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CAE

**UCS 1.4.1
F Port Channel and
Trunk**



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1 Introduction/Caveats

This white paper will guide the user through the configuration and verification of the f-port channel and trunking.

Make sure the sfp speed on all ports are identical. There is no provision to set the speed of ports on the UCS FC module. If you attempt to create a port-channel with a 2G NPV and 4G NPV it will fail. With additional configuration on the MDS side (not shown here) mixed speed sfps can be made to work. But, it's far simpler to just keep them all the same.

In NX-OS 4.X and greater introduced a new range of reserved VSANs. These are in the range of 3840 and 4078. Existing MDS and UCS users may have already configured these VSANs. You will receive a warning that any of those VSANs will be disabled if you proceed. On the UCS side, if you attempt to configure f port-channels, those f ports carrying any reserved VSAN will disable.

In UCS, trunk mode is disabled by default. It is enabled on a switch basis, not port.

This document does not describe every possible variation of performing these configurations, but, will guide you to a good working setup.

Supported MDS models. The MDS NX-OS version is per the current UCS interop guide. The f port-channel and trunk support was introduced with MDS NX-OS 4.2

	UCS f san-port-channel	UCS f port-trunk
MDS 9509/9513 Gen-2, w/Gen-2 Line Card, 9222i, 9148	MDS NX-OS 5.0(4) and above	MDS NX-OS 5.0(4) and above
9124, 9134	MDS NX-SO 5.0(4) and above	Not supported
MDS 9509/9506/9216 any Gen-1	Not supported	Not supported

1.1 What Cisco Provides

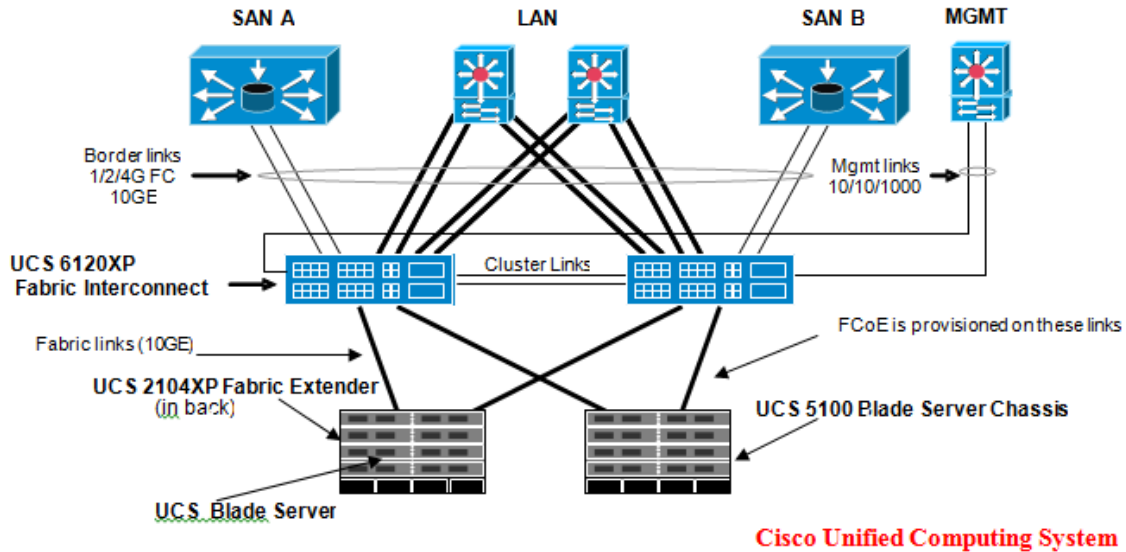
- Software
 - UCS 1.4.1 Image

1.2 What the Field Site Must Provide

- Hardware Requirements
 - UCS System

- MDS SAN switch

1.3 Topology Used for this White Paper



1.4 MDS configuration

Configure MDS ports to connect to UCS ports

MDS global configuration

```
cae-sj-9506-1(config)# feature npiv
cae-sj-9506-1(config)# feature fport-channel-trunk
cae-sj-9506-1(config)# trunk protocol
```

MDS Channel-group configuration

```
cae-sj-9506-1(config-if)# show running-config interface fc 1/1-2
```

```
!Command: show running-config interface fc1/1-2
!Time: Fri Dec 10 10:23:51 2010
```

version 4.2(7b)

```
interface fc1/1
  switchport rate-mode dedicated
  switchport mode auto
  switchport trunk mode off
  channel-group 43 force
  no shutdown
```

```
interface fc1/2
  switchport rate-mode dedicated
  switchport mode auto
  switchport trunk mode off
  channel-group 43 force
  no shutdown
```

```
cae-sj-9506-1(config-if)# show running-config interface port-channel 43
```

```
!Command: show running-config interface port-channel 43
!Time: Fri Dec 10 10:24:00 2010
```

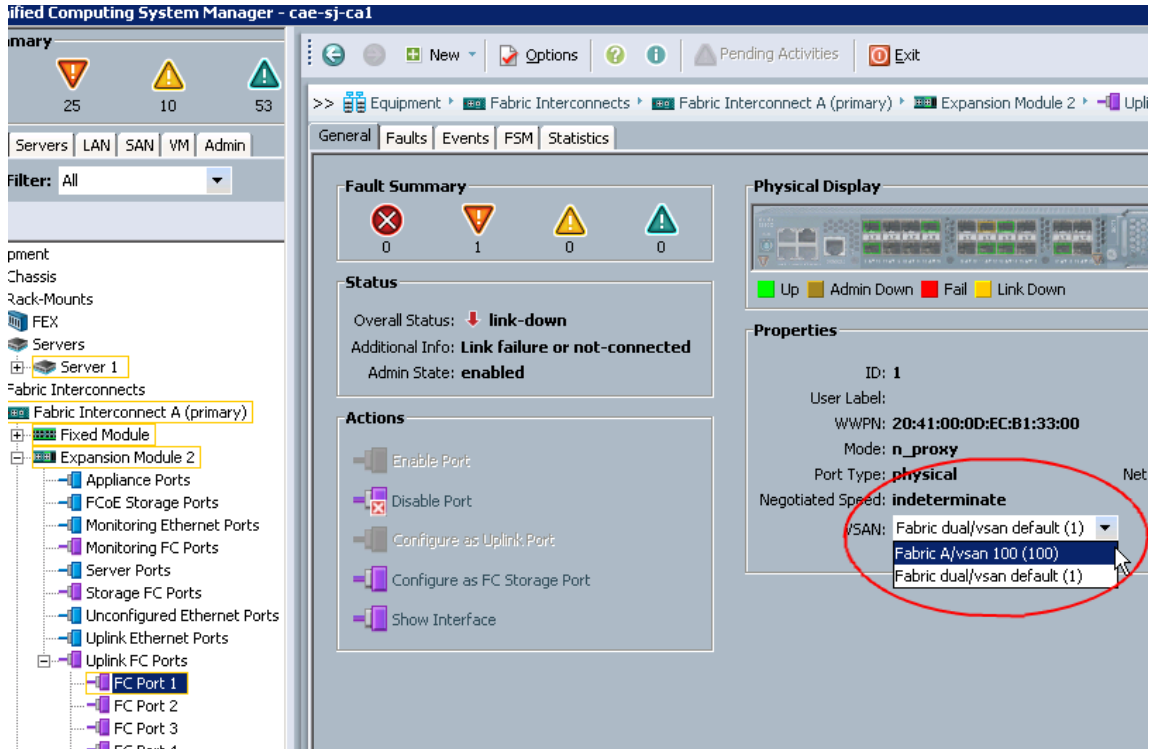
```
version 4.2(7b)
```

```
interface port-channel 43
  channel mode active
  switchport rate-mode dedicated
  switchport trunk mode off
  no shutdown
```

1.5 UCS f-port_channel, trunk configuration

Configure UCS fibre module and san port_channel

1.5.1 Select fc port and set as uplink ports. Set the VSAN for those ports. Repeat for all ports that will be members of the port-channel



1.5.2 Set the port native VSAN

```

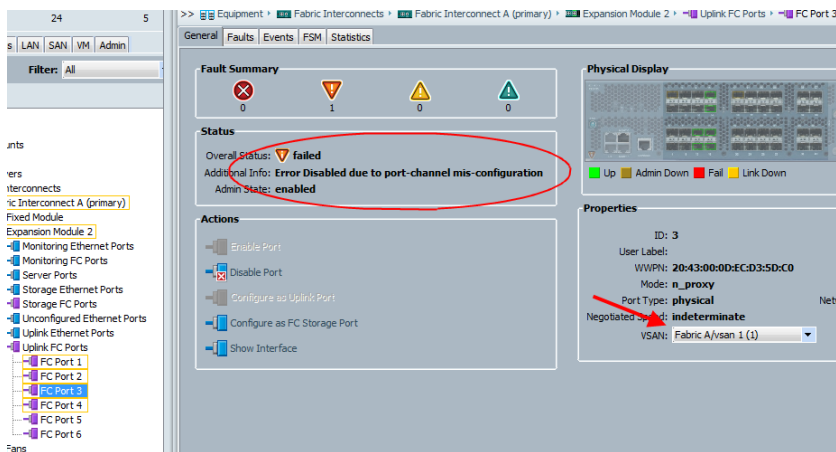
scope fabric a
  enter interface 2 3
    enable
    set user-label ""
  exit
  enter interface 2 4
    enable
    set user-label ""
  exit
  enter interface 2 5
    enable
    set user-label ""
  exit
  enter interface 2 6
    enable
    set user-label ""
  exit
  enter interface 2 7
    enable
    set user-label ""
  exit

```

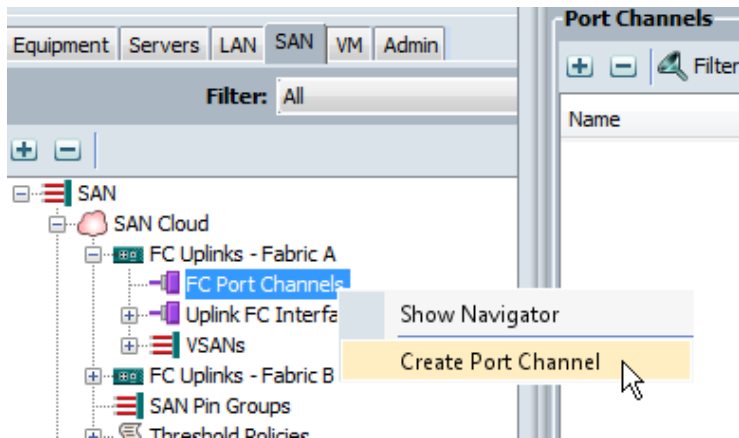
```

enter interface 2 8
    enable
    set user-label ""
exit
enter port-channel 1
    enable
    enter member-port 2 1
        enable
    exit
    enter member-port 2 2
        enable
    exit
    set adminspeed auto
    set name ""
exit
enter vsan 100 100 100
    set default-zoning disabled
    set fcoe-vlan 100
    set id 100
    enter member-port-channel a 1
    exit
exit
set uplink-trunking disabled
exit

```

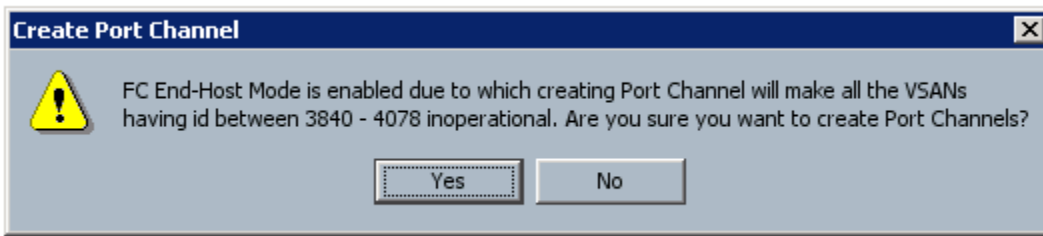


1.5.3 Configure the port-channel

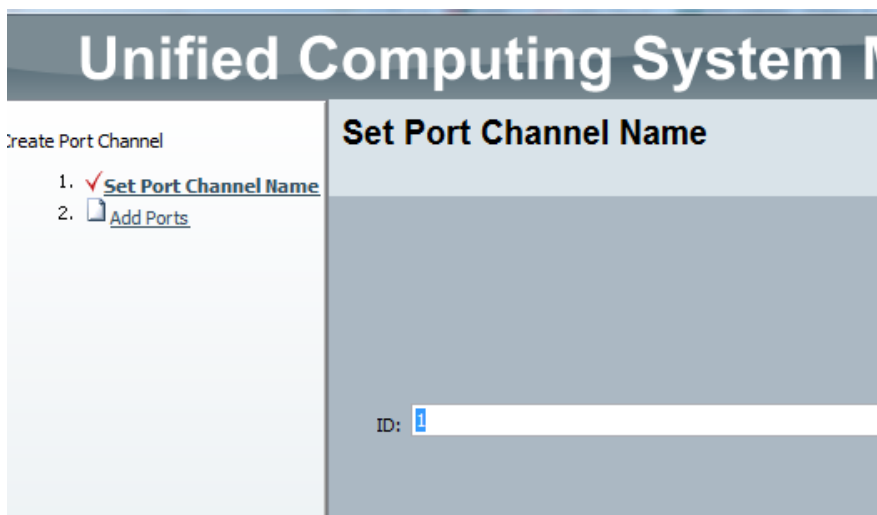


1.5.4 Port Channel Name

1.5.5 If you have VSANs in the reserved range, you will see this error



1.5.6 Port Channel Name



1.5.7 Add the fc uplink port(s) into the port-channel

Create Port Channel

Unified Computing System Manager

Create Port Channel

- ✓ Set Port Channel Name
- ✓ Add Add Ports

Add Ports

Port Channel Admin Speed: auto

Port	Slot ID	WWPN
1	2	20:41:00:0D:EC:...
2	2	20:42:00:0D:EC:...
3	2	20:43:00:0D:EC:...
4	2	20:44:00:0D:EC:...
5	2	20:45:00:0D:EC:...
6	2	20:46:00:0D:EC:...
7	2	20:47:00:0D:EC:...
8	2	20:48:00:0D:EC:...

Ports in the port channel

>>
<<

Port Channel Admin Speed: auto

Port	Slot ID	WWPN
3	2	20:43:00:0D:EC:...
4	2	20:44:00:0D:EC:...
5	2	20:45:00:0D:EC:...
6	2	20:46:00:0D:EC:...
7	2	20:47:00:0D:EC:...
8	2	20:48:00:0D:EC:...

Ports in the port channel

Port	Slot ID	WWPN
1	2	20:41:00:0D:EC:B1...
2	2	20:42:00:0D:EC:B1...

Slot ID:

WWPN:

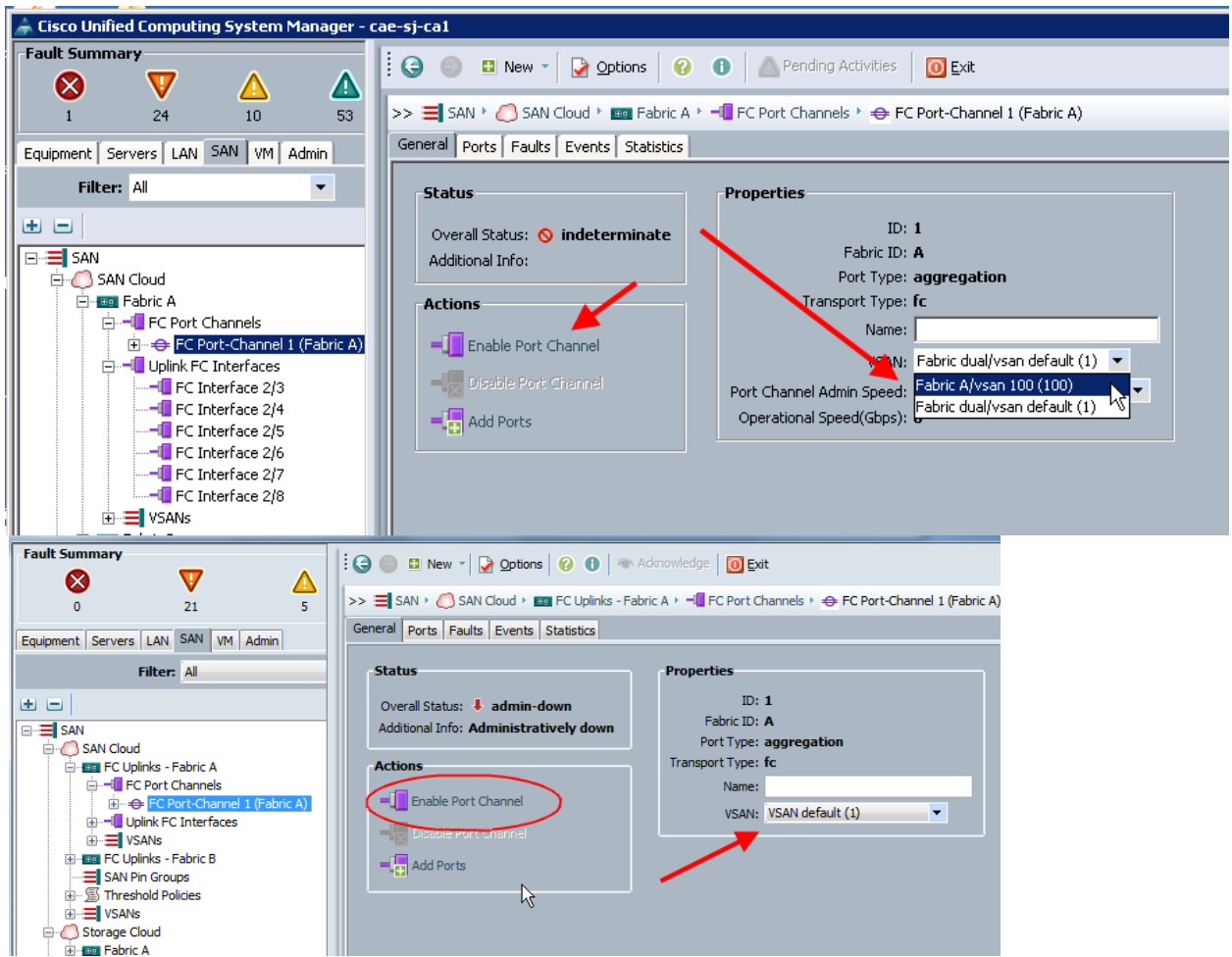
Details

Slot ID:

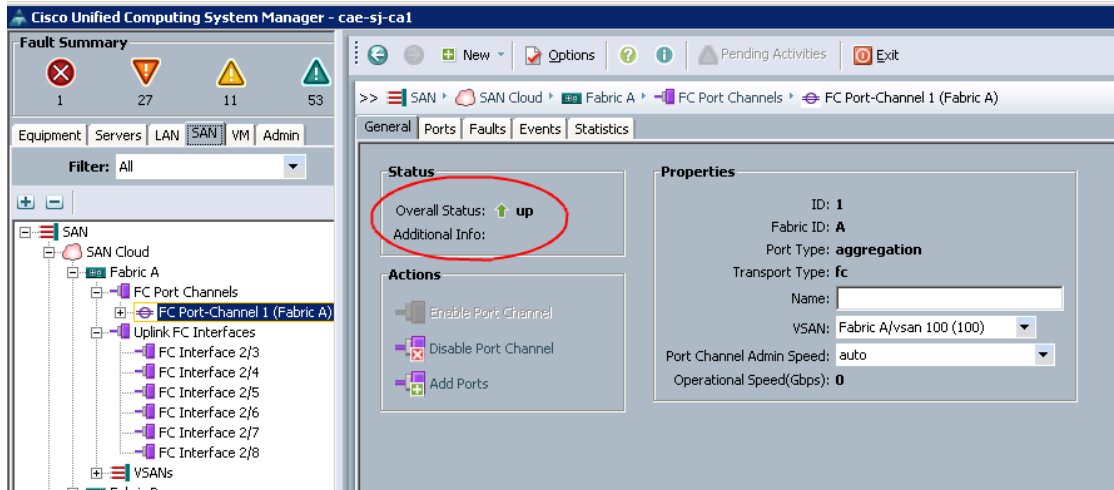
WWPN:

< Prev Next > Finish Cancel

1.5.8 Set the same native VSAN as what the f ports are in and enable the port-channel



It will take a few minutes for the port-channel negotiation to complete and go from “admin-down” to “admin-up”



1.5.9 Check fc uplink status on UCS

cae-sj-ca1-A(nxos)# show interface brief

Interface	Vsan	Admin Mode	Admin Trunk Mode	Status	SFP Mode	Oper Speed (Gbps)	Oper Channel	Oper Port
fc2/1	100	NP	off	up	swl	NP	4	1
fc2/2	100	NP	off	up	swl	NP	4	1
fc2/3	1	NP	off	sfpAbsent	--	--	--	--

Interface	Vsan	Admin Trunk Mode	Status	Oper Mode	Oper Speed (Gbps)	IP Address
san-port-channel 1	100	off	up	NP	8	--

1.5.10 In non-trunk mode

VSAN 100 in this example is being transported

```
cae-sj-ca1-A(nxos)# show interface san-port-channel 1
san-port-channel 1 is up
Hardware is Fibre Channel
Port WWN is 24:01:00:0d:ec:b1:33:00
Admin port mode is NP, trunk mode is off
snmp link state traps are enabled
Port mode is NP
Port vsan is 100
Speed is 8 Gbps
5 minute input rate 160 bits/sec, 20 bytes/sec, 0 frames/sec
```

```

5 minute output rate 128 bits/sec, 16 bytes/sec, 0 frames/sec
105267 frames input, 185749652 bytes
  74 discards, 0 errors
    0 CRC, 0 unknown class
    0 too long, 0 too short
14571 frames output, 879244 bytes
  1 discards, 0 errors
  3158 input OLS, 18 LRR, 4 NOS, 0 loop inits
  349 output OLS, 46 LRR, 3053 NOS, 0 loop inits
Member[1] : fc2/1
Member[2] : fc2/2
Interface last changed at Fri Dec 10 18:43:51 2010

```

1.5.11 On the MDS side, ports fc 1/1 and fc 1/2 are the uplink ports to the UCS switch

```
cae-sj-9506-1(config-if)# sho interface br
```

```

-----
Interface  Vsan    Admin  Admin  Status      SFP    Oper  Oper  Port
          Mode   Trunk  Mode
          Mode
-----
fc1/1      100    auto   off    up          swl    F     4     43
fc1/2      100    auto   off    up          swl    F     4     43
-----

Interface          Vsan  Admin  Status      Oper  Oper  IP
                  Mode   Trunk  Mode        Mode  Speed Address
                  Mode
-----
port-channel 43    100   off    up          F     8     --

```

1.5.12 In non-trunk mode, only VSAN 100 in this example is being transported

```

cae-sj-9506-1(config)# show interface port-channel 43
port-channel 43 is up
  Hardware is Fibre Channel
  Port WWN is 24:2b:00:0d:ec:24:5b:c0
  Admin port mode is auto, trunk mode is off
  snmp link state traps are enabled
  Port mode is F
  Port vsan is 100
  Speed is 8 Gbps
  5 minutes input rate 0 bits/sec, 0 bytes/sec, 0 frames/sec
  5 minutes output rate 0 bits/sec, 0 bytes/sec, 0 frames/sec
  35293 frames input, 9085960 bytes
    0 discards, 0 errors
    0 CRC, 0 unknown class
    0 too long, 0 too short
  224617 frames output, 394210440 bytes
    0 discards, 0 errors
    732 input OLS, 411 LRR, 304 NOS, 0 loop inits
    476 output OLS, 62 LRR, 567 NOS, 99 loop inits
Member[1] : fc1/1
Member[2] : fc1/2

```

1.5.13 CLI configuration

```

cae-sj-cal-A# scope fc-uplink
cae-sj-cal-A /fc-uplink # scope fabric a
cae-sj-cal-A /fc-uplink/fabric # enter port-channel 11
cae-sj-cal-A /fc-uplink/fabric/port-channel* # enable
cae-sj-cal-A /fc-uplink/fabric/port-channel* # enter member-port 2 1
cae-sj-cal-A /fc-uplink/fabric/port-channel/member-port* # enable
cae-sj-cal-A /fc-uplink/fabric/port-channel/member-port* # exit

```

```

cae-sj-cal-A /fc-uplink/fabric/port-channel* # enter member-port 2 2
cae-sj-cal-A /fc-uplink/fabric/port-channel/member-port* # enable
cae-sj-cal-A /fc-uplink/fabric/port-channel/member-port* # exit
cae-sj-cal-A /fc-uplink/fabric/port-channel* # set adminspeed
1gbps 1 Gbps
2gbps 2 Gbps
4gbps 4 Gbps
8gbps 8 Gbps
auto Auto

cae-sj-cal-A /fc-uplink/fabric/port-channel* # set adminspeed auto
cae-sj-cal-A /fc-uplink/fabric/port-channel* # exit
cae-sj-cal-A /fc-uplink/fabric* # enter vsan 100 100 100
cae-sj-cal-A /fc-uplink/fabric/vsan* # enter m
member-port member-port-channel mon-src
cae-sj-cal-A /fc-uplink/fabric/vsan* # enter mem
member-port member-port-channel
cae-sj-cal-A /fc-uplink/fabric/vsan* # enter member-port-channel a 11
cae-sj-cal-A /fc-uplink/fabric/vsan/member-port-channel* # exit
cae-sj-cal-A /fc-uplink/fabric/vsan* # commit-buffer
Interface last changed at Fri Dec 10 10:44:38

0:00:00:25:b5:10:10:0f

```

1.6 Trunk Mode

This is a switch setting. All FC interfaces will be affected. Any uplinks, F port, TF port will be trunk on.

Recommend first getting the individual links configured in VSAN 1. Make sure you have connectivity between the UCS and MDS before proceeding.

VSAN 1 cannot be destroyed, so, you never have to worry about the native VSAN for a port disappearing.

1.6.1 Starting with the UCS f-ports in VSAN 1, the MDS connection ports in VSAN 1 and no port-channels.

- 1) Delete the port-channel from the previous exercise on the UCS

```

cae-sj-cal-A /fc-uplink/fabric # delete port-channel 11
cae-sj-cal-A /fc-uplink/fabric* # commit-buffer

```

- 2) Delete the port-channel from the MDS

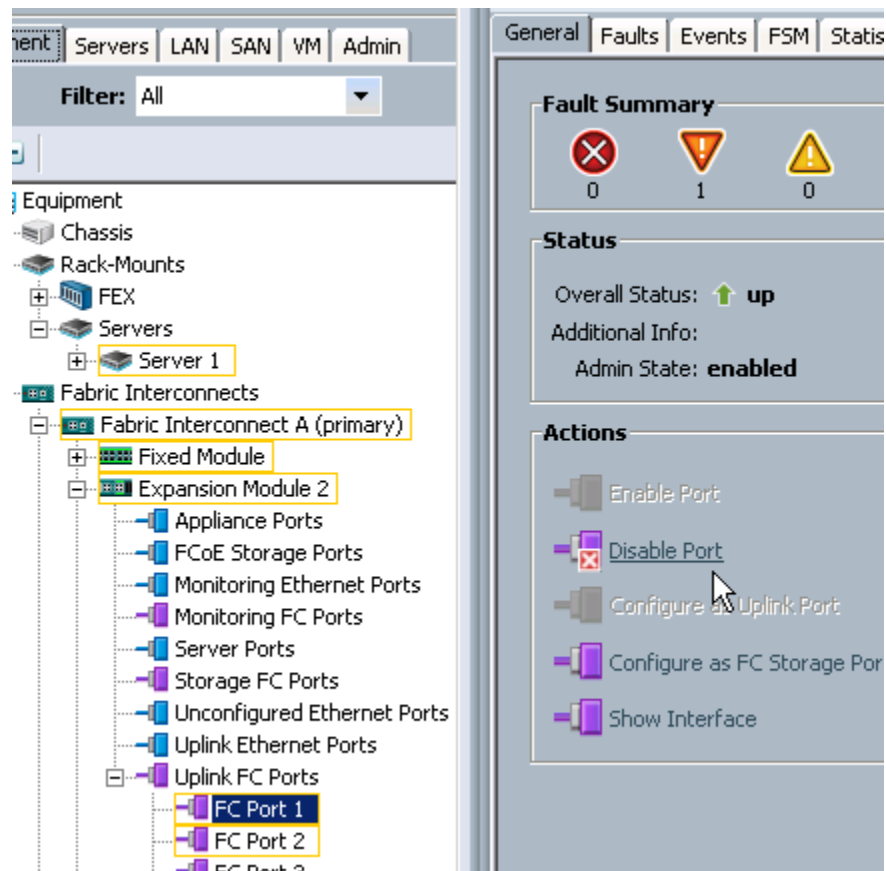
```

cae-sj-9506-1(config-if)# interface port-channel 43
cae-sj-9506-1(config-if)# shut
cae-sj-9506-1(config-if)# interface fc 1/1-2
cae-sj-9506-1(config-if)# no channel-group 43

```

fc1/1 fc1/2 removed from port-channel 43 and disabled

shut/no-shut (disable/enable) the fc interfaces on the MDS and FI.



```
cae-sj-cal-A /fc-uplink # scope fabric a
cae-sj-cal-A /fc-uplink/fabric # enter interface 2 2
cae-sj-cal-A /fc-uplink/fabric/interface # disable
cae-sj-cal-A /fc-uplink/fabric/interface* # commit-buffer
cae-sj-cal-A /fc-uplink/fabric/interface # enable
cae-sj-cal-A /fc-uplink/fabric/interface* # commit-buffer
cae-sj-cal-A /fc-uplink/fabric/interface #
```

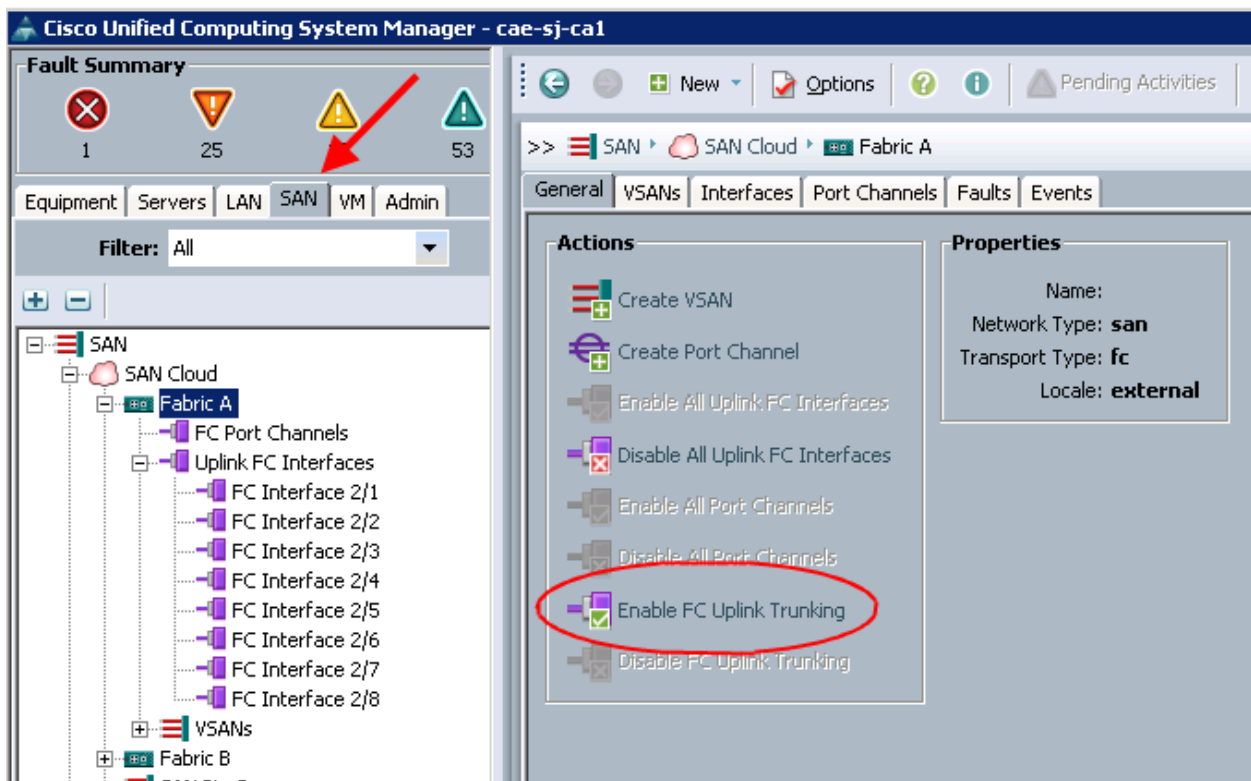
```
cae-sj-cal-A /fc-uplink/fabric/interface # show interface detail
```

```
Interfaces:
  Slot Id: 2
  Port Id: 2
  User Label:
  Admin State: Enabled
  Oper State: Up
  State Reason:
  Oper Speed: 4 Gbps
```

```
cae-sj-9506-1(config-if)# sho interface brief
```

```
-----  
Interface  Vsan  Admin  Admin  Status      SFP  Oper  Oper  Port  
          Mode  Trunk  Mode  
          Mode  
-----  
fc1/1      1      auto   off    up          swl  F     4     --  
fc1/2      1      auto   off    up          swl  F     4     --  
-----
```

1.6.2 Enable Trunk mode



```
cae-sj-ca1-A /fc-uplink/fabric # set uplink-trunking enabled  
cae-sj-ca1-A /fc-uplink/fabric* # commit-buffer  
cae-sj-ca1-A /fc-uplink/fabric # show detail expand
```

```
Fabric:  
  Id: A  
  Uplink Trunking: Enabled  
  Current Task:
```

```
cae-sj-ca1-A(nxos)# show run interface fc 2/1-2
```

```
!Command: show running-config interface fc2/1-2  
!Time: Fri Dec 10 21:07:55 2010
```

```
version 4.2(1)N1(1.4)
```



```
interface fc2/1
  switchport trunk mode on
  no shutdown
```

```
interface fc2/2
  switchport trunk mode on
  no shutdown
```

```
cae-sj-cal-A(nxos)# sho interface fc 2/1
fc2/1 is up
```

```
Hardware is Fibre Channel, SFP is short wave laser w/o OFC (SN)
Port WWN is 20:41:00:0d:ec:b1:33:00
Admin port mode is NP, trunk mode is on
snmp link state traps are enabled
Port mode is NP
Port vsan is 1
```

```
cae-sj-9506-1(config-if)# interface fc 1/1-2
cae-sj-9506-1(config-if)# switchport trunk
cae-sj-9506-1(config-if)# switchport trunk mode auto
cae-sj-9506-1(config-if)# shut
cae-sj-9506-1(config-if)# no shut
cae-sj-9506-1(config-if)# sho interface fc 1/2
fc1/2 is trunking
```

```
Hardware is Fibre Channel, SFP is short wave laser w/o OFC (SN)
Port WWN is 20:02:00:0d:ec:24:5b:c0
Admin port mode is auto, trunk mode is auto
snmp link state traps are enabled
Port mode is TF
Port vsan is 1
Speed is 4 Gbps
Rate mode is dedicated
Transmit B2B Credit is 16
Receive B2B Credit is 16
Receive data field Size is 2112
Beacon is turned off
Trunk vsans (admin allowed and active) (1,10,50,100,103,1000)
Trunk vsans (up) (1)
Trunk vsans (isolated) (10,50,103,1000)
Trunk vsans (initializing) (100)
5 minutes input rate 160 bits/sec, 20 bytes/sec, 0 frames/sec
5 minutes output rate 224 bits/sec, 28 bytes/sec, 0 frames/sec
 2109 frames input, 153484 bytes
   0 discards, 0 errors
   0 CRC, 0 unknown class
```

```
cae-sj-cal-A(nxos)# sho interface fc 2/1
fc2/1 is trunking
```

```
Hardware is Fibre Channel, SFP is short wave laser w/o OFC (SN)
Port WWN is 20:41:00:0d:ec:b1:33:00
Admin port mode is NP, trunk mode is on
snmp link state traps are enabled
Port mode is TNP
Port vsan is 1
Speed is 4 Gbps
Transmit B2B Credit is 16
Receive B2B Credit is 16
Receive data field Size is 2112
Beacon is turned off
```

```

Trunk vsans (admin allowed and active) (1,100)
Trunk vsans (up) (1,100)
Trunk vsans (isolated) ( )
Trunk vsans (initializing) ( )
5 minute input rate 224 bits/sec, 28 bytes/sec, 0 frames/sec
5 minute output rate 152 bits/sec, 19 bytes/sec, 0 frames/sec
105487 frames input, 185778292 bytes
109 discards, 0 errors
0 CRC, 0 unknown class
0 too long, 0 too short
14732 frames output, 896024 bytes
3 discards, 0 errors
4678 input OLS, 23 LRR, 4 NOS, 0 loop inits

```

```
cae-sj-9506-1(config-if)# show interface brief
```

```

-----
Interface  Vsan  Admin  Admin  Status          SFP  Oper  Oper  Port
          Mode  Mode  Trunk  Mode
          Mode
-----
fc1/1      1      auto   auto   trunking        swl   TF    4    --
fc1/2      1      auto   auto   trunking        swl   TF    4    --

```

```
cae-sj-ca1-A(nxos)# sho interface brief
```

```

-----
Interface  Vsan  Admin  Admin  Status          SFP  Oper  Oper  Port
          Mode  Mode  Trunk  Mode
          Mode
-----
fc2/1      1      NP     on     trunking        swl   TNP   4    --
fc2/2      1      NP     on     trunking        swl   TNP   4    --

```

1.6.3 Create the port-channel in UCS

The screenshot shows a management console interface. On the left is a navigation tree with the following structure:

- SAN
 - SAN Cloud
 - Fabric A
 - FC Port Channels** (highlighted with a red arrow)
 - Uplink FC Interfaces
 - FC Interface 2/1
 - FC Interface 2/2
 - FC Interface 2/3
 - FC Interface 2/4
 - FC Interface 2/5
 - FC Interface 2/6
 - FC Interface 2/7
 - FC Interface 2/8
 - VSANs
 - Fabric B
 - SAN Pin Groups
 - Threshold Policies
 - VSANs
 - Storage Cloud
 - Fabric A
 - Fabric B

On the right, the 'Port Channels' section is active, displaying a 'Create Port Channel' wizard. The wizard has a title 'Unified Computing System' and a sub-header 'Set Port Channel Name'. It contains a list of steps:

1. ✓ Set Port Channel Name
2. Add Add Ports

At the bottom right of the wizard, there is an 'ID' field with the value '22' and a small circular icon below it.

The screenshot shows a console with two main sections:

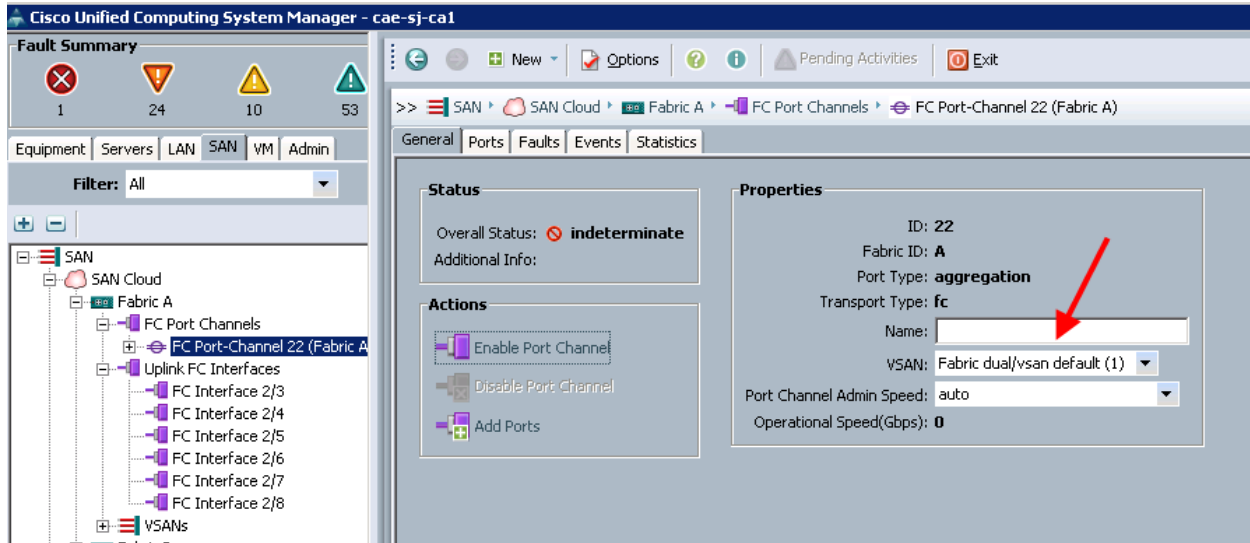
Ports

Port	Slot ID	WWPN
1	2	20:41:00:0D:EC:B1:3...
2	2	20:42:00:0D:EC:B1:3...
3	2	20:43:00:0D:EC:B1:3...
4	2	20:44:00:0D:EC:B1:3...
5	2	20:45:00:0D:EC:B1:3...
6	2	20:46:00:0D:EC:B1:3...
7	2	20:47:00:0D:EC:B1:3...
8	2	20:48:00:0D:EC:B1:3...

Ports in the port channel

Name	Slot	Port
------	------	------

Below the 'Ports in the port channel' table are two buttons: '>>' and '<<'. A mouse cursor is pointing at the '>>' button.



```
cae-sj-9506-1(config)# interface port-channel 43
cae-sj-9506-1(config-if)# switchport trunk mode auto
cae-sj-9506-1(config-if)# interface fc 1/1-2
cae-sj-9506-1(config-if)# channel-group 43
fc1/2 added to port-channel 43 and disabled
please do the same operation on the switch at the other end of the port-
channel,
then do "no shutdown" at both ends to bring it up
cae-sj-9506-1(config-if)# shut
cae-sj-9506-1(config-if)# no shut
```

1.6.4 Check the port-channel trunk on the MDS

```
cae-sj-9506-1(config-if)# sho interface port-channel 43
port-channel 43 is trunking
  Hardware is Fibre Channel
  Port WWN is 24:2b:00:0d:ec:24:5b:c0
  Admin port mode is auto, trunk mode is auto
  snmp link state traps are enabled
  Port mode is TF
  Port vsan is 1
  Speed is 4 Gbps
  Trunk vsans (admin allowed and active) (1,10,50,100,103,1000)
  Trunk vsans (up) (1,100)
  Trunk vsans (isolated) (10,50,103,1000)
  Trunk vsans (initializing) ()
  5 minutes input rate 184 bits/sec, 23 bytes/sec, 0 frames/sec
  5 minutes output rate 224 bits/sec, 28 bytes/sec, 0 frames/sec
    42 frames input, 4628 bytes
      0 discards, 0 errors
      0 CRC, 0 unknown class
      0 too long, 0 too short
    46 frames output, 5960 bytes
      0 discards, 0 errors
    1 input OLS, 1 LRR, 0 NOS, 0 loop inits
```

1.6.4 Check the port-channel and trunk on the UCS side

```
cae-sj-cal-A(nxos)# show interface brief
```

Interface	Vsan	Admin Mode	Admin Trunk Mode	Status	SFP	Oper Mode	Oper Speed (Gbps)	Port Channel
fc2/1	1	NP	on	trunking	sw1	TNP	4	22
fc2/2	1	NP	on	trunking	sw1	TNP	4	22

Interface	Vsan	Admin Trunk Mode	Status	Oper Mode	Oper Speed (Gbps)	IP Address
san-port-channel 22	1	on	trunking	TNP	4	--

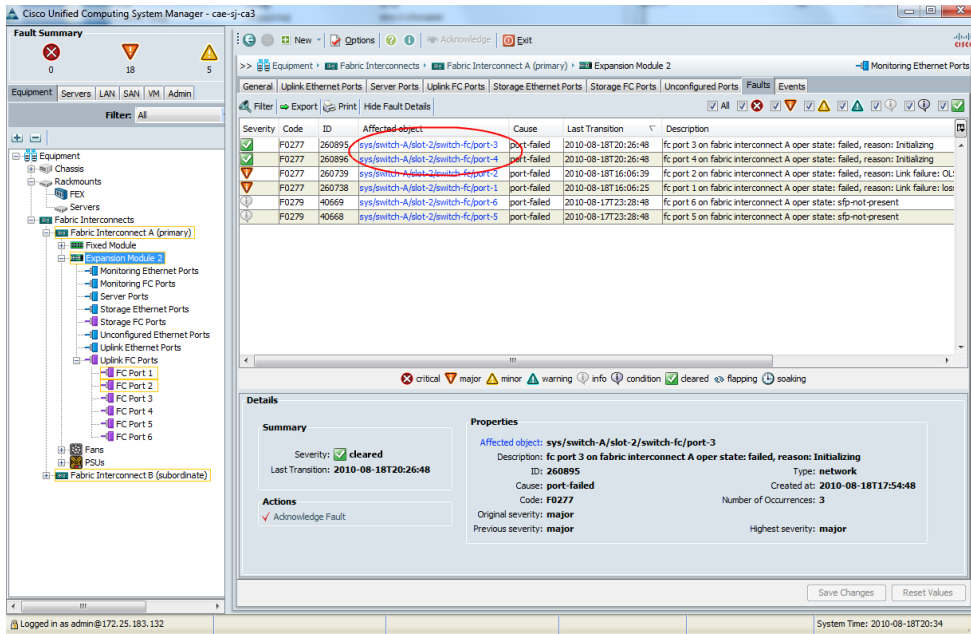
Port	VRF	Status	IP Address	Speed	MTU
------	-----	--------	------------	-------	-----

```
cae-sj-cal-A(nxos)# show interface san-port-channel 22
```

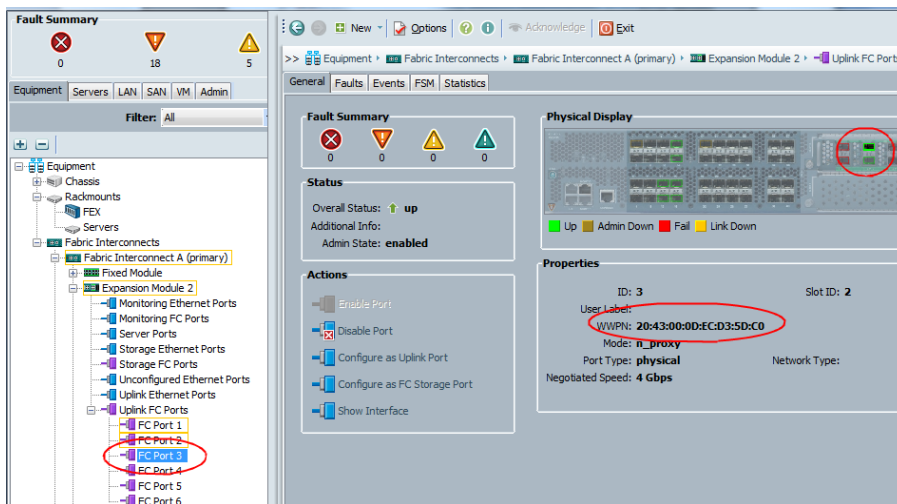
```
san-port-channel 22 is trunking
Hardware is Fibre Channel
Port WWN is 24:16:00:0d:ec:b1:33:00
Admin port mode is NP, trunk mode is on
snmp link state traps are enabled
Port mode is TNP
Port vsan is 1
Speed is 4 Gbps
Trunk vsans (admin allowed and active) (1,100)
Trunk vsans (up) (1,100)
Trunk vsans (isolated) ()
Trunk vsans (initializing) ()
5 minute input rate 264 bits/sec, 33 bytes/sec, 0 frames/sec
5 minute output rate 216 bits/sec, 27 bytes/sec, 0 frames/sec
105564 frames input, 185787576 bytes
  111 discards, 0 errors
  0 CRC, 0 unknown class
  0 too long, 0 too short
14802 frames output, 903688 bytes
  3 discards, 0 errors
4681 input OLS, 26 LRR, 4 NOS, 0 loop inits
526 output OLS, 73 LRR, 4526 NOS, 0 loop inits
Member[1] : fc2/1
Member[2] : fc2/2
Interface last changed at Fri Dec 10 21:15:33 2010
```

1.7 Additional Checks

1.7.1 Check UCS port transitions in the fault logs



1.7.2 Verify switch WWN on UCS to MDS flogi database logins for the port-channel



```
cae-sj-9506-1(config)# show flogi database
```

INTERFACE	VSAN	FCID	PORT NAME	NODE NAME
fc2/13	100	0x640101	50:0a:09:81:86:78:3b:98	50:0a:09:80:86:78:3b:98
fc4/9	10	0x530013	50:0a:09:84:86:78:3b:98	50:0a:09:80:86:78:3b:98
fc4/13	10	0x530000	20:41:00:0d:ec:b1:33:00	20:0a:00:0d:ec:b1:33:01
fc4/13	10	0x530006	20:00:00:25:b5:77:00:1f	20:00:00:25:b5:99:00:0f
fc4/13	10	0x53000b	20:00:00:25:b5:77:00:3e	20:00:00:25:b5:99:00:1f
fc4/14	10	0x530002	20:42:00:0d:ec:b1:33:00	20:1e:00:0d:ec:b1:33:01
port-channel 1	1	0x620213	24:01:00:0d:ec:50:0a:80	20:01:00:0d:ec:50:0a:81

```
port-channel 2 1 0x620215 24:01:00:0d:ec:d3:5d:c0 20:01:00:0d:ec:d3:5d:c1
port-channel 2 100 0x640106 20:00:00:25:b5:00:10:0e 20:00:00:25:b5:10:10:0f
```

1.7.3 Verify UCS fc port and san-port-channel configuration

```
cae-sj-ca3-A(nxos)# show run interface fc 2/3-4

!Command: show running-config interface fc2/3-4
!Time: Wed Aug 18 21:08:53 2010

version 4.2(1)N1(1.4)

interface fc2/3
  switchport trunk mode on
  channel-group 1 force
  no shutdown

interface fc2/4
  switchport trunk mode on
  channel-group 1 force
  no shutdown

cae-sj-ca3-A(nxos)# show run interface san-port-channel 1

!Command: show running-config interface san-port-channel 1
!Time: Wed Aug 18 21:09:31 2010

version 4.2(1)N1(1.4)

interface san-port-channel 1
  channel mode active
  switchport mode NP
  switchport trunk mode on
  no shutdown
```

1.7.4 Verify MDS fc port and port-channel configuration

```
cae-sj-9506-1(config)# show run interface fc 1/1-2

!Command: show running-config interface fc1/1-2
!Time: Wed Aug 18 14:09:45 2010

version 5.0(1a)

interface fc1/1
  switchport rate-mode shared
  switchport mode F
  switchport trunk mode auto
  channel-group 2 force
  no shutdown

interface fc1/2
  switchport rate-mode shared
  switchport mode F
  switchport trunk mode auto
  channel-group 2 force
  no shutdown

cae-sj-9506-1(config)# show run interface port-channel 2

!Command: show running-config interface port-channel 2
!Time: Wed Aug 18 14:09:52 2010

version 5.0(1a)
```

```
interface port-channel 2
channel mode active
switchport mode F
switchport rate-mode shared
switchport trunk mode auto
```

```
cae-sj-ca3-A(nxos)# show interface san-port-channel 1
san-port-channel 1 is trunking
Hardware is Fibre Channel
Port WWN is 24:01:00:0d:ec:d3:5d:c0
Admin port mode is NP, trunk mode is on
snmp link state traps are enabled
Port mode is TNP
Port vsan is 1
Speed is 8 Gbps
Trunk vsans (admin allowed and active) (1,10,50,100,103)
Trunk vsans (up) (1,100)
Trunk vsans (isolated) ()
Trunk vsans (initializing) (10,50,103)
5 minute input rate 8 bits/sec, 1 bytes/sec, 0 frames/sec
5 minute output rate 0 bits/sec, 0 bytes/sec, 0 frames/sec
102 frames input, 15644 bytes
    6 discards, 0 errors
    0 CRC, 0 unknown class
    0 too long, 0 too short
90 frames output, 10884 bytes
    0 discards, 0 errors
    0 input OLS, 0 LRR, 0 NOS, 0 loop inits
    10 output OLS, 6 LRR, 0 NOS, 0 loop inits
Member[1] : fc2/3
Member[2] : fc2/4
Interface last changed at Wed Aug 18 20:26:04 2010
```

```
cae-sj-9506-1(config)# show interface port-channel 2
port-channel 2 is trunking
Hardware is Fibre Channel
Port WWN is 24:02:00:0d:ec:24:5b:c0
Admin port mode is F, trunk mode is auto
snmp link state traps are enabled
Port mode is TF
Port vsan is 1
Speed is 8 Gbps
Trunk vsans (admin allowed and active) (1,10,50,100,103)
Trunk vsans (up) (1,100)
Trunk vsans (isolated) ()
Trunk vsans (initializing) (10,50,103)
5 minutes input rate 0 bits/sec, 0 bytes/sec, 0 frames/sec
5 minutes output rate 8 bits/sec, 1 bytes/sec, 0 frames/sec
287 frames input, 30216 bytes
    0 discards, 0 errors
    0 CRC, 0 unknown class
    0 too long, 0 too short
292 frames output, 91220 bytes
    0 discards, 0 errors
    44 input OLS, 26 LRR, 31 NOS, 0 loop inits
    20 output OLS, 0 LRR, 35 NOS, 0 loop inits
Member[1] : fc1/1
Member[2] : fc1/2
Interface last changed at Wed Aug 18 13:25:58 2010
```

```
cae-sj-9506-1(config-if)# sho interface port-channel 2
port-channel 2 is trunking
Hardware is Fibre Channel
Port WWN is 24:02:00:0d:ec:24:5b:c0
Admin port mode is F, trunk mode is auto
snmp link state traps are enabled
```



```

Port mode is TF
Port vsan is 1
Speed is 8 Gbps
Trunk vsans (admin allowed and active) (1,10,50,100,103)
Trunk vsans (up) (1)
Trunk vsans (isolated) ()
Trunk vsans (initializing) (10,50,100,103)
5 minutes input rate 0 bits/sec, 0 bytes/sec, 0 frames/sec
5 minutes output rate 0 bits/sec, 0 bytes/sec, 0 frames/sec
 59 frames input, 9484 bytes
   0 discards, 0 errors
   0 CRC, 0 unknown class
   0 too long, 0 too short
 52 frames output, 10108 bytes
   0 discards, 0 errors
 24 input OLS, 16 LRR, 13 NOS, 0 loop inits
 12 output OLS, 0 LRR, 17 NOS, 0 loop inits
Member[1] : fc1/1
Member[2] : fc1/2
Interface last changed at Tue Aug 17 16:28:10 2010

```

1.7.5 On UCS show npv and VSAN status

```

cae-sj-ca3-A(nxos)# show npv status

npiv is enabled

disruptive load balancing is disabled

External Interfaces:
=====
Interface: fc2/1, State: Pre-Initialized
Interface: fc2/2, State: Pre-Initialized
Interface: fc2/5, State: Down
Interface: fc2/6, State: Down
Interface: san-port-channel 1, State: Trunking
  VSAN: 1, State: Up, FCID: 0x620215
  VSAN: 10, State: Up
  VSAN: 100, State: Up
  VSAN: 103, State: Up
  VSAN: 50, State: Up

Number of External Interfaces: 5

Server Interfaces:
=====
Interface: vfc686, VSAN: 100, State: Up

Number of Server Interfaces: 1

```

1.7.6 On MDS show flogi status

```

cae-sj-9506-1(config)# show flogi database
-----
INTERFACE          VSAN    FCID          PORT NAME          NODE NAME
-----
fc2/13             100     0x640101     50:0a:09:81:86:78:3b:98 50:0a:09:80:86:78:3b:98
fc4/9              10      0x530013     50:0a:09:84:86:78:3b:98 50:0a:09:80:86:78:3b:98
fc4/13             10      0x530000     20:41:00:0d:ec:b1:33:00 20:0a:00:0d:ec:b1:33:01
fc4/13             10      0x530006     20:00:00:25:b5:77:00:1f 20:00:00:25:b5:99:00:0f
fc4/13             10      0x53000b     20:00:00:25:b5:77:00:3e 20:00:00:25:b5:99:00:1f
fc4/14             10      0x530002     20:42:00:0d:ec:b1:33:00 20:1e:00:0d:ec:b1:33:01
port-channel 1     1        0x620213     24:01:00:0d:ec:50:0a:80 20:01:00:0d:ec:50:0a:81
port-channel 2     1        0x620215     24:01:00:0d:ec:d3:5d:c0 20:01:00:0d:ec:d3:5d:c1
port-channel 2     100     0x640106     20:00:00:25:b5:00:10:0e 2

```