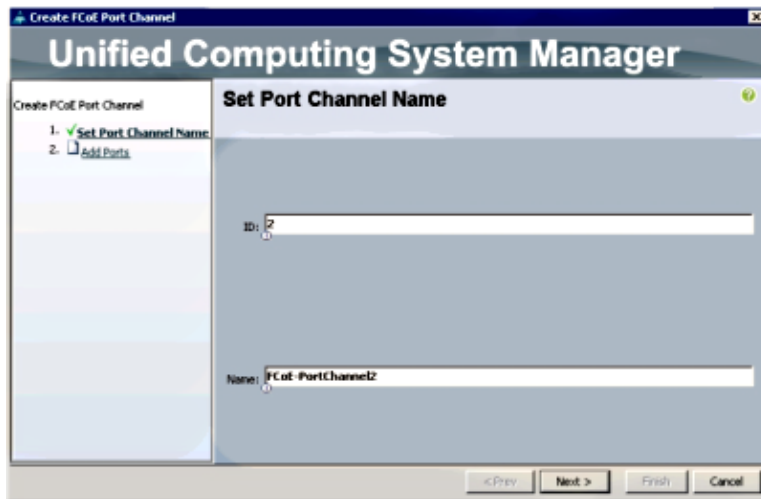
3. When you are finished, click **Next**.

4. When the UCSM Add Ports window displays, choose the **desired ports** in the Port column and click the **right arrow** between the columns in order to add these ports to the FCoE Port Channel.
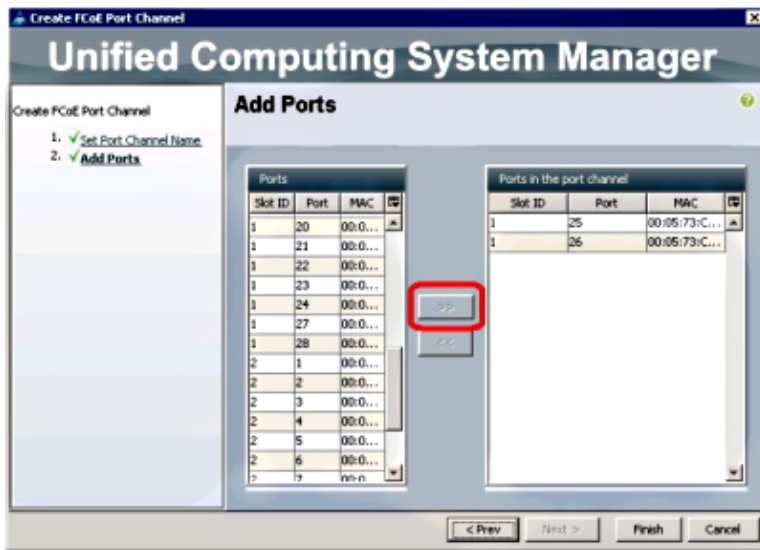
5. When the FCoE Uplink Ports have been moved to the Port Channel column, click **Finish**.

6. When the Create FCoE Port Channel Success window displays, click **OK**.

7. Review the FCoE Port Channel information in the UCSM main window in order to confirm that the FCoE Port Channel has been created with the correct ports.
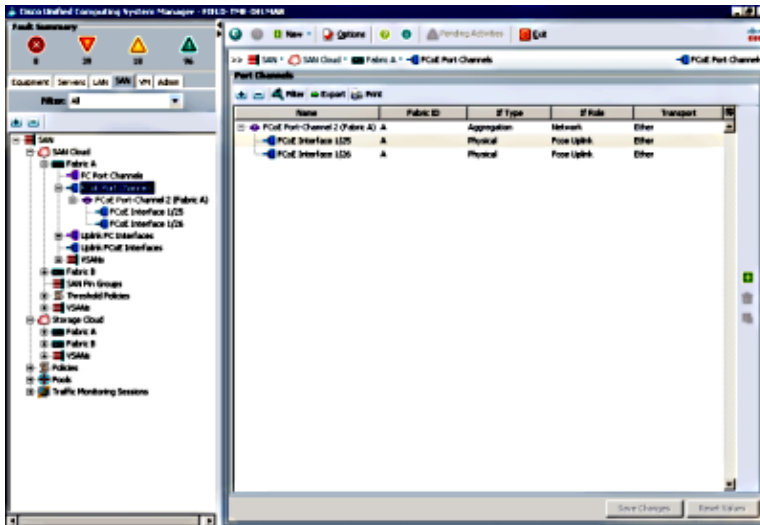
8. In the Navigation Pane, click the **Port Channel** that was just created. In the General tab of the UCSM main window, click the **VSAN drop−down list** and choose **VSAN FCoE−VSAN100 (100)** in order to assign this Port Channel to VSAN100.
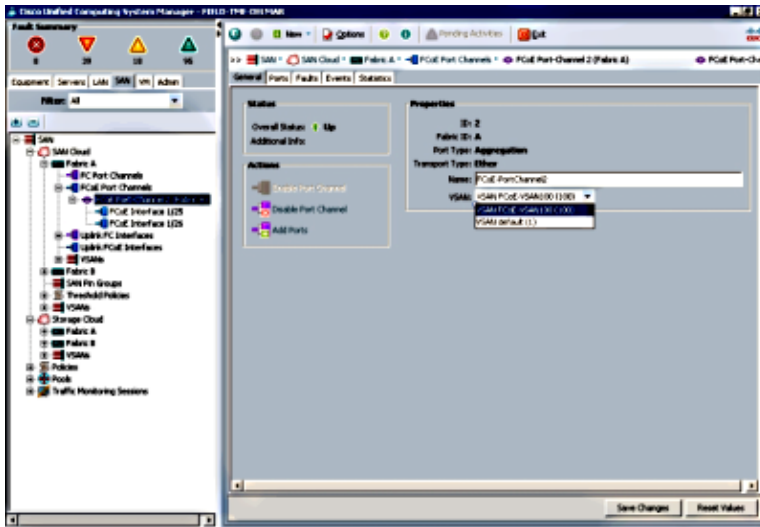
9. Click *Save Changes*. When the Cisco UCSM Success window displays, click *OK*.

10. Repeat Steps 1–9 for FI–B, but substitute Fabric B, FCoE–PortChannel ID 3, and VSAN101 where appropriate.

Configure the Nexus 5000 for FCoE and NPIV

There are several procedures that are required in order to configure the Nexus 5000 for FCoE and NPIV:

- Enable Feature FCoE
- Enable N Port Identifier Virtualization (NPIV) on the Nexus 5000
- Enable the Link Aggregation Control Protocol (LACP) on the Nexus 5000
- Enable Nexus 5000 Quality of Service (QoS) for FCoE
- Configure VLAN
- Configure VSAN
- Map the VLAN to VSAN

Note: Before you begin this process, you need to have the FC_FEATURES_PKG (N5010SS or N5020SS) license installed. If you enable the FCoE feature and you do not have the license installed, it enables a demo license for 180 days. This license can be upgraded later.

Enable Feature FCoE

1. On the Nexus 5000–A switch, enter:

```
Nexus 5000-A# configure terminal
Nexus 5000-A(config)# feature fcoe
FC license checked out successfully
fc_plugin extracted successfully
FC plugin loaded successfully
FCoE manager enabled successfully
FC enabled on all modules successfully
Enabled FCoE QoS policies successfully
```

2. In order to confirm that the feature is now active, enter:

```
Nexus 5000-A# show feature | include fcoe

Feature Name         Instance State
-------------------- -------- --------
fcoe                 1        enabled
```

3. Repeat Steps 1–2 on the Nexus 5000–B.

Enable NPIV on the Nexus 5000

1. In order to enable feature NPIV, enter:

```
Nexus 5000-A# configuration terminal
Nexus 5000-A(config)# feature npiv
```
2. In order to confirm that feature NPIV is now active, enter:

```
Nexus 5000-A# show npiv status
NPIV is enabled
```
3. Repeat Steps 1–2 on the Nexus 5000–B.

Enable LACP on the Nexus 5000

1. In order to enable feature LACP, enter:

```
Nexus 5000-A# configure terminal
Nexus 5000-A(config)# feature lacp
```
2. In order to confirm that LACP has been enabled, enter:

```
Nexus 5000-A#show feature | include LACP

Feature Name         Instance State
-------------------- -------- --------
lacp                 1        enabled
```
3. Repeat Steps 1–2 on the Nexus 5000–B.

Configure Nexus 5000 FCoE QoS Parameters

The configurable Cisco NX–OS QoS features allow you to classify the network traffic, prioritize the traffic flow, and provide congestion avoidance. The default QoS configuration on the Nexus 5000 provides lossless service for FC and FCoE traffic and best–effort service for Ethernet traffic. The Nexus 5000 FCoE QoS Parameters should already be configured by default.

1. In order to verify the FCoE QoS parameters, enter:

```
Nexus 5000-A# show startup-config ipqos
```
2. Within the output, locate these items:

```
. .
system qos
service-policy type queuing input fcoe-default-in-policy
service-policy type queuing output fcoe-default-out-policy
service-policy type qos input fcoe-default-in-policy
service-policy type network-qos fcoe-default-nq-policy
```
3. Skip this step if the FCoE QoS configurations from Step 2 are present. If they are not, enter this configuration:

```
Nexus 5000-A# configure terminal
Nexus 5000-A(config)# system qos
Nexus 5000-A(config-sys-qos)# service-policy type qos input
fcoe-default-in-policy
Nexus 5000-A(config-sys-qos)# service-policy type queuing input
fcoe-default-in-policy
Nexus 5000-A(config-sys-qos)# service-policy type queuing output
fcoe-default-out-policy
Nexus 5000-A(config-sys-qos)# service-policy type network-qos
```

```
        fcoe-default-nq-policy
```

4. In order to confirm that the FCoE QoS parameters are now configured, enter:

```
Nexus 5000-A# show startup-config ipqos
```

5. Within the output, locate these items:

```
..
system qos
service-policy type queuing input fcoe-default-in-policy
service-policy type queuing output fcoe-default-out-policy
service-policy type qos input fcoe-default-in-policy
service-policy type network-qos fcoe-default-nq-policy
```

6. Repeat Steps 1–3 on the Nexus 5000–B.

Create Nexus 5000 VLANs

Create two VLANs for FCoE use. The even should correlate with FI–A and the odd should correlate with FI–B. Use the FCoE VLAN IDs that are specified in the *Configure the UCS* section of this document.

1. On the Nexus 5000–A that is connected to FI–A, enter:

```
Nexus 5000-A# configure terminal
Nexus 5000-A(config)# vlan 100
Nexus 5000-A(config-vlan)# name FCoE-VLAN100
```

2. In order to confirm that VLAN has been created on the Nexus 5000–A, enter:

```
Nexus 5000-A# show vlan brief
VLAN Name                         Status    Ports
---- ---------------------------- --------- -------------------------------
1    default                      active    Eth1/1, Eth1/2, Eth1/3, Eth1/4
                                            Eth1/5, Eth1/6, Eth1/7, Eth1/8
.
100  FCoE-VLAN100                 active
```

3. On the Nexus 5000–B that is connected to FI–B, enter:

```
Nexus 5000-B# configure terminal
Nexus 5000-B(config)# vlan 101
Nexus 5000-B(config-vlan)# name FCoE-VLAN101
```

4. In order to confirm that VLAN has been created on the Nexus 5000–B, enter:

```
Nexus 5000-B# show vlan brief
VLAN Name                         Status    Ports
---- ---------------------------- --------- -------------------------------
1    default                      active    Eth1/1, Eth1/2, Eth1/3, Eth1/4
                                            Eth1/5, Eth1/6, Eth1/7, Eth1/8
.
100  FCoE-VLAN101                 active
```

Create Nexus 5000 VSANs

Create two VSANs. The even should correlate with FI–A and the odd should correlate with FI–B. Use the VSAN IDs that are specified in the *Configure the UCS* section of this document.

1. On the Nexus 5000–A that is connected to FI–A, enter:

```
Nexus 5000-A# configure terminal
Nexus 5000-A(config)#vsan database
Nexus 5000-A(config-vsan)# vsan 100
Nexus 5000-A(config-vsan)# vsan 100 name FCoE-VSAN100
```

2. In order to confirm that VSAN has been created on the Nexus 5000–A, enter:

```
Nexus 5000-A#show vsan 100
vsan 100 information
name:FCoE-VSAN100 state:active
interoperability mode:default
loadbalancing:src-id/dst-id/oxid
operational state:down
```
3. On the Nexus 5000–B that is connected to FI–B, enter:

```
Nexus 5000-B# configure terminal
Nexus 5000-B(config)#vsan database
Nexus 5000-B(config-vsan)# vsan 101
Nexus 5000-B(config-vsan)# vsan 101 name FCoE-VSAN101
```
4. In order to confirm that VSAN has been created on the Nexus 5000–B, enter:

```
Nexus 5000-A# show vsan 101
vsan 101 information
name:FCoE-VSAN101 state:active
interoperability mode:default
loadbalancing:src-id/dst-id/oxid
operational state:down
```

Map the Vlan to VSAN

1. In order to map the Nexus 5000–A VLANs to their VSANs (to FI–A), enter:

```
Nexus 5000-A#configure terminal
Nexus 5000-A(config)# vlan 100
Nexus 5000-A(config-vlan)#fcoe vsan 100
```
2. In order to confirm VLAN–to–VSAN mapping on the Nexus 5000–A, enter:

```
Nexus 5000-A# show vlan fcoe
Original VLAN ID Translated VLAN ID Association State
--------------- ------------------ -----------------
     10              100              Operational
```
3. In order to map the Nexus 5000–B VLANs to their VSANs (to FI–B), enter:

```
Nexus 5000-B# configure terminal
Nexus 5000-B(config)# vlan 101
Nexus 5000-B(config-vlan)# fcoe vsan 101
```
4. In order to confirm VLAN–to–VSAN mapping on the Nexus 5000–B, enter:

```
Nexus 5000-B# show vlan fcoe
Original VLAN ID Translated VLAN ID Association State
--------------- ------------------ -----------------
     10              101              Operational
```

Configure Nexus 5000 FCoE Uplink Port and Port Channel

1. In order to configure and add to the Port Channel the 10GbE ports which have been cabled to the
   FI–A 10GbE ports on the Nexus 5000–A switch, enter:

```
Nexus 5000-A#configure terminal
Nexus 5000-A(config)# interface ethernet 1/5-6
Nexus 5000-A(config-if-range)# switchport mode trunk
Nexus 5000-A(config-if-range)# switchport trunk allowed vlan 100
Nexus 5000-A(config-if-range)# channel-group 2 mode active
Nexus 5000-A(config-if-range)#no shutdown
Nexus 5000-A(config-if-range)# exit
```
2. In order to create Port Channels, enter:

```
Nexus 5000-A# configure terminal
```

```
Nexus 5000-A(config)# interface port-channel 2
Nexus 5000-A(config-if)# no shutdown
```

3. In order to confirm that the Port Channel between the Nexus 5000–A and FI–A is now active, enter:

```
Nexus 5000-A# show port-channel database
port-channel2
    Last membership update is successful
    2 ports in total, 2 ports up
    First operational port is Ethernet1/5
    Age of the port-channel is 0d:00h:09m:19s
    Time since last bundle is 0d:00h:05m:27s
    Last bundled member is Ethernet1/6
    Time since last unbundle is 0d:00h:05m:38s
    Last unbundled member is Ethernet1/6
    Ports: Ethernet1/5 [active ] [up] *
           Ethernet1/6 [active ] [up]
```

4. In order to configure and add to the Port Channel the 10GbE ports which have been cabled to the FI–B 10GbE ports on the Nexus 5000–B switch, enter:

```
Nexus 5000-B# configure terminal
Nexus 5000-B(config)# interface ethernet 1/5-6
Nexus 5000-B(config-if-range)# switchport mode trunk
Nexus 5000-B(config-if-range)# switchport trunk allowed vlan 101
Nexus 5000-B(config-if-range)# channel-group 3 mode active
Nexus 5000-B(config-if-range)# no shutdown
Nexus 5000-B(config-if-range)# exit
```

5. In order to create the Port Channel, enter:

```
Nexus 5000-B# configure terminal
Nexus 5000-B)config)# interface port-channel 3
Nexus 5000-B(config-if)# no shutdown
```

6. In order to confirm that the Port Channel between the Nexus 5000–B and FI–B is now active, enter:

```
Nexus 5000-B# show port-channel database

port-channel3
    Last membership update is successful
    2 ports in total, 2 ports up
    First operational port is Ethernet1/5
    Age of the port-channel is 0d:00h:00m:29s
    Time since last bundle is 0d:00h:00m:29s
    Last bundled member is Ethernet1/6
    Ports: Ethernet1/5 [active ] [up] *
           Ethernet1/6 [active ] [up]
```

Create Nexus 5000 Virtual Fibre Channel (VFC)

VFCs need to be created and bound to the Ethernet interfaces (Port Channels) that carry the FCoE traffic.

Note: A best practice is to match the VFC ID with the Port Channel ID. This helps you to track and troubleshoot. The default configuration of Nexus 5000 VFC interface is F port; this is the correct configuration when you connect to UCS in FC End–Host Mode.

1. In order to create and bind VFC 2 to Port–Channel 2 on the Nexus 5000–A, enter:

```
Nexus 5000-A# configure terminal
Nexus 5000-A(config)# interface vfc 2
Nexus 5000-A(config-if)# bind interface port-channel 2
Nexus 5000-A(config-if)# switchport trunk allowed vsan 100
Nexus 5000-A(config-if)# switchport mode F
Nexus 5000-A(config-if)# no shutdown
```

2. In order to confirm creation and binding of VFC 2 to Port–Channel 2, enter:

```
Nexus 5000-A# show interface vfc 2

vfc2 is trunking
    Bound interface is port-channel2
    Hardware is Ethernet
    Port WWN is 20:01:54:7f:ee:8b:a6:ff
    Admin port mode is F, trunk mode is on
    snmp link state traps are enabled
    Port mode is TF
    Port vsan is 1
    Trunk vsans (admin allowed and active) (100)
    Trunk vsans (up)                       (100)
    Trunk vsans (isolated)                 ()
    Trunk vsans (initializing)             ()
    1 minute input rate 0 bits/sec, 0 bytes/sec, 0 frames/sec
    1 minute output rate 0 bits/sec, 0 bytes/sec, 0 frames/sec
      1020 frames input, 102728 bytes
         0 discards, 0 errors
      1154 frames output, 478968 bytes
         0 discards, 0 errors
    last clearing of "show interface" counters never
    Interface last changed at Tue Aug 21 06:32:40 2012
```
3. In order to create and bind VFC 3 to Port–Channel 3 on the Nexus 5000–B, enter:

```
Nexus 5000-B# configure terminal
Nexus 5000-B(config)# interface vfc 3
Nexus 5000-B(config-if)# bind interface port-channel 3
Nexus 5000-B(config-if)# switchport trunk allowed vsan 101
Nexus 5000-A(config-if)# switchport mode F
Nexus 5000-B(config-if)# no shutdown
```
4. In order to confirm creation and binding of VFC 3 to Port–Channel 3, enter:

```
Nexus 5000-B# show interface vfc 3

vfc3 is trunking
    Bound interface is port-channel3
    Hardware is Ethernet
    Port WWN is 20:02:54:7f:ee:8c:e2:7f
    Admin port mode is F, trunk mode is on
    snmp link state traps are enabled
    Port mode is TF
    Port vsan is 1
    Trunk vsans (admin allowed and active) (101)
    Trunk vsans (up)                       (101)
    Trunk vsans (isolated)                 ()
    Trunk vsans (initializing)             ()
    1 minute input rate 0 bits/sec, 0 bytes/sec, 0 frames/sec
    1 minute output rate 0 bits/sec, 0 bytes/sec, 0 frames/sec
       738 frames input, 69404 bytes
         0 discards, 0 errors
       763 frames output, 427488 bytes
         0 discards, 0 errors
    last clearing of "show interface" counters never
    Interface last changed at Tue Aug 21 06:47:03 2012
```

Configure Storage Ports on the Nexus 5000

Connect the storage ports from the FCoE–enabled storage system to their designated ports on the Nexus 5000s. VFCs need to be created for these storage ports and the associated interfaces need to be configured.

Note: Edge ports (Storage System ports) should be configured as ?spanning–tree port type edge? in order to take advantage of PortFast features, which allows the port to directly transition to the forwarding state and skip the listening and learning stages. A best practice is to number VFC IDs associated with edge ports so that

they align with the card/port of the physical interface. In this example, Ethernet interface 1/32 would be aligned with VFC 132.

1. In order to configure the Nexus 5000–A Storage Port Ethernet Interface, enter:

```
Nexus 5000-A# configure terminal
Nexus 5000-A(config)# interface Ethernet 1/32
Nexus 5000-A(config-if)# switchport mode trunk
Nexus 5000-A(config-if)# switchport trunk allowed vlan 100
Nexus 5000-A(config-if)# spanning-tree port type edge trunk
Warning: Edge port type (portfast) should only be enabled on ports connected to a single h
Connecting hubs, concentrators, switches, bridges, etc... to this interface when edge port
(portfast) is enabled, can cause temporary bridging loops.
Use with CAUTION
Nexus 5000-A(config-if)# no shut
Nexus 5000-A(config-if)# exit
```

2. In order to create VFC and bind the associated Storage Port Ethernet Interface to it on the Nexus 5000–A, enter:

```
Nexus 5000-A(config)# interface vfc 132
Nexus 5000-A(config-if)# switchport trunk allowed vsan 100
Nexus 5000-A(config-if)# bind interface Ethernet 1/32
Nexus 5000-A(config-if)# no shutdown
Nexus 5000-A(config-if)# exit
```

3. In order to map the Storage Port VFC to the FCoE VSAN previously configured on the Nexus 5000–A, enter:

```
Nexus 5000-A(config)# vsan database
Nexus 5000-A(config-vsan-db)# vsan 100 interface vfc 132
Nexus 5000-A(config-vsan-db)# exit
```

4. In order to confirm that VFC has been created and bound to the correct Ethernet Interface and VSAN on the Nexus 5000–A, enter:

```
Nexus 5000-A(config)# show interface vfc 132
vfc132 is trunking
    Bound interface is Ethernet1/32
    Hardware is Ethernet
    Port WWN is 20:83:54:7f:ee:8b:a6:ff
    Admin port mode is F, trunk mode is on
    snmp link state traps are enabled
    Port mode is TF
    Port vsan is 100
    Trunk vsans (admin allowed and active) (100)
    Trunk vsans (up)                       (100)
    Trunk vsans (isolated)                 ()
    Trunk vsans (initializing)             ()
    1 minute input rate 0 bits/sec, 0 bytes/sec, 0 frames/sec
    1 minute output rate 0 bits/sec, 0 bytes/sec, 0 frames/sec
      10 frames input, 1060 bytes
       0 discards, 0 errors
      11 frames output, 1404 bytes
       0 discards, 0 errors
    last clearing of "show interface" counters never
    Interface last changed at Tue Aug 21 06:37:14 2012
```

5. In order to configure the Nexus 5000–B Storage Port Ethernet Interface, enter:

```
Nexus 5000-B# configure terminal
Nexus 5000-B(config)# interface Ethernet 1/32
Nexus 5000-B(config-if)# switchport mode trunk
Nexus 5000-B(config-if)# switchport trunk allowed vlan 101
Nexus 5000-B(config-if)# spanning-tree port type edge trunk
Warning: Edge port type (portfast) should only be enabled on ports connected
to a single host. Connecting hubs, concentrators, switches, bridges, etc...
```

```
        to this interface when edge port type (portfast) is enabled, can cause temporary
        bridging loops.
        Use with CAUTION
        Nexus 5000-B(config-if)# no shut
        Nexus 5000-B(config-if)# exit
```
6. In order to create VFC and bind the associated Storage Port Ethernet Interface to it on the Nexus
   5000−B, enter:

```
        Nexus 5000-B(config)# interface vfc 132
        Nexus 5000-B(config-if)# switchport trunk allowed vsan 101
        Nexus 5000-B(config-if)# bind interface Ethernet 1/32
        Nexus 5000-B(config-if)# no shutdown
        Nexus 5000-B(config-if)# exit
```
7. In order to map the Storage Port VFC to the FCoE VSAN that was previously configured on
   theNexus 5000−B, enter:

```
        Nexus 5000−B(config)# vsan database
        Nexus 5000−B(config-vsan-db)# vsan 101 interface vfc 132
        Nexus 5000−B(config-vsan-db)# exit
```
8. In order to confirm that VFC has been created and bound to the correct Ethernet Interface and VSAN
   on the Nexus 5000−B, enter:

```
        Nexus 5000−B(config)# show interface vfc 132
        vfc132 is trunking
            Bound interface is Ethernet1/32
            Hardware is Ethernet
            Port WWN is 20:83:54:7f:ee:8c:e2:7f
            Admin port mode is F, trunk mode is on
            snmp link state traps are enabled
            Port mode is TF
            Port vsan is 101
            Trunk vsans (admin allowed and active) (101)
            Trunk vsans (up)                       (101)
            Trunk vsans (isolated)                 ()
            Trunk vsans (initializing)             ()
            1 minute input rate 136 bits/sec, 17 bytes/sec, 0 frames/sec
            1 minute output rate 200 bits/sec, 25 bytes/sec, 0 frames/sec
              10 frames input, 1060 bytes
               0 discards, 0 errors
              11 frames output, 1404 bytes
               0 discards, 0 errors
            last clearing of "show interface" counters never
            Interface last changed at Tue Aug 21 06:50:31 2012
```

Verify

Zoning Example (on the Nexus 5500s)

Fabric A Configuration

```
zone name ESXI01_1 vsan 100
    member pwwn 10:00:e4:11:5b:65:c1:11
    member pwwn 50:01:43:80:11:36:37:5c

zone name ESXI02_1 vsan 100
    member pwwn 10:00:e4:11:5b:65:c0:c9
    member pwwn 50:01:43:80:11:36:37:5c

zone name ESXI03_1 vsan 100
    member pwwn 10:00:e4:11:5b:65:c2:01
    member pwwn 50:01:43:80:11:36:37:5c
```

```
zoneset name Fabric-A vsan 100
    member ESXI01_1
    member ESXI02_1
    member ESXI03_1

zoneset activate name Fabric-A vsan 100
```

Fabric A Verification

```
Nexus 5000-A# show flogi database
--------------------------------------------------------------------------------
INTERFACE       VSAN    FCID        PORT NAME               NODE NAME
--------------------------------------------------------------------------------
vfc2            100     0xab0000    10:00:e4:11:5b:65:c1:11 20:00:e4:11:5b:65:c1:11
vfc2            100     0xab0040    10:00:e4:11:5b:65:c0:c9 20:00:e4:11:5b:65:c0:c9
vfc2            100     0xab0020    10:00:e4:11:5b:65:c2:01 20:00:e4:11:5b:65:c2:01
vfc132          100     0xab00c0    50:01:43:80:11:36:37:5c 50:01:43:80:11:36:37:50
```

This flogi table shows three hosts (pwwns starting with 10:) and one storage pwwn (50:01:43:80:11:36:37:5c).

Fabric B Configuration

```
zone name EVA_1-ESXI01_2 vsan 101
    member pwwn 10:00:e4:11:5b:67:c1:12
    member pwwn 50:01:43:80:11:36:37:5d

zone name EVA_1-ESXI02_2 vsan 101
    member pwwn 10:00:e4:11:5b:67:c0:c8
    member pwwn 50:01:43:80:11:36:37:5d

zone name EVA_1-ESXI03_2 vsan 101
    member pwwn 10:00:e4:11:5b:67:c2:04
    member pwwn 50:01:43:80:11:36:37:5d

zoneset name Fabric-B vsan 101
    member EVA_1-ESXI01_2
    member EVA_1-ESXI02_2
    member EVA_1-ESXI03_2

zoneset activate name Fabric-B vsan 101
```

Fabric B Verification

```
Nexus 5000-B# show flogi database
--------------------------------------------------------------------------------
INTERFACE       VSAN    FCID        PORT NAME               NODE NAME
--------------------------------------------------------------------------------
vfc3            101     0xab0000    10:00:e4:11:5b:67:c1:12 20:00:e4:11:5b:65:c1:12
vfc3            101     0xab0040    10:00:e4:11:5b:67:c0:c8 20:00:e4:11:5b:65:c0:c8
vfc3            101     0xab0020    10:00:e4:11:5b:67:c2:04 20:00:e4:11:5b:65:c2:04
vfc132          101     0xab00c0    50:01:43:80:11:36:37:5d 50:01:43:80:11:36:37:50
```

This flogi table shows three hosts (pwwns starting with 10:) and one storage pwwn (50:01:43:80:11:36:37:5d).

Troubleshoot

There is currently no specific troubleshooting information available for this configuration.