


# Chapter 1: Cisco UCS to SAN Connectivity

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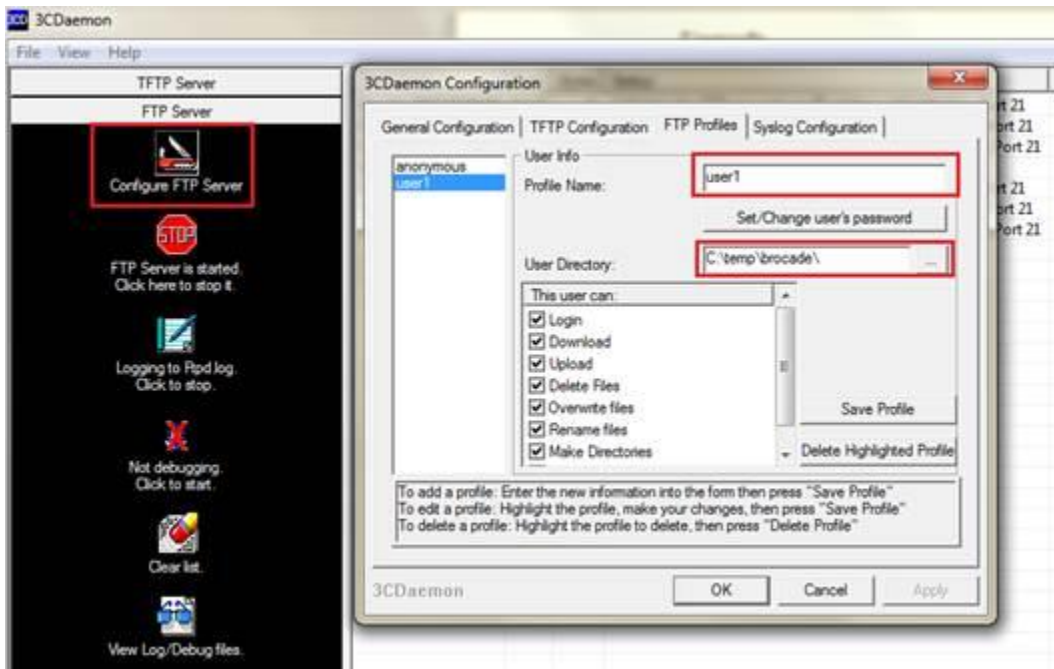
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Product Name	Release Date
▾ Fabric Operating System (FOS) 7.X	
▸ Fabric Operating System (FOS) 7.3.x	02-25-2015
▸ Fabric Operating System (FOS) 7.2.x	11-20-2014
▸ Fabric Operating System (FOS) 7.1.x	11-20-2012



```
DS300B01:admin> firmwaredownloadstatus
[1]: Fri Jan 10 09:32:47 2014
Firmware is being downloaded to the switch. This step may take up to 30 minutes.

[2]: Fri Jan 10 09:36:51 2014
Firmware has been downloaded to the secondary partition of the switch.

[3]: Fri Jan 10 09:38:24 2014
The firmware commit operation has started. This may take up to 10 minutes.

[4]: Fri Jan 10 09:41:06 2014
The commit operation has completed successfully.

[5]: Fri Jan 10 09:41:06 2014
Firmwaredownload command has completed successfully. Use firmwaredownloadstatus to verify
the firmware versions.
```

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MDS 9140 Multilayer Fabric Switch	MDS 9124 Multilayer Fabric Switch	MDS 9140S 16G Multilayer Fabric Swi
MDS 9140S 16G Multilayer Fabric Swi	MDS 9124 Multilayer Fabric Switch	MDS 9124 Multilayer Fabric Switch
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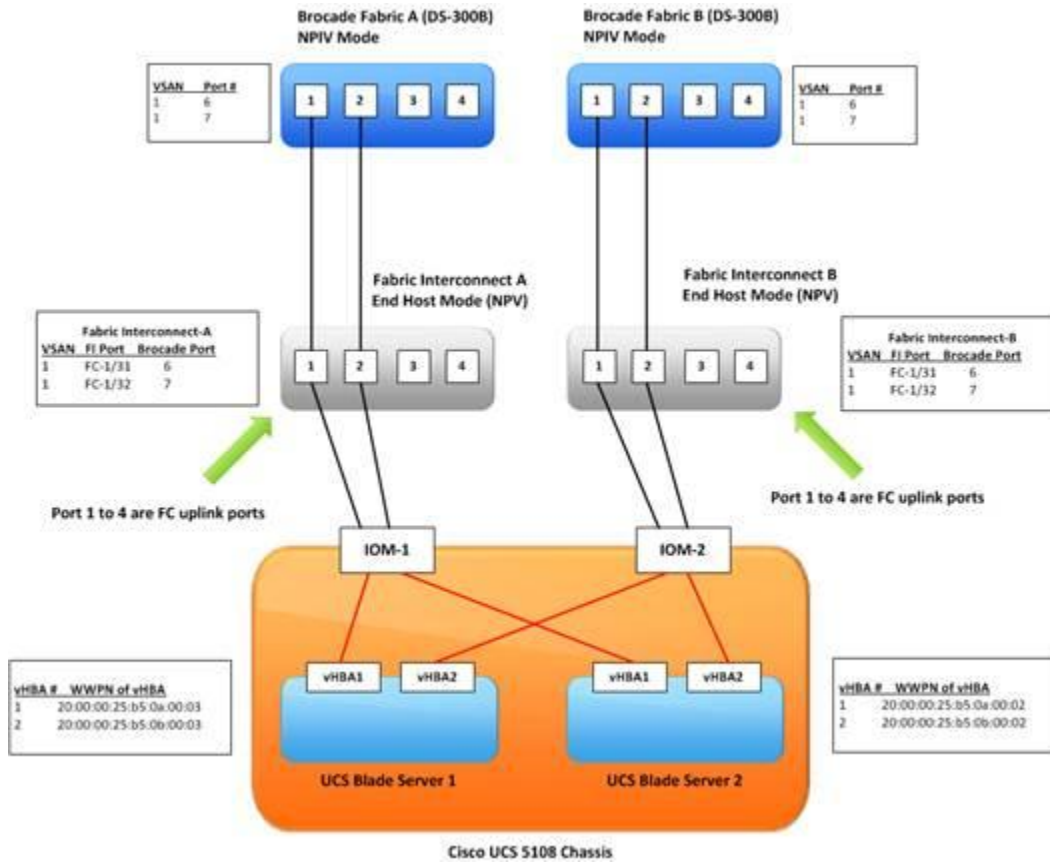
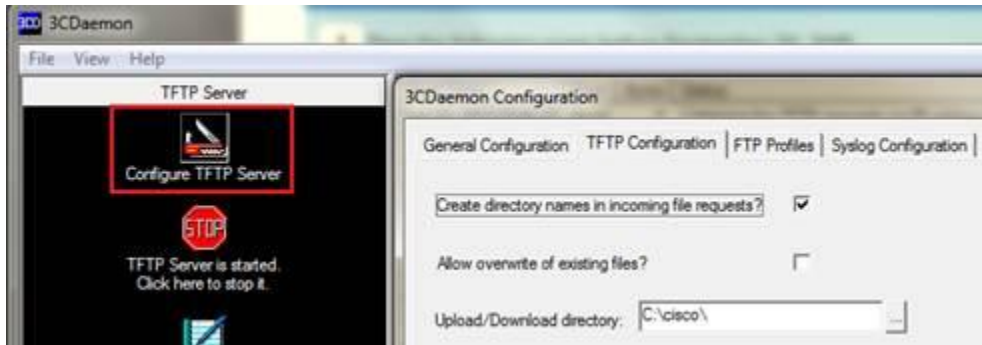
- MDS 9700 Series Multilayer Directors
- MDS 9500 Series Multilayer Directors
- MDS 9300 Series Multilayer Fabric Switches
- MDS 9200 Series Multiservice Switches
- MDS 9100 Series Multilayer Fabric Switches**
- MDS 9000 Intelligent Fabric Applications
- MDS 9000 NX-OS and SAN-OS Software
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**Find:**

- MDS 9140 Multilayer Fabric Switch**
- MDS 9140S 16G Multilayer Fabric Switch
- MDS 9140 40-Port Multilayer Fabric Switch
- MDS 9134 Multilayer Fabric Switch
- MDS 9124 Multilayer Fabric Switch
- MDS 9120 20-Port Multilayer Fabric Switch

### Select a Software Type:

- Data Center Network Manager
- NX-OS EPLD Updates
- NX-OS Kick Start**
- NX-OS System Software**
- Payload Non-Crypto NX-OS Kick Start
- Payload Non-Crypto NX-OS System Software



```

DS300B01:admin> portcfgshow

Ports of Slot 0      0  1  2  3  4  5  6  7  8  9 10 11 12 13 14 15
-----
Speed               AN  AN  AN  4G  AN  AN  8G  8G  4G  AN  AN  AN  AN  AN  AN  AN
Fill Word(On Active) 3  3  3  3  3  3  3  3  3  3  3  3  3  3  3  3
Fill Word(Current)  3  3  3  3  3  3  3  3  3  3  3  3  3  3  3  3
AL_PA Offset 13    ..  ..  ..  ..  ..  ..  ..  ..  ..  ..  ..  ..  ..  ..  ..  ..
Trunk Port         ON  ON  ON  ON  ON  ON  ON  ON  ON  ON  ON  ON  ON  ON  ON  ON
Long Distance     ..  ..  ..  ..  ..  ..  ..  ..  ..  ..  ..  ..  ..  ..  ..  ..
VC Link Init      ..  ..  ..  ..  ..  ..  ..  ..  ..  ..  ..  ..  ..  ..  ..  ..
Locked L_Port     ..  ..  ..  ..  ..  ..  ..  ..  ..  ..  ..  ..  ..  ..  ..  ..
Locked G_Port     ..  ..  ..  ..  ..  ..  ..  ..  ..  ..  ..  ..  ..  ..  ..  ..
Disabled E_Port   ..  ..  ..  ..  ..  ..  ..  ..  ..  ..  ..  ..  ..  ..  ..  ..
Locked E_Port     ..  ..  ..  ..  ..  ..  ..  ..  ..  ..  ..  ..  ..  ..  ..  ..
ISL R_RDY Mode    ..  ..  ..  ..  ..  ..  ..  ..  ..  ..  ..  ..  ..  ..  ..  ..
PSCN Suppressed   ..  ..  ..  ..  ..  ..  ..  ..  ..  ..  ..  ..  ..  ..  ..  ..
Persistent Disable ..  ..  ..  ..  ..  ..  ..  ..  ..  ..  ..  ..  ..  ..  ..  ..
LOS TOV enable    ..  ..  ..  ..  ..  ..  ..  ..  ..  ..  ..  ..  ..  ..  ..  ..
NPIV capability   ON  ON  ON  ON  ON  ON  ON  ON  ON  ON  ON  ON  ON  ON  ON  ON
NPIV PP Limit     255 255 255 255 255 255 255 255 255 255 255 255 255 255 255 255
QOS E_Port       AE  AE  AE  AE  AE  AE  AE  AE  AE  AE  AE  AE  AE  AE  AE  AE

```

```

DS300B01:admin> portcfgshow 6
Area Number:          6
Speed Level:         AUTO(HW)
Fill Word(On Active) 2 (SW Idle-Arbif)
Fill Word(Current)   2 (SW Idle-Arbif)
AL_PA Offset 13:    OFF

```

General | Faults | Events | FSM | Statistics

**Fault Summary**

0 0 0 0

**Status**

Overall Status: **Up**  
 Admin State: **Enabled**

**Actions**

- Enable Port
- Disable Port
- Configure as Link Port
- Configure as FC Storage Port
- Show Interface **1**

**Physical Display**

Legend: Up (Green), Admin Down (Yellow), Fail (Red), Link Down (Orange)

**Properties**

ID: 32 Slot ID: 1  
 User Label:  
 WWPN: 20-20:00:2A:6A:EA:83:80 Mode: N Proxy  
 Port Type: Physical Negotiated Speed: 8 Gbps  
 VSAN: Fabric dual/vsan default (1)

**License Details**

License State: License Ok  
 License Grace Period: 0

---

Properties for FC Interface 1/32

General | Faults | Events

**Actions**

- Enable Interface
- Disable Interface

**Properties**

ID: 32 Slot ID: 1  
 Fabric ID: A  
 User Label:  
 Port Type: Physical Network Type: San  
 Transport Type: Fc Role: Network  
 Locale: External Port: sys/switch-A/slot-1/switch-fc/port-32  
 VSAN: Fabric dual/vsan default (1) Fill Pattern:  Idle  Arbif **2**  
 Negotiated Speed: 8Gbps

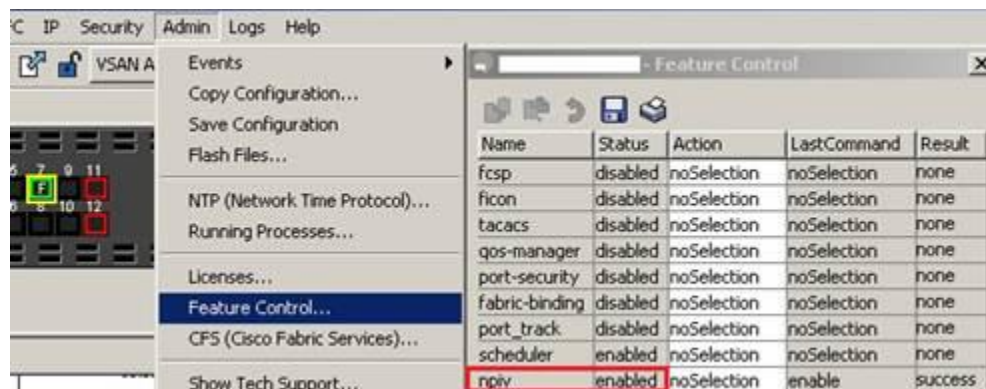
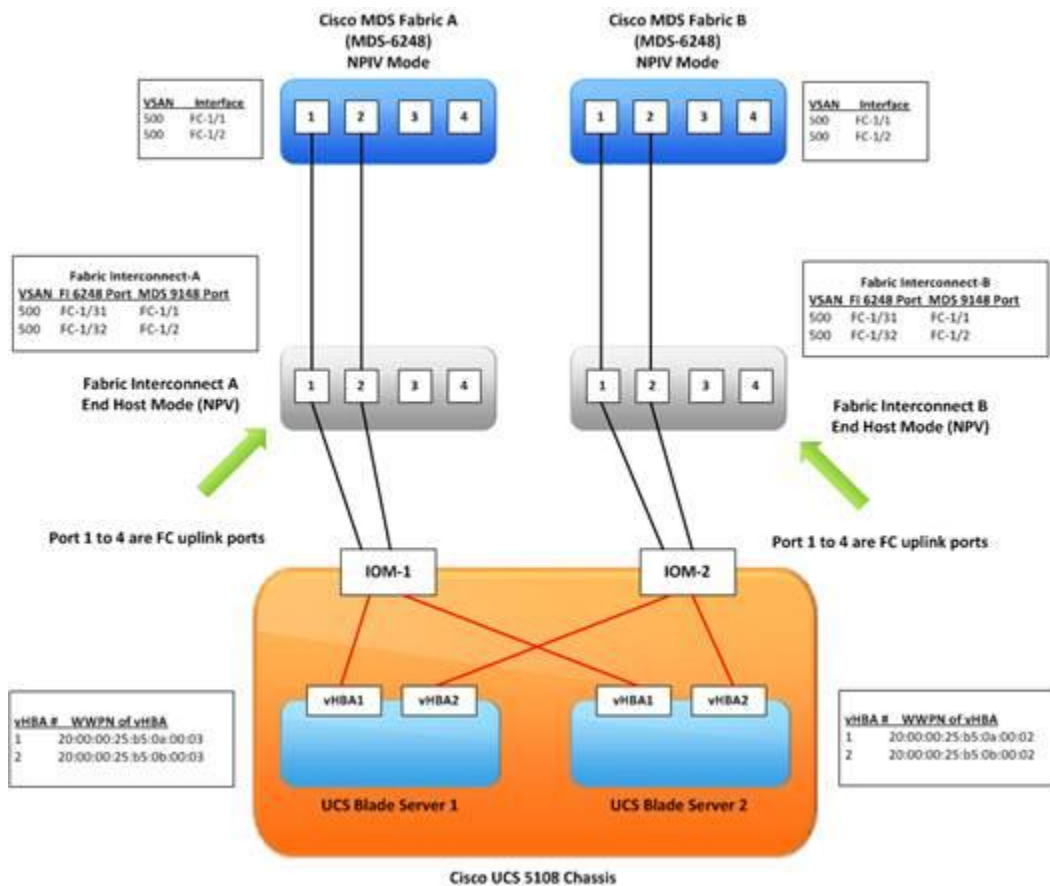
```

Index Port Address Media Speed State Proto
-----
0 0 010000 id N4 Online FC F-Port 50:06:01:64:47:20:25:eb
1 1 010100 id N8 Online FC F-Port 20:11:00:02:ac:00:8e:5b
2 2 010200 id N8 No_Light FC
3 3 010300 id 4G Online FC F-Port 50:06:01:6d:47:20:25:eb
4 4 010400 id N8 No_Light FC
5 5 010500 id N8 Online FC F-Port 21:11:00:02:ac:00:8e:5b
6 6 010600 id 8G Online FC F-Port 1 N Port + 2 NPIV public
7 7 010700 id 8G Online FC F-Port 1 N Port + 2 NPIV public
8 8 010800 -- 4G No_Module FC (No POD License) Disabled
9 9 010900 -- N8 No_Module FC (No POD License) Disabled
  
```

```
DS300B01:admin> portshow 6
portIndex: 6
portName: port6
portHealth: No Fabric Watch License

Authentication: None
portDisableReason: None
portCFlags: 0x1
portFlags: 0x20b03 PRESENT ACTIVE F_PORT G_PORT U_PORT NPIV LOGICAL ONLINE LOGIN NOELP ACCEPT FLOGI
LocalSwcFlags: 0x0
portType: 18.0
FOD Port: Port is licensed
portState: 1 Online
Protocol: FC
portPhys: 6 In_Sync portSsn: 32 F_Port
port generation number: 0
state transition count: 1

portId: 010600
portIfId: 43020012
portWwn: 20:06:00:27:f8:bd:c7:85
portWwn of device(s) connected:
20:00:00:25:b5:0a:00:02 WWPN of UCS2 vHBA1
20:00:00:25:b5:0a:00:03 WWPN of UCS1 vHBA1
20:1f:00:2a:6a:ea:b3:80 WWPN of UCS Fabric Interconnect FC Uplink port
Distance: normal
portSpeed: 8Gbps
```





**Properties**

Name: **vHBA-FIA**  
 WWPN: **20:00:00:25:B5:0A:00:03**  
 WWPN Pool: **BW-WWPN-FIA**  
 WWPN Pool Instance: [org-root/wwn-pool-BW-WWPN-FIA](#)

Fabric ID:  A  B

VSAN: **VSAN\_500**

Owner: **Logical**  
 Type: **Fc**  
 Equipment: [sys/chassis-1/blade-2/adaptor-1/host-fc-1](#)

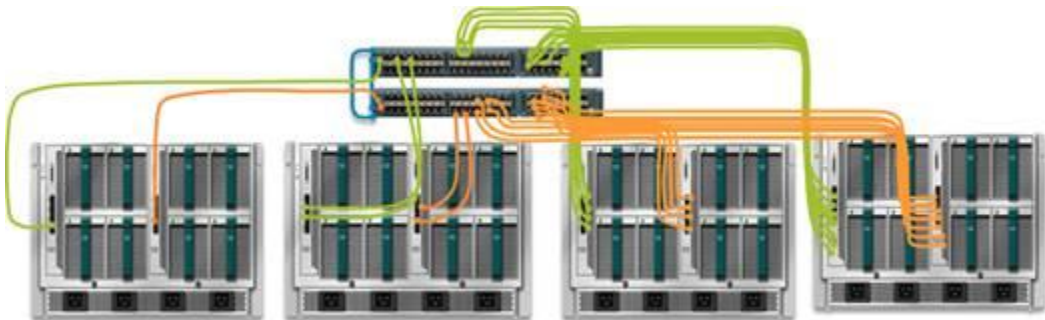
Persistent Binding:  Disabled  Enabled

```

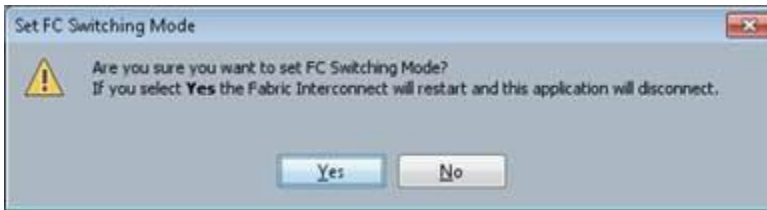
BW-UCS-A(nxos)# show npv flogi-table
-----
SERVER
INTERFACE VSAN FCID          PORT NAME          NODE NAME          EXTERNAL
E
-----
vfc974  500  0x010601  20:00:00:25:b5:0a:00:03  20:00:00:25:b5:00:00:03  fc1/31  WWPN of UCS1 vHBA1
vfc990  500  0x010701  20:00:00:25:b5:0a:00:00  20:00:00:25:b5:00:00:00  fc1/32
vfc996  500  0x010707  20:00:00:25:b5:0a:00:01  20:00:00:25:b5:00:00:01  fc1/32
vfc1034 500  0x010607  20:00:00:25:b5:0a:00:02  20:00:00:25:b5:00:00:02  fc1/31  WWPN of UCS2 vHBA1

Total number of flogi = 4.
BW-UCS-A(nxos)#

```







**Fault Summary**

0 0 0 0

**Status**

Overall Status: **Operable**  
Thermal: **Operable**  
Ethernet Mode: **End Host**  
FC Mode: **Switch**

**Actions**

- Configure Unified Ports
- Internal Fabric Manager
- LAN Uplinks Manager
- NAS Appliance Manager
- SAN Uplinks Manager
- SAN Storage Manager
- Enable Ports
- Disable Ports
- Set Ethernet End-Host Mode
- Set Ethernet Switching Mode
- Set FC End-Host Mode
- Set FC Switching Mode**
- Activate Firmware
- Management Interfaces
- Turn on Locator LED

**Physical Display**

Up Admin Down Fail Link Down

**Properties**

Name: **A**  
Product Name: **Cisco UCS 6248UP**  
Vendor: **Cisco Systems, Inc.** PID: **UCS-FI-6248UP**  
Revision: **0** Serial: **JAB121000UL**  
Available Memory: **0.324 (GB)** Total Memory: **1.272 (GB)**

**Part Details**

**Local Storage Information**

**Access**

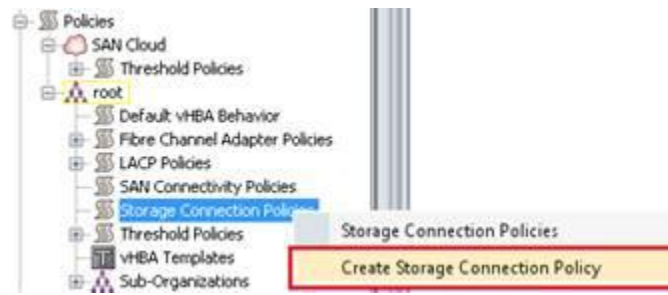
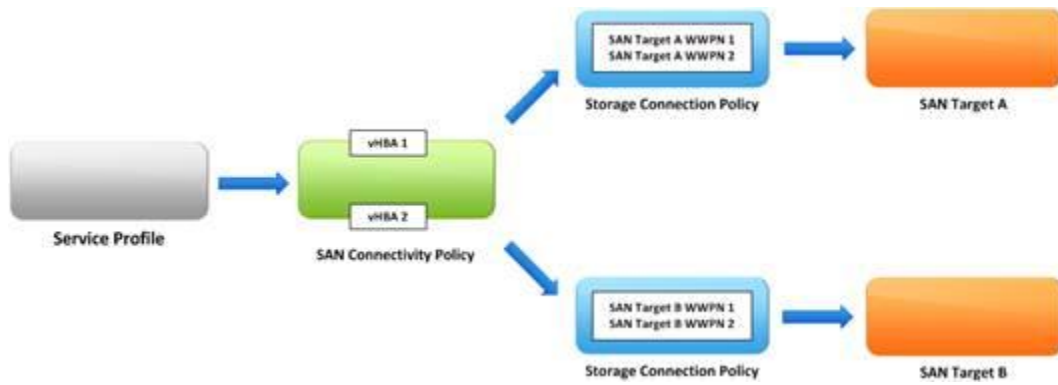
**High Availability Details**

**VLAN Port Count**

**FC Zone Count**

**Firmware**

Boot-loader Version: **1.0**  
Kernel Version: **5.0(3)N2(2.10.466)**  
System Version: **5.0(3)N2(2.10.466)**  
Package Version:  
Startup Kernel Version: **5.0(3)N2(2.10.466)**  
Activate Status: **Ready**  
Startup System Version: **5.0(3)N2(2.10.466)**  
Activate Status: **Ready**





**Storage Connection Policies**

Filter Export Print

Name	Description	WWPN
[-] SAN-TargetB		
[-] Fc Target Endpoint		50:06:01:69:47:20:25:EB
[-] Fc Target Endpoint		50:06:01:68:47:20:25:EB
[-] SAN-TargetA		
[-] Fc Target Endpoint		50:06:01:61:47:20:25:EB
[-] Fc Target Endpoint		50:06:01:60:47:20:25:EB



>> SAN > Policies > root > SAN Connectivity Policies > SAN\_Con\_Policy

General vHBA Initiator Group Events

Filter Export Print

Name	Storage Connection Policy Name
FabA_Zone	SAN-TargetA
FabB_Zone	SAN-TargetB

Details

General Events

Modify vHBA Initiator Membership  
 Modify Storage Connection Policy

**Properties**

Name: FabA\_Zone  
Description:

**vHBA Initiators**

Filter Export Print

Name  
vHBA1

**Global Storage Connection Policy**

Global storage connection policy defined under org is assigned to this vHBA initiator group.

**Properties**

Storage Connection Policy: SAN-TargetA  
Description:  
Zoning Type: Single Initiator Single Target

**FC Target Endpoints**

Filter Export Print

WWPN	Path	VSAN
50:06:01:61:47:20:25:EB	A	default
50:06:01:60:47:20:25:EB	A	default

## Unified Computing System Manager

Create Service Profile (expert)

1.  Identify Service Profile
2.  Networking
3.  Storage
4.  Zoning
5.  vNIC/vHBA Placement
6.  vMedia Policy
7.  Server Boot Order
8.  Maintenance Policy
9.  Server Assignment
10.  Operational Policies

### Storage

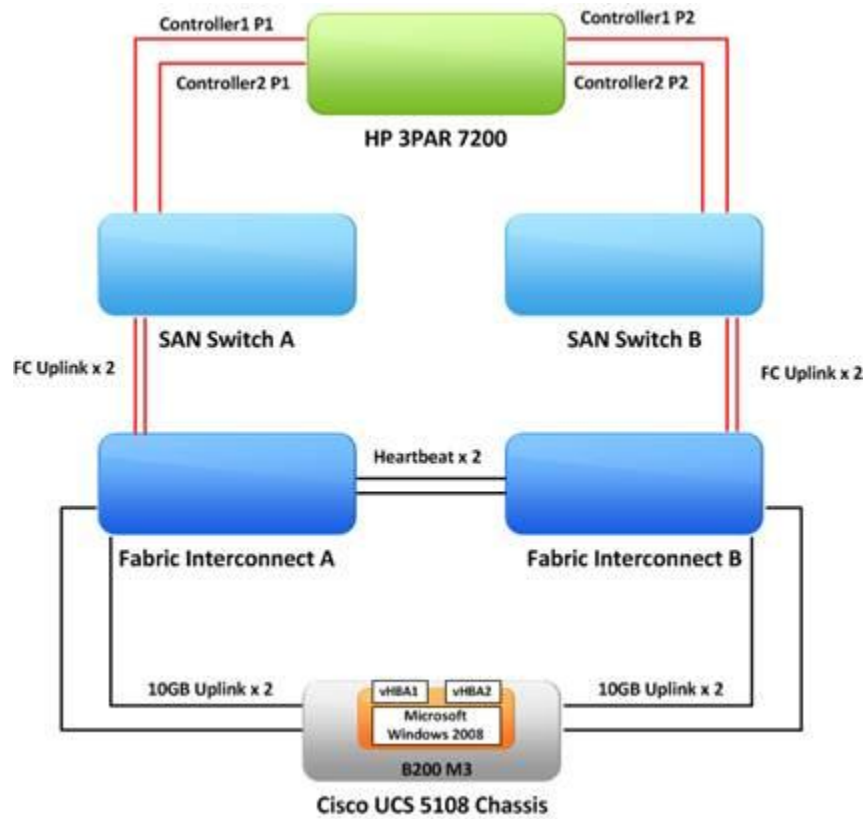
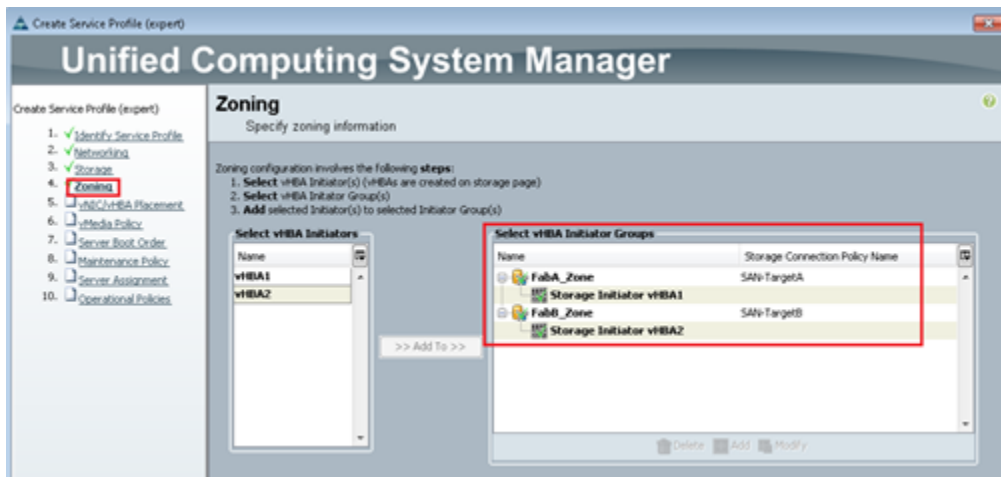
Optionally specify disk policies and SAN configuration information.

Local Storage:  If nothing is selected, the default Local Storage configuration policy will be assigned to this service profile.

Create Local Disk Configuration Policy

How would you like to configure SAN connectivity?  Simple  Expert  No vHBAs  Hardware Inherited  Use Connectivity Policy

SAN Connectivity Policy:   Create SAN Connectivity Policy



General **Storage** Network iSCSI vHBCs Boot Order Virtual Machines FC Zones Policies Server Details CIMC Sessions FSM V/F Paths Faults Events vMedia Policy

vHBAs vHBA Initiator Groups LUN Configuration

**Actions**

- Change World Wide Node Name
- Change Local Disk Configuration Policy
- Modify vHBC/vHBA Placement
- Reset WWN Address

**World Wide Node Name**

World Wide Node Name: 20:00:00:25:85:04:00:00  
 WWN Pool: BW-WWN-Pool  
 WWN Pool Instance: org-root/wwn-pool-BW-WWN-Pool

**Local Disk Configuration Policy**

Local Disk Policy: default  
 Local Disk Policy Instance: org-root/local-disk-config-default

**SAN Connectivity Policy**

SAN Connectivity Policy: <not set>  
 SAN Connectivity Policy Instance:  
 Create SAN Connectivity Policy

**vHBAs**

Fiber Export Print

Name	WWNs	Desired Order	Actual Order	Fabric ID	Desired Placement	Actual Placement
vHBA vHBA-F1A	20:00:00:25:85:04:00:00	1	7	A	1	1
vHBA vHBA-F1B	20:00:00:25:85:08:00:01	1	8	B	3	3

HP iPAR Management Console

File View Actions Window Help

Connect... Refresh Maximize Home Back Forward Export Data... Configure...

**Systems**

- Storage Systems
  - 3par7200
    - Controller Nodes
      - Host**
      - Look
      - Free
      - Remote Copy
      - Drive Cages
      - Physical Disks

Systems: Storage Systems : 3par7200 : Ports : Host

Summary Fibre Channel iSCSI Alerts

Default 4 objects Filter Clear

Position (Node:Slot:Port)	Label	WWN/MAC	Type	State	Connected Device Type
0:1:1	--	20110002AC008E5B	FC	Ready	Host
0:1:2	--	20120002AC008E5B	FC	Ready	Host
1:1:1	--	21110002AC008E5B	FC	Ready	Host
1:1:2	--	21120002AC008E5B	FC	Ready	Host

Index	Port	Address	Media	Speed	State	Proto	
							<b>Controller1-P1</b>
0	0	010000	id	N4	Online	FC	F-Port 50:06:01:64:47:20:25:eb
1	1	010100	id	N8	Online	FC	F-Port 20:11:00:02:ac:00:8e:5b
2	2	010200	id	N8	No_Light	FC	
3	3	010300	id	N8	No_Light	FC	
							<b>Controller2-P1</b>
4	4	010400	id	N8	No_Light	FC	
5	5	010500	id	N8	Online	FC	F-Port 21:11:00:02:ac:00:8e:5b
6	6	010600	id	8G	Online	FC	F-Port 1 N Port + 2 NPIV public
7	7	010700	id	8G	Online	FC	F-Port 1 N Port + 2 NPIV public
8	8	010800	--	4G	No_Module	FC	(No POD License) Disabled
9	9	010900	--	N8	No_Module	FC	(No POD License) Disabled

FIA's FC uplinks



```

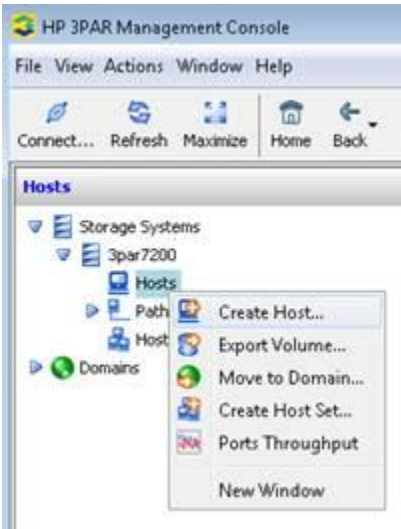
DS300B01:admin> portloginshow 7
Type PID World Wide Name credit df_sz cos
-----
fe 010707 20:00:00:25:b5:0a:00:01 16 2112 8 scr=0x3
fe 010701 20:00:00:25:b5:0a:00:00 16 2112 8 scr=0x3
fe 010700 20:20:00:2a:6a:ea:b3:80 16 2112 8 scr=0x0
ff 010707 20:00:00:25:b5:0a:00:01 0 0 8 d_id=FFFFFF vHBA-FIA
ff 010701 20:00:00:25:b5:0a:00:00 0 0 8 d_id=FFFFFF
ff 010700 20:20:00:2a:6a:ea:b3:80 8 2112 c d_id=FFFFFFA
ff 010700 20:20:00:2a:6a:ea:b3:80 8 2112 c d_id=FFFFFFC
DS300B01:admin>

```

```

Index Port Address Media Speed State Proto
-----
0 0 010000 id N4 Online FC F-Port 50:06:01:6c:47:20:25:eb
1 1 010100 id N8 Online FC F-Port 21:12:00:02:ac:00:8e:5b Controller2-P2
2 2 010200 id 8G No_Light FC
3 3 010300 id 8G No_Light FC Controller1-P2
4 4 010400 id N8 No_Light FC
5 5 010500 id N8 Online FC F-Port 20:12:00:02:ac:00:8e:5b
6 6 010600 id N8 Online FC F-Port 1 N Port + 2 NPIV public FIB's FC uplinks
7 7 010700 id 8G Online FC F-Port 1 N Port + 2 NPIV public

```



### Host Settings

Edit host **Name** or **Host OS** then click **Next** to modify FC or iSCSI host paths.

General

System: 3par7200 (1636443)

Domain: <none>

Name: Win2008R2

Host OS: Windows 2008/2008 R2

Persona: 15 - WindowsServer

(Unit Attention Report LUNs, Enable SES device, Asymmetric Logical Unit Access, Windows Server Capability)

Descriptors

Location:

IP Address:

Operating System: Windows 2008/2008 R2

Model:

Contact:

Comments:

### Fibre Channel Settings

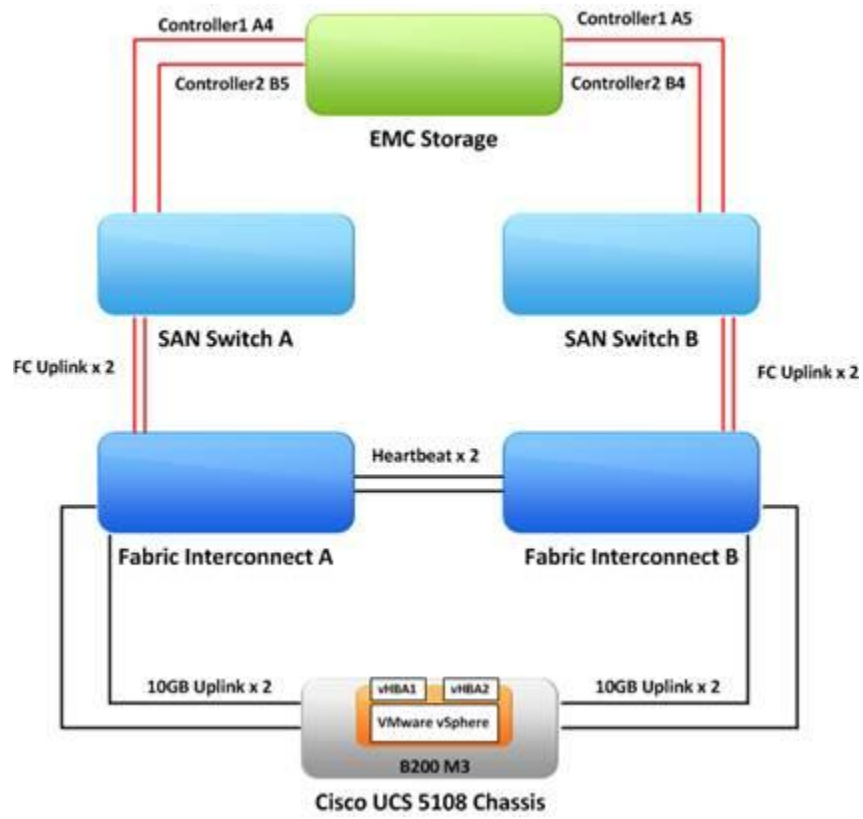
Assign at least two Fibre Channel World Wide Names (WWNs). Select available WWNs or, to create new WWNs, enter the new WWNs in the **New WWN** text box and click **Assign**.

The assigned WWNs are the host paths the storage system will use to connect to the host system.

Fibre Channel Host Paths

Available WWNs		Assigned WWNs	
WWN	Port	WWN	Port
20000025B50A0000	0:1:1		
20000025B50B0001	0:1:2		
20000025B50A0000	1:1:1		
20000025B50B0001	1:1:2		

New WWN:  Assign



General **Storage** Network iSCSI vNICs Boot Order Virtual Machines FC Zones Policies Server Details CIMC Sessions FIRM VIF Paths Faults Events vMedia Policy

vHBAs vHBA Inhibitor Groups LUN Configuration

**Actions**

- Change World Wide Node Name
- Change Local Disk Configuration Policy
- Modify vNIC/vHBA Placement
- Reset WWN Address

**World Wide Node Name**

World Wide Node Name: 20:00:00:25:85:00:00:02  
 WWN Pool: **BW-WWN-Pools**  
 WWN Pool Instance: org-root/wwn-pool-BW-WWN-Pools

**Local Disk Configuration Policy**

Local Disk Policy: **localdisk RAID1**  
 Local Disk Policy Instance: org-root/local-disk-config-localdisk RAID1

**SAN Connectivity Policy**

SAN Connectivity Policy: <not set>  
 SAN Connectivity Policy Instance:  
 Create SAN Connectivity Policy

**vHBAs**

Filter Export Print

Name	WWN	Desired Order	Actual Order	Fabric ID	Desired Placement	Actual Placement
vHBA vHBA-FTA	20:00:00:25:85:0A:00:02	1	5	A	1	1
vHBA vHBA-FIB	20:00:00:25:85:0B:00:02	1	6	B	3	3

BoardWare-CX4-240 - Port Management

Show Ports: Both SPs

Physical Locati...	SP-Port	Type	Speed	IP Addresses	IQN/WWN
Slot A0, Port 0	A-Bus 0	Fibre	4Gbps	N/A	N/A
Slot A0, Port 1	A-Bus 1	Fibre	N/A	N/A	N/A
Slot A0, Port 2	A-0	Fibre	N/A	N/A	50:06:01:60:C7:20:25:EB:50:06:01:61:47:20:25:EB
Slot A0, Port 3	A-1	Fibre	N/A	N/A	50:06:01:60:C7:20:25:EB:50:06:01:61:47:20:25:EB
Slot A1, Port 0	A-2	iSCSI	N/A	N/A	iqn.1992-04.com.emc:cx.apm00120503654.a2
Slot A1, Port 1	A-3 (MirrorView)	iSCSI	N/A	N/A	iqn.1992-04.com.emc:cx.apm00120503654.a3
Slot A2, Port 0	A-4	Fibre	4Gbps	N/A	50:06:01:60:C7:20:25:EB:50:06:01:64:47:20:25:EB
Slot A2, Port 1	A-5	Fibre	4Gbps	N/A	50:06:01:60:C7:20:25:EB:50:06:01:65:47:20:25:EB
Slot A2, Port 2	A-6	Fibre	N/A	N/A	50:06:01:60:C7:20:25:EB:50:06:01:66:47:20:25:EB
Slot A2, Port 3	A-7 (MirrorView)	Fibre	N/A	N/A	50:06:01:60:C7:20:25:EB:50:06:01:67:47:20:25:EB
Slot B0, Port 0	B-Bus 0	Fibre	4Gbps	N/A	N/A
Slot B0, Port 1	B-Bus 1	Fibre	N/A	N/A	N/A
Slot B0, Port 2	B-0	Fibre	N/A	N/A	50:06:01:60:C7:20:25:EB:50:06:01:68:47:20:25:EB
Slot B0, Port 3	B-1	Fibre	N/A	N/A	50:06:01:60:C7:20:25:EB:50:06:01:69:47:20:25:EB
Slot B1, Port 0	B-2	iSCSI	N/A	N/A	iqn.1992-04.com.emc:cx.apm00120503654.b2
Slot B1, Port 1	B-3 (MirrorView)	iSCSI	N/A	N/A	iqn.1992-04.com.emc:cx.apm00120503654.b3
Slot B2, Port 0	B-4	Fibre	4Gbps	N/A	50:06:01:60:C7:20:25:EB:50:06:01:6C:47:20:25:EB
Slot B2, Port 1	B-5	Fibre	4Gbps	N/A	50:06:01:60:C7:20:25:EB:50:06:01:6D:47:20:25:EB
Slot B2, Port 2	B-6	Fibre	N/A	N/A	50:06:01:60:C7:20:25:EB:50:06:01:6E:47:20:25:EB
Slot B2, Port 3	B-7 (MirrorView)	Fibre	N/A	N/A	50:06:01:60:C7:20:25:EB:50:06:01:6F:47:20:25:EB

Index	Port	Address	Media	Speed	State	Proto		
0	0	010000	id	N4	Online	FC	F-Port 50:06:01:64:47:20:25:eb	SPA-4
1	1	010100	id	N8	Online	FC	F-Port 20:11:00:02:ac:00:8e:5b	
2	2	010200	id	N8	No_Light	FC		
3	3	010300	id	4G	Online	FC	F-Port 50:06:01:6d:47:20:25:eb	SPB-5
4	4	010400	id	N8	No_Light	FC		
5	5	010500	id	N8	Online	FC	F-Port 21:11:00:02:ac:00:8e:5b	
6	6	010600	id	8G	Online	FC	F-Port 1 N Port + 2 NPIV public	FI-A FC uplinks
7	7	010700	id	8G	Online	FC	F-Port 1 N Port + 2 NPIV public	
8	8	010800	--	4G	No_Module	FC	(No POD License) Disabled	
9	9	010900	--	N8	No_Module	FC	(No POD License) Disabled	

Type	PID	World Wide Name	credit	df_sz	cos		
fe	010607	20:00:00:25:b5:0a:00:02	16	2112	8	scr=0x3	
fe	010601	20:00:00:25:b5:0a:00:03	16	2112	8	scr=0x3	
fe	010600	20:1f:00:2a:6a:ea:b3:80	16	2112	8	scr=0x0	
ff	010607	20:00:00:25:b5:0a:00:02	0	0	8	d_id=FFFFFC	
ff	010601	20:00:00:25:b5:0a:00:03	0	0	8	d_id=FFFFFC	
ff	010600	20:1f:00:2a:6a:ea:b3:80	8	2112	c	d_id=FFFFFA	
ff	010600	20:1f:00:2a:6a:ea:b3:80	8	2112	c	d_id=FFFFFC	

Index	Port	Address	Media	Speed	State	Proto		
0	0	010000	id	N4	Online	FC	F-Port 50:06:01:6c:47:20:25:eb	SPB-4
1	1	010100	id	N8	Online	FC	F-Port 21:12:00:02:ac:00:8e:5b	
2	2	010200	id	8G	No_Light	FC		
3	3	010300	id	4G	Online	FC	F-Port 50:06:01:65:47:20:25:eb	SPA-5
4	4	010400	id	N8	No_Light	FC		
5	5	010500	id	N8	Online	FC	F-Port 20:12:00:02:ac:00:8e:5b	
6	6	010600	id	N8	Online	FC	F-Port 1 N Port + 2 NPIV public	FI-B FC uplinks
7	7	010700	id	8G	Online	FC	F-Port 1 N Port + 2 NPIV public	
8	8	010800	--	N8	No_Module	FC	(No POD License) Disabled	

**Systems by Severity**

System	Domain
BoardWare-CX4-240	Local
Storage Pool Operations >	
Create Storage Group	
Faults	
Connectivity Status	
Import Virtual Server Information	
Engineering Mode >	
Upgrade All Hosts	
Port Management	
(SCSI) >	

Host Initiators | MirrorView Initiators | SAN Copy Initiators

Initiator Name	Storage Groups	Registered	Logged In	SP - port	Type	Attributes
esxi55b.boardware.com.mo [10.2.1.9; Fibre; Manually req	ESXi55B					
20:00:00:25:B5:00:00:02:20:00:00:25:B5:0A:00:02		Yes	Yes	A-4	Fibre	
20:00:00:25:B5:00:00:02:20:00:00:25:B5:0A:00:02		Yes	Yes	B-5	Fibre	
20:00:00:25:B5:00:00:02:20:00:00:25:B5:0B:00:02		Yes	Yes	A-5	Fibre	
20:00:00:25:B5:00:00:02:20:00:00:25:B5:0B:00:02		Yes	Yes	B-4	Fibre	

## EMC Unisphere

BoardWare-CX4-240 | System | Storage | Hosts | Replicas

BoardWare-CX4-240 > System > System Information

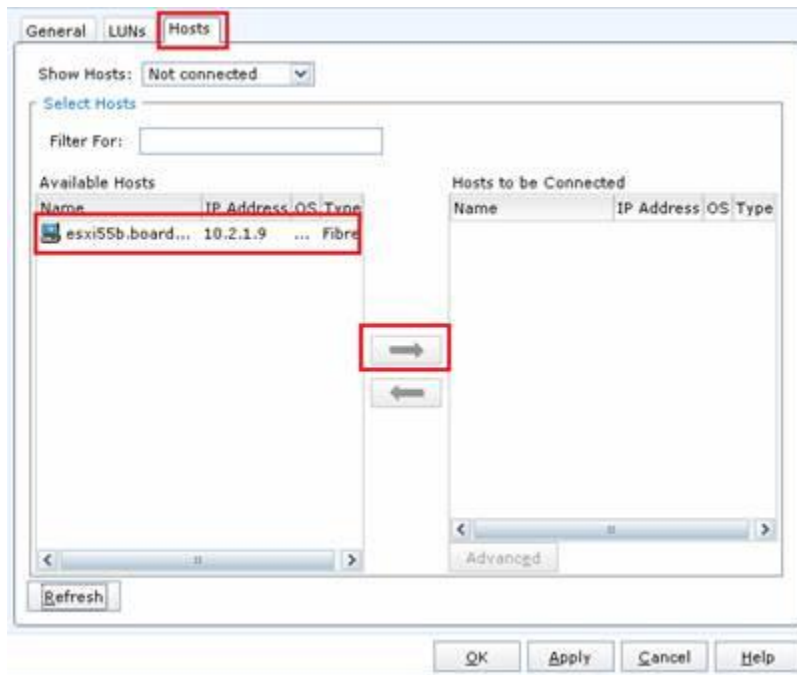
**System Management**

- [Manage Data Ports](#)
- [Show System Alerts](#)
- [Manage Cache](#)
- [Create Hot Spare](#)
- [Backend Bus Speed Reset Wizard](#)

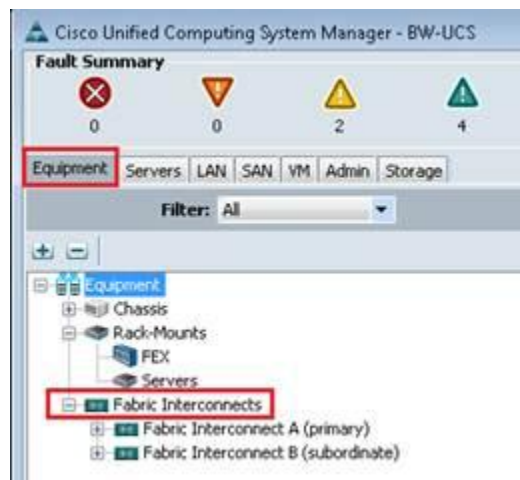
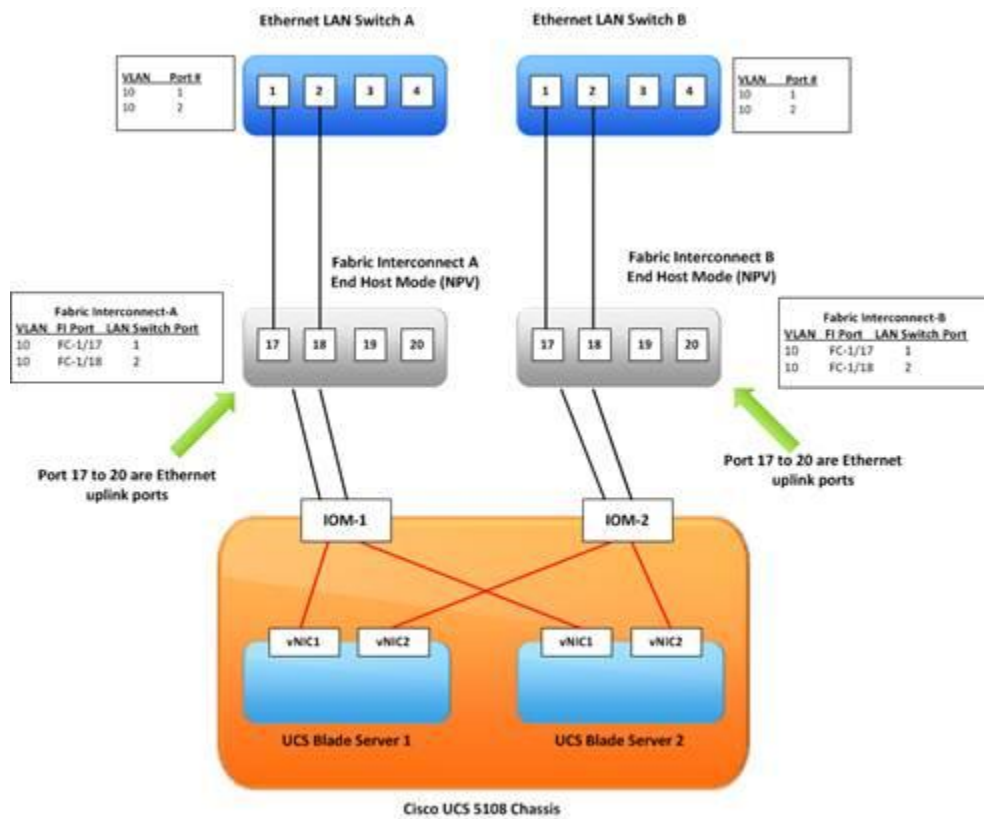
**System**

- Summary
- Disks
- Pools/RAID Groups
- LUNs
- Storage Groups**
- Folders

Status: [unreadable]  
 Name: [unreadable]  
 Serial: [unreadable]  
 Model: [unreadable]



## Chapter 2: Cisco UCS to LAN Connectivity





**Fault Summary**

0 0 0 0

**Status**

Overall Status: **Operable**

Thermal: **Ok**

**Ethernet Mode: End Host**

FC Mode: **End Host**

Admin Evac Mode: **Off**

Oper Evac Mode: **Off**

**Actions**

- Enable Port
- Disable Port
- Reconfigure
- Unconfigure
- Show Interface

MAC: 00  
Mode: Ac  
Port Type: Ph  
Transceiver

- Configure as Uplink Port**
- Configure as FCoE Uplink Port
- Configure as Server Port
- Configure as FCoE Storage Port
- Configure as Appliance Port

>> Equipment > Fabric Interconnects > Fabric Interconnect A (primary) > Fixed Module > Ethernet Ports > Port 17

General | Faults | Events | FSM | Statistics

**Fault Summary**

0 0 0 0

**Status**

Overall Status: **Up**

Additional Info:

**Admin State: Enabled**

**Actions**

- Enable Port
- Disable Port
- Reconfigure
- Unconfigure
- Show Interface

**Physical Display**

Up Admin Down Fail Link Down

**Properties**

ID: 17 Slot ID: 1

User Label:

MAC: 002A6AEAB398

Mode: **Trunk**

Port Type: **Physical** Role: **Network**

**Transceiver**

Type: Sfp

Model: ABCU-5710RZ-CS4

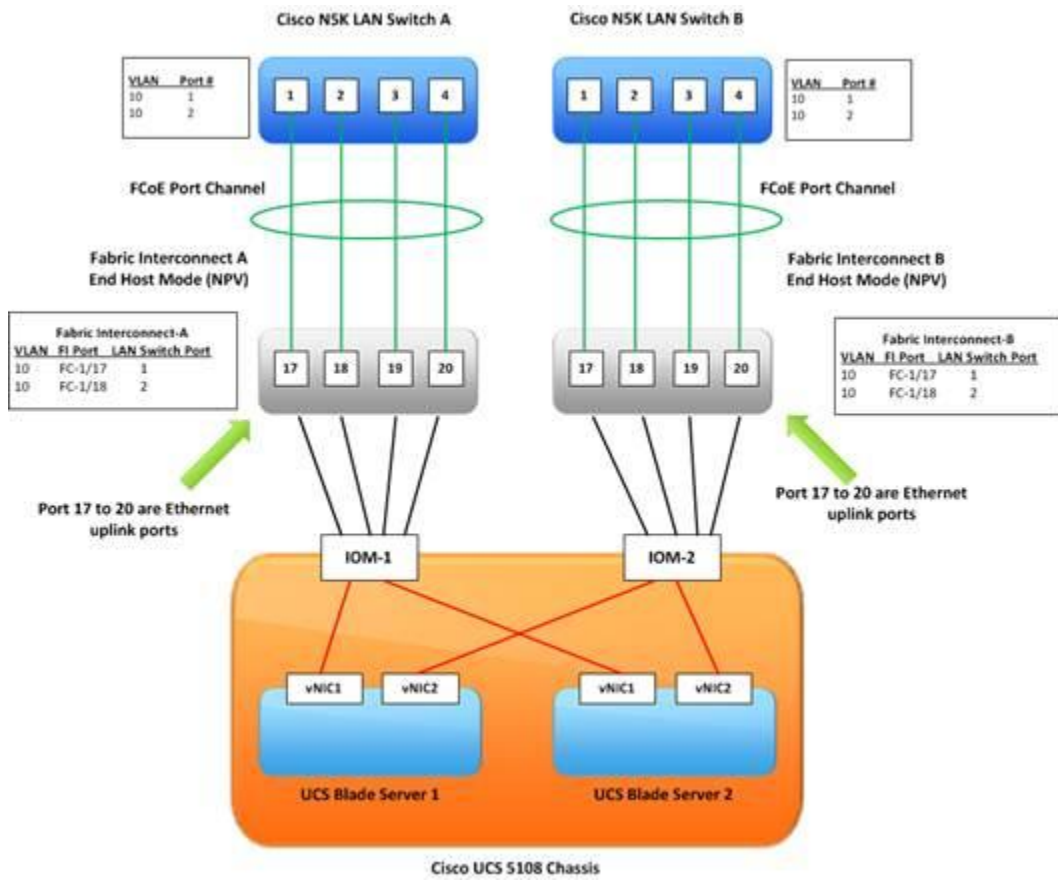
Vendor: CISCO-AVAGO

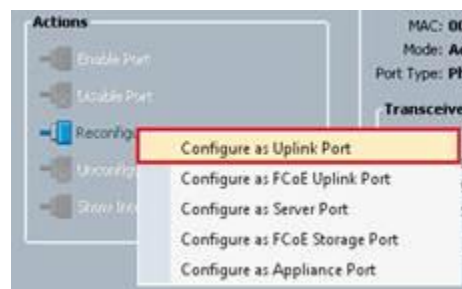
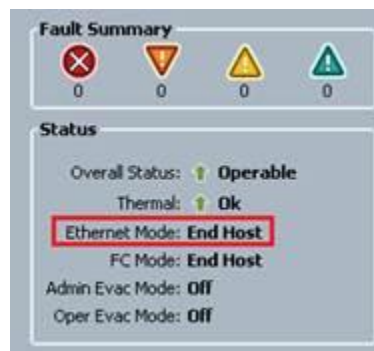
Serial: AG1183828G9

**License Details**

License State: **License Ok**

License Grace Period: 0





Cisco Unified Computing System Manager - BW-UCS

**Fault Summary**

0 0 2 4

Equipment Servers LAN SAN VM Admin Storage

Filter: All

Equipment

- Chassis
  - Chassis 1
    - Fans
    - IO Modules
    - PSUs
    - Servers
  - Rack-Mounts
    - FEX
    - Servers
  - Fabric Interconnects
    - Fabric Interconnect A (primary)
      - Fixed Module
        - Ethernet Ports
        - FC Ports
      - Fans
      - PSUs
    - Fabric Interconnect B (subordinate)

General Physical Ports Fans PSUs Physical E

**Fault Summary**

0 0 0 0

**Status**

- Overall Status: **Operable**
- Thermal: **Ok**
- Ethernet Mode:
- FC Mode: **End Host**
- Admin Evac Mode: **Off**
- Oper Evac Mode: **Off**

**Actions**

- Configure Evacuation
- Configure Unified Ports
- Internal Fabric Manager
- LAN Uplinks Manager**
- NAS Appliance Manager
- SAN Uplinks Manager

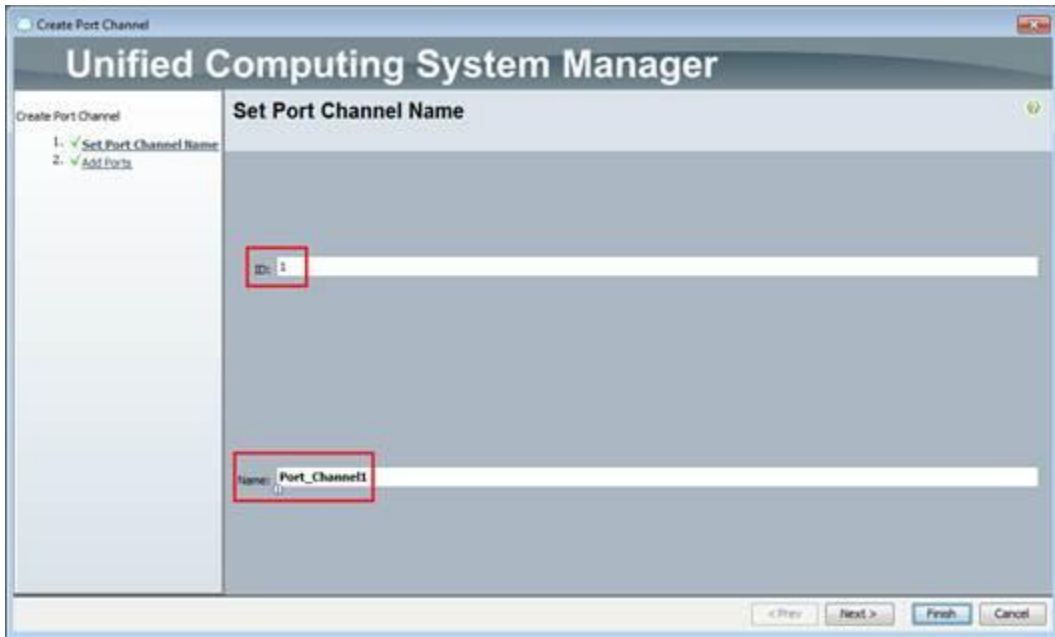
Port Channels and Uplinks

Filter Export Print

Name	Fabric ID	Administrative State
Port Channels		
Fabric A		
Fabric B		
Uplink Eth Interfaces		
Fabric A		
Eth Interface 1/17		
Eth Interface 1/18		
Eth Interface 1/19		
Eth Interface 1/20		
Fabric B		
Eth Interface 1/17		
Eth Interface 1/18		
Eth Interface 1/19		
Eth Interface 1/20		

Context menu for Fabric A Uplink Eth Interfaces:

- Show Navigator
- Create VLANs
- Create Port Channel**
- Enable All Uplink Interfaces
- Disable All Uplink Interfaces
- Enable All Port Channels
- Disable All Port Channels
- Copy (Ctrl+C)
- Copy XML (Ctrl+L)
- Delete (Ctrl+D)



**Fault Summary**

0 0 1 0

Equipment Servers LAN SAN VM Admin

Filter: All

LAN

LAN Cloud

Fabric A

Port Channels

Port-Channel 1 (Port\_Channel1)

- Eth Interface 1/17
- Eth Interface 1/18
- Eth Interface 1/19
- Eth Interface 1/20

Uplink Eth Interfaces

VLAN Optimization Sets

VLANs

Fabric B

LAN > LAN Cloud > Fabric A

General Ports Faults Events Statistics

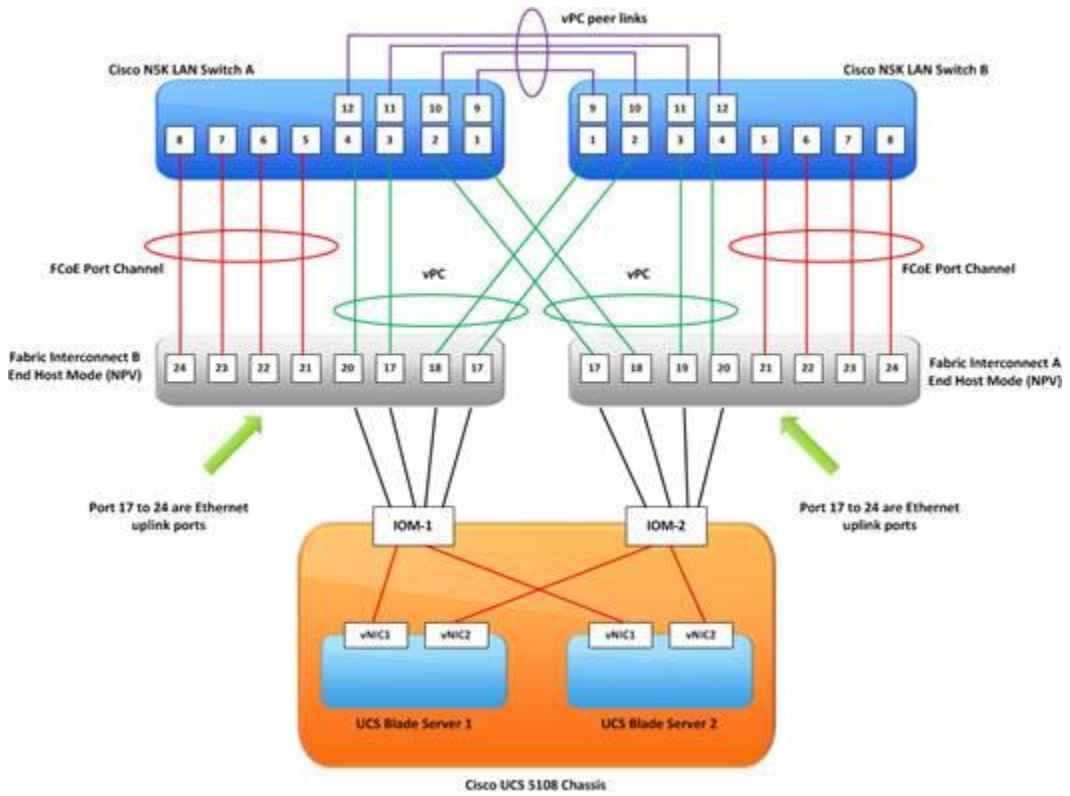
**Status**

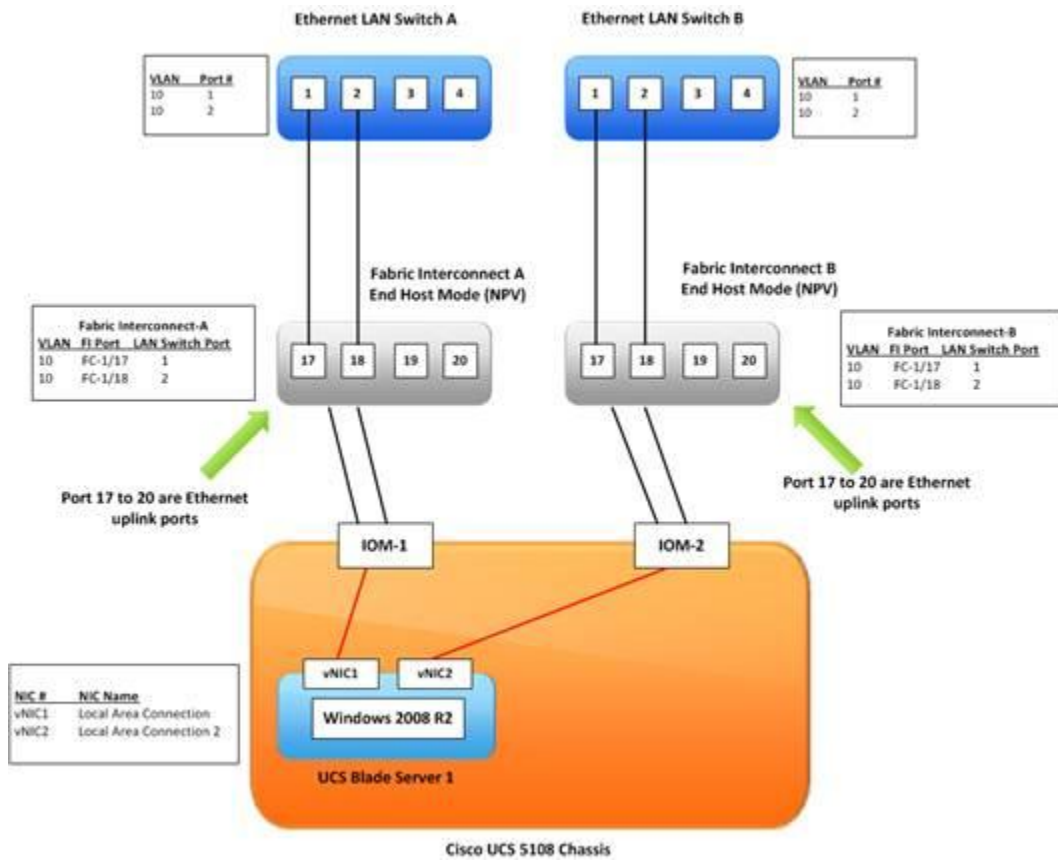
Overall Status: **Up**

Additional Info:

**Actions**

- Enable Port Channel
- Disable Port Channel
- Add Ports







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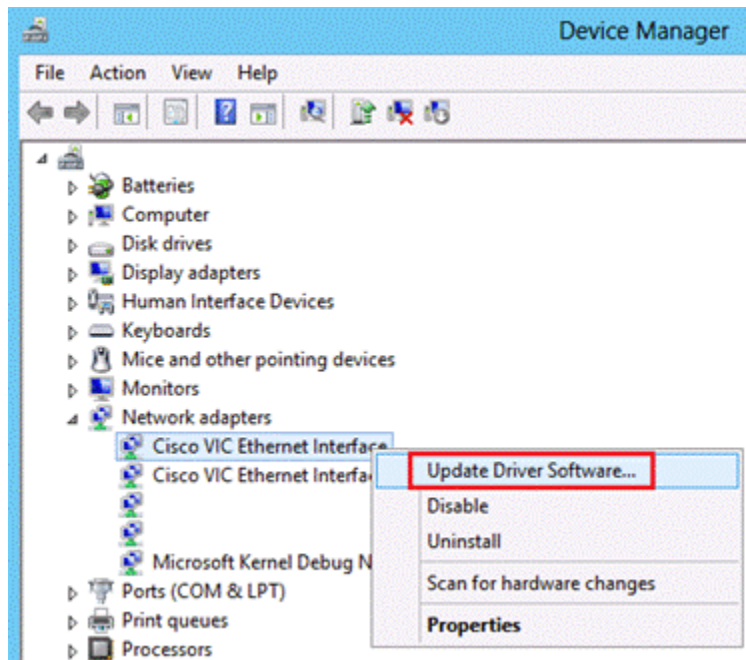
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[Add Notification](#)

**Release 2.2(5b)**

File Information	Release Date	Size	
<a href="#">Inventory List</a> ucs-bbox-drivers-2.2.5b-iso-inventory-86.zip	19-SEP-2015	8.05 MB	<a href="#">Download</a> <a href="#">Add to cart</a>
<a href="#">ISO image of UCS-related drivers</a> ucs-bbox-drivers-2.2.5b.iso	07-AUG-2015	1927.74 MB	<a href="#">Download</a> <a href="#">Add to cart</a>

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[2.2\(5b\)](#)  
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[2.0\(5c\)](#)

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File Information	Release Date	Size	
<b>ISO image of UCS-related Windows utilities</b> ucs-bxxx-utils-windows-2.2.5.iso	19-JUN-2015	1505.66 MB	<a href="#">Download</a> <a href="#">Add to cart</a>

▼ Latest  
 2.2(5)  
 3.0(2)  
 2.1(3)  
 2.0(5)  
 ▼ All Releases

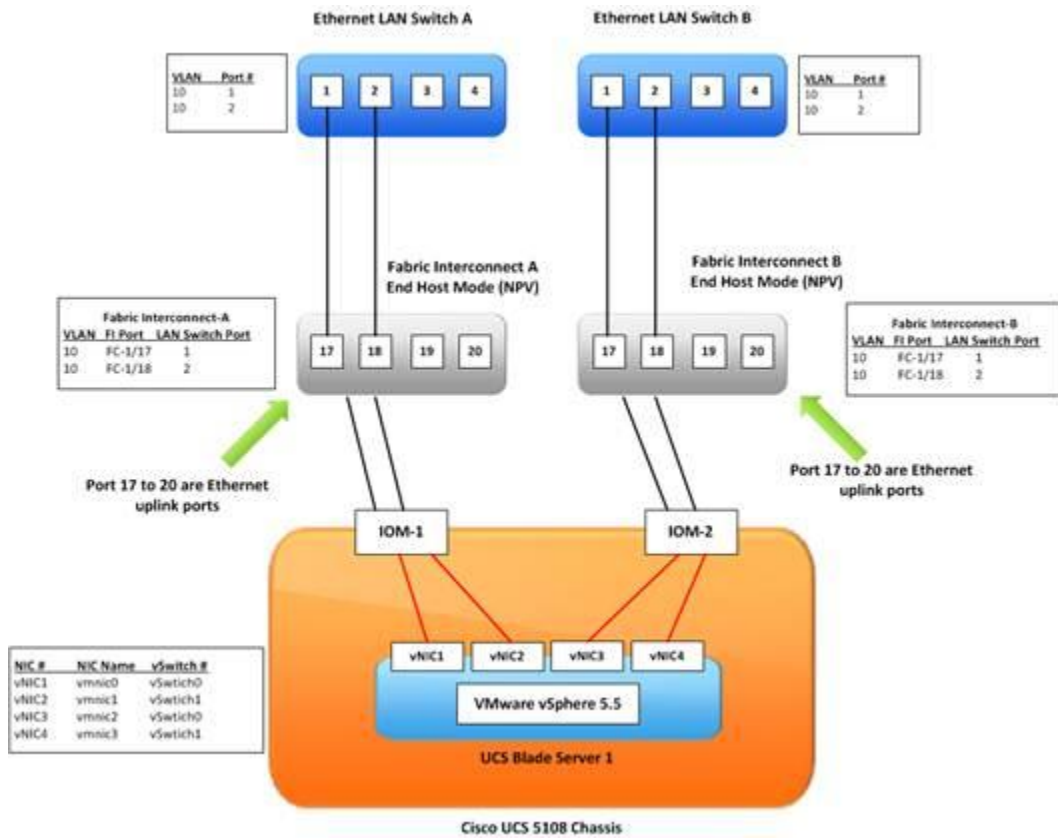
			File folder	
cscteam_mpdv64.cat	7,837	7,837	Security Catalog	5/9/2014 8:45 ...
cscteam_mpdv64.inf	1,417	1,417	Setup Information	2/15/2014 1:04 ...
cscteam6v64.sys	105,160	105,160	System file	2/15/2014 1:04 ...
cscteamp6v64.cat	8,224	8,224	Security Catalog	5/9/2014 8:45 ...
cscteamp6v64.inf	2,343	2,343	Setup Information	2/15/2014 1:04 ...
enictool.exe	328,192	328,192	Application	12/6/2013 1:01 ...
README_TEAM.TXT	3,792	3,792	Text Document	10/5/2013 5:21 ...
README_TOOL.TXT	2,340	2,340	Text Document	10/5/2013 5:21 ...

Network Connections

Control Panel > Network and Internet > Network Connections

Organize

Name	Status	Device Name
Local Area Connection	Enabled	Cisco VIC Ethernet Interface
Local Area Connection 2	Enabled	Cisco VIC Ethernet Interface # 2
Local Area Connection 3	Enabled	Cisco NIC Teaming Miniport Drive



Cisco Unified Computing System Manager - BW-UCS

Service Profile ES05.5\_Service\_Profile

Network

Dynamic vNIC Connection Policy

Nothing Selected

vNIC/vHBA Placement Policy

Specific vNIC/vHBA Placement Policy

Virtual Slot	Selection Preference
1	All
2	All
3	All
4	All

LAN Connectivity Policy

LAN Connectivity Policy:

LAN Connectivity Policy Instance:

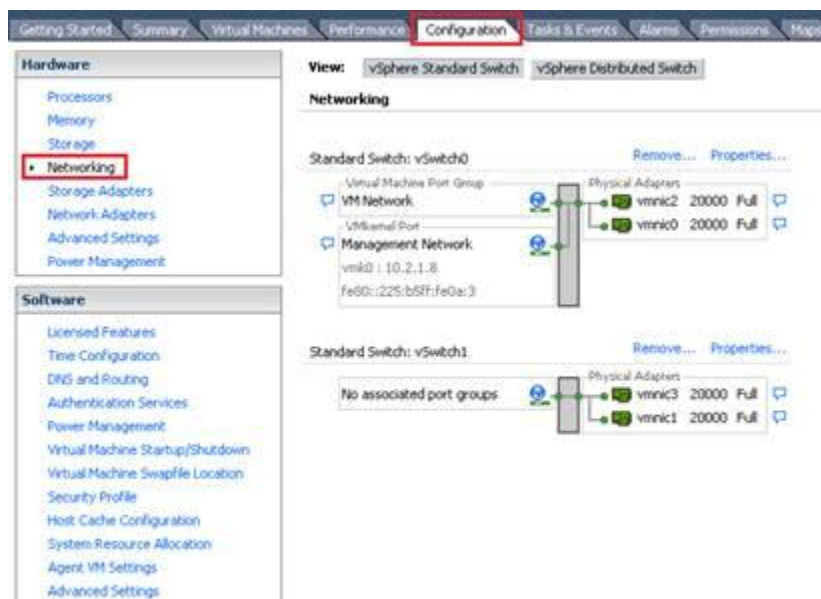
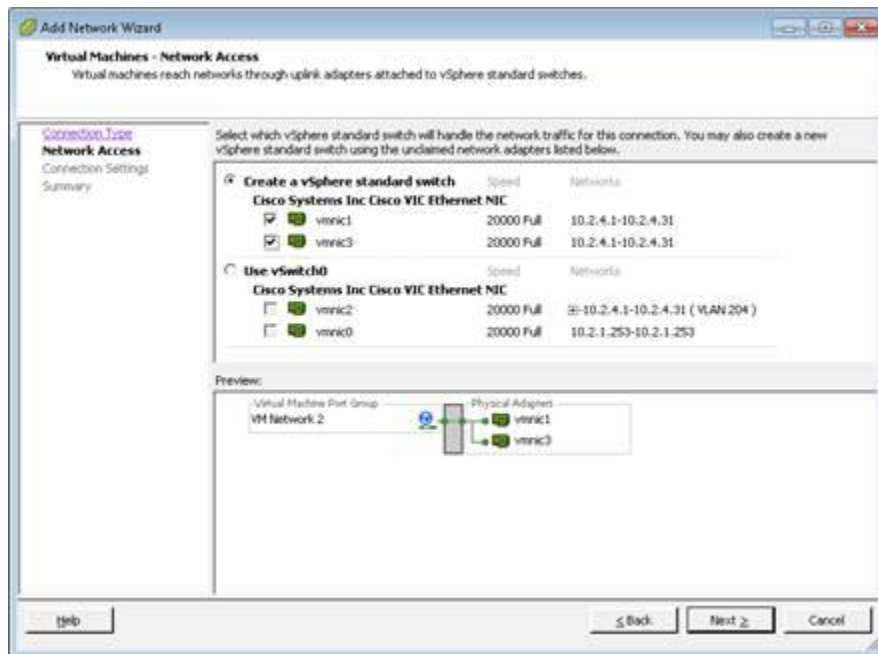
Create LAN Connectivity Policy

vNICs

Name	MAC Address	Desired Order	Actual Order	Fabric ID	Desired Placement	Actual Placement	Admin Host Port	Actual Host Port
ABC-ABC_F1A_P17	00:25:95:0A...	2	2	1	1	1	VMW	VCME
ABC-ABC_F1A_P18	00:25:95:0A...	3	3	1	1	1	VMW	VCME
ABC-ABC_FB_P17	00:25:95:0B...	2	3	3	3	3	VMW	VCME
ABC-ABC_FB_P18	00:25:95:0B...	3	4	3	3	3	VMW	VCME

Save Changes    Reset Values

Logged in as admin@10.2.1.3    Registered with UCS Central @ 10.2.1.21    System Time: 2015-05-11T12:04



View: vSphere Standard Switch vSphere Distributed Switch

### Networking

Standard Switch: vSwitch0 [Remove...](#) [Properties...](#)

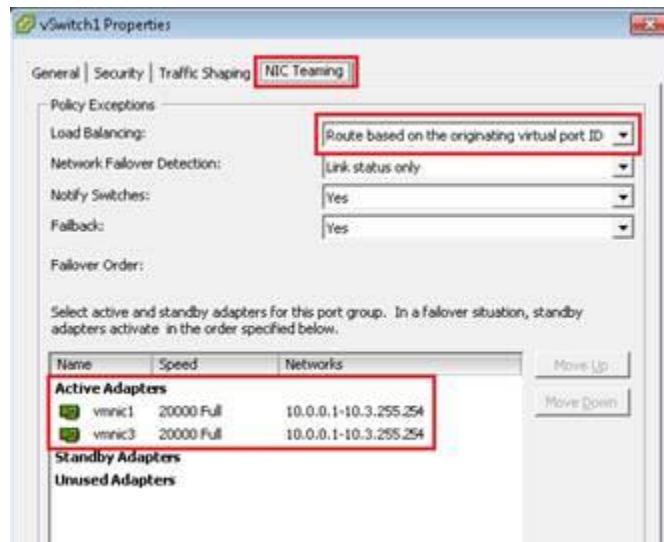


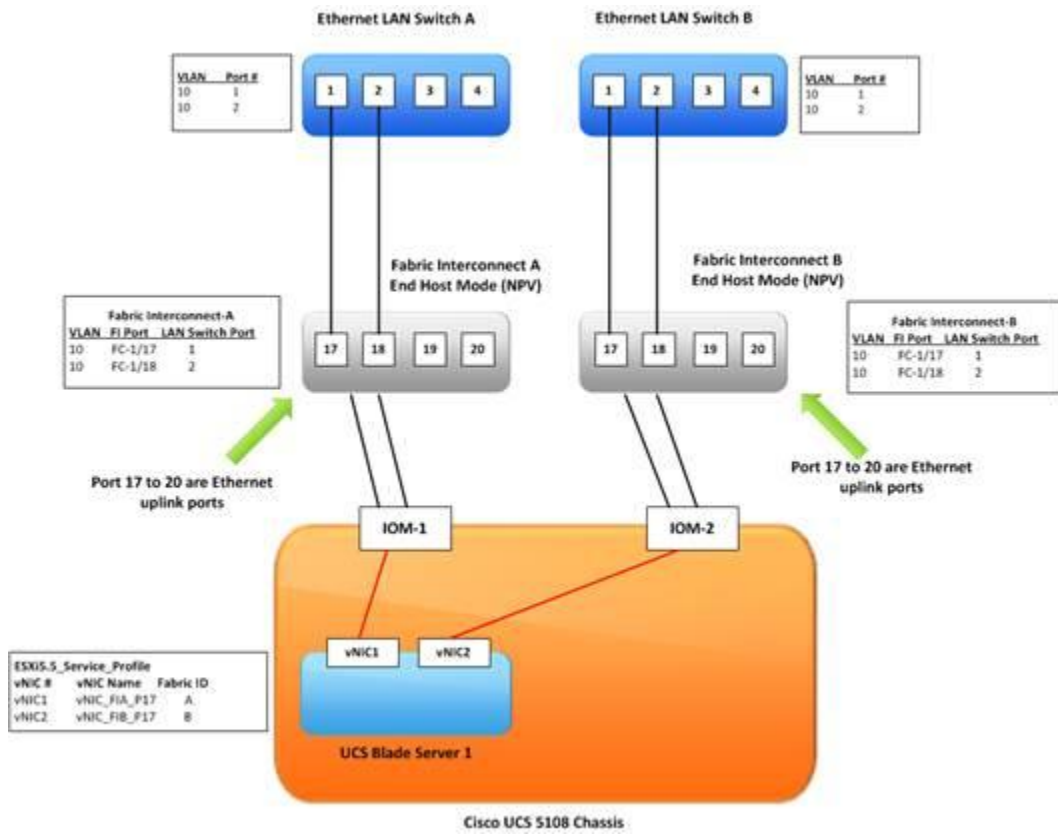
Standard Switch: vSwitch1 [Remove...](#) [Properties...](#)

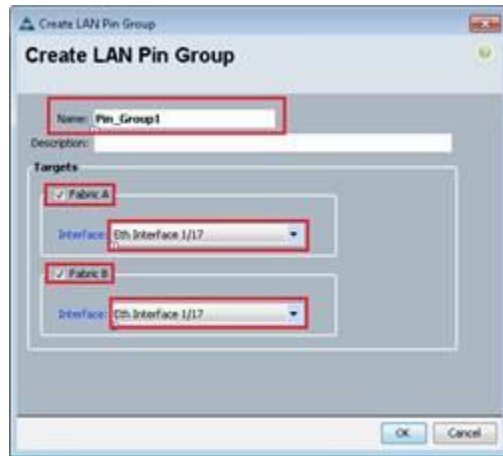


Screenshot of the vSwitch1 Properties dialog box. The dialog is titled "vSwitch1 Properties" and has two tabs: "Ports" and "Network Adapters". The "Ports" tab is selected, showing a table with two entries: "vSwitch" and "VM Network 2". The "vSwitch" entry is highlighted, and its "Summary" column shows "120 Ports". Below the table are buttons for "Add...", "Edit...", and "Remove". The "Network Adapters" tab is also visible, showing the configuration for vSphere Standard Switch Properties. The "Number of Ports" is set to 120. The "Advanced Properties" section shows "MTU" set to 1500. The "Default Policies" section includes "Security" (Promiscuous Mode: Reject, MAC Address Changes: Accept, Forged Transmits: Accept), "Traffic Shaping" (Average Bandwidth: --, Peak Bandwidth: --, Burst Size: --), and "Failover and Load Balancing" (Load Balancing: Port ID, Network Failure Detection: Link status only, Notify Switches: Yes, Failback: Yes, Active Adapters: vmnic1, vmnic3). Buttons for "Close" and "Help" are at the bottom right.













**Fault Summary**

			
0	0	2	3

Equipment: **Servers** | LAN | SAN | VM | Admin | Storage

Filter: All

**Servers**

- Service Profiles
  - root
    - ESXiS.1\_Service\_Profile
    - ESXiS.1\_Service\_Profile2
    - ESXiS.5\_Service\_Profile
      - iSCSI vNICs
      - vHBAs
      - vNICs
        - vNIC vNIC\_FIA\_P17**
        - vNIC vNIC\_FIB\_P17

General | VLANs | Statistics | Faults | Events

**Fault Summary**

0 0 0 0

**Actions**

- Change MAC Address
- Modify VLANs
- Bind to a Template
- Unbind from a Template
- Reset MAC Address

**Properties**

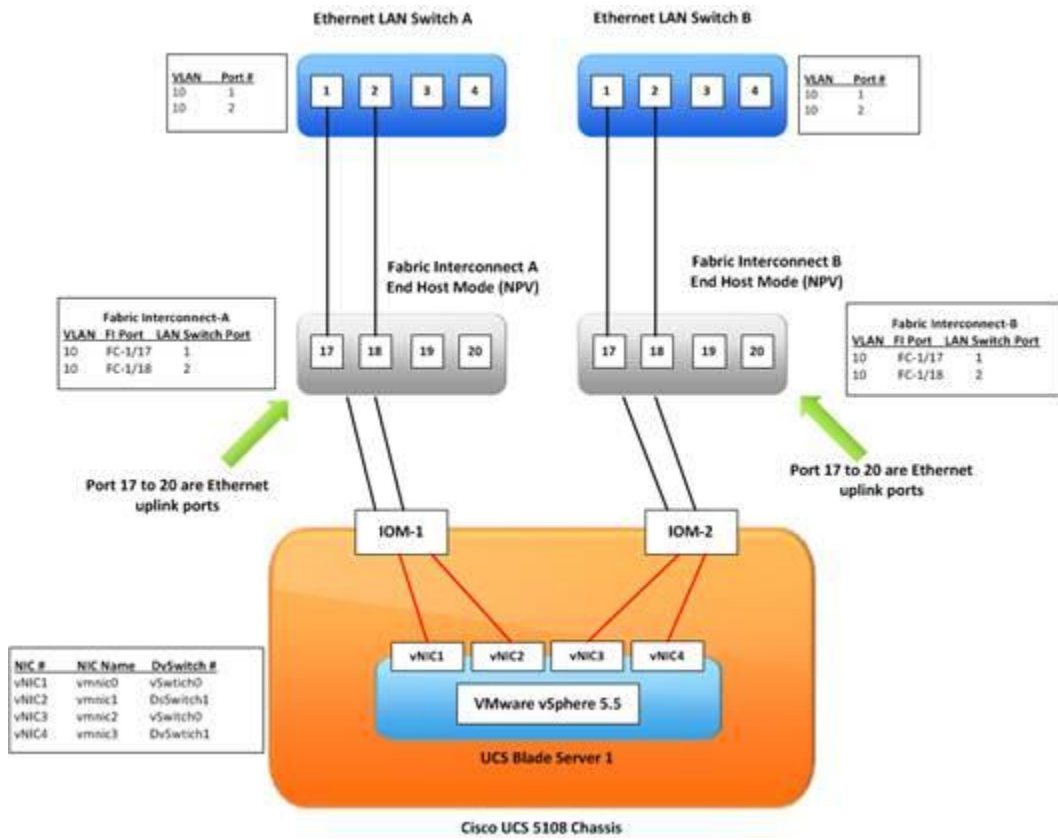
Name: vNIC\_FIA\_P17  
MAC Address: 00:25:B5:0A:00:03  
MAC Pool: BW-MAC-FIA  
MAC Pool Instance: org-root/mac-pool-BW-MAC-FIA  
Fabric ID:  Fabric A  Fabric B  Enable Fallover  
Owner: Logical  
Type: Ether  
Admin CDN Name:   
Oper CDN Name:   
Equipment: sys/chassis-1/blade-3/adaptor-1/host-eth-1  
Boot Device: Enabled  
MTU: 1500  
Virtualization Preference: NONE  
Template Name:

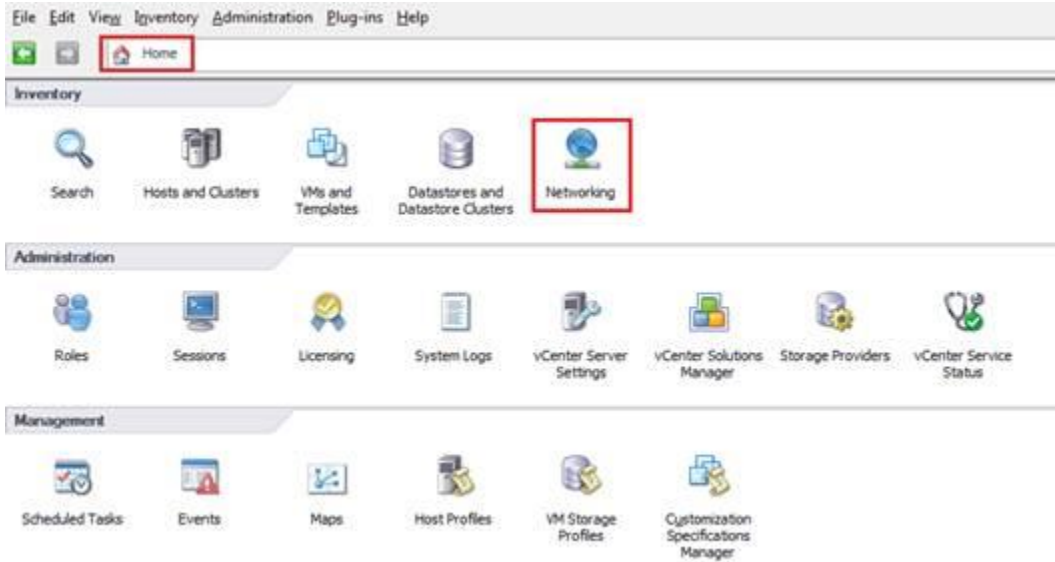
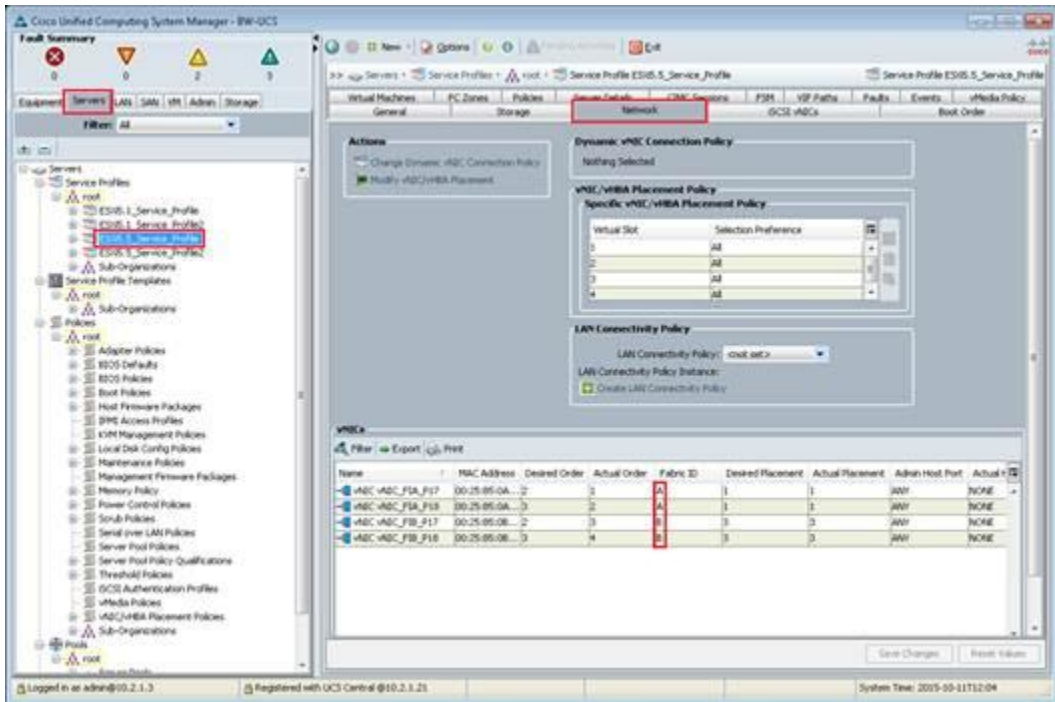
**States**

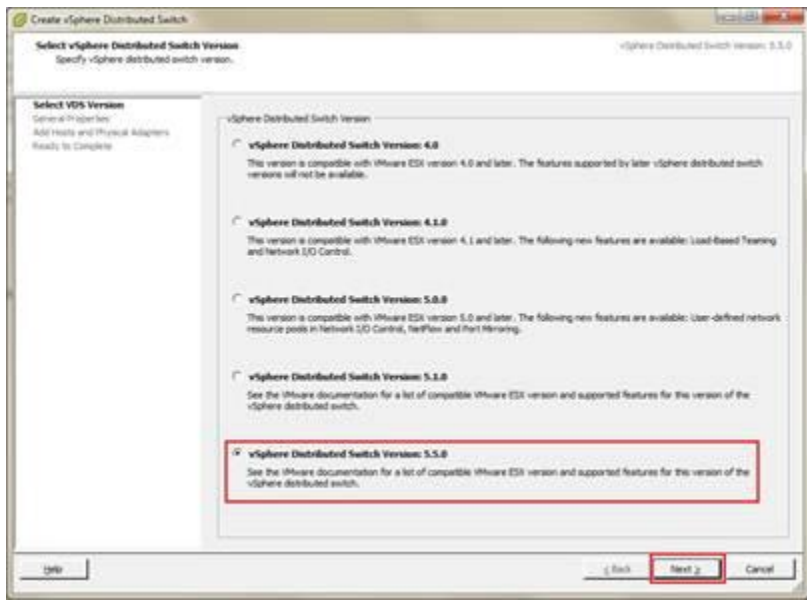
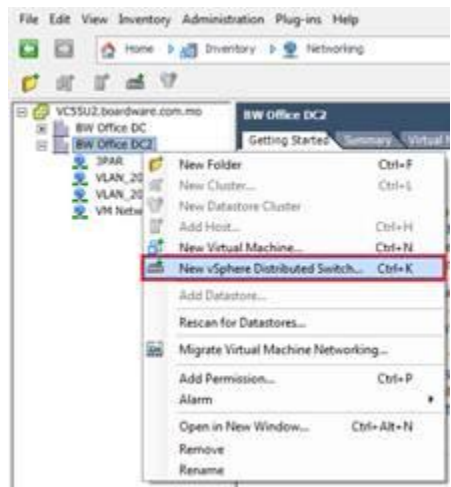
Operational Speed: Line Rate  
State: Applied

**Policies**

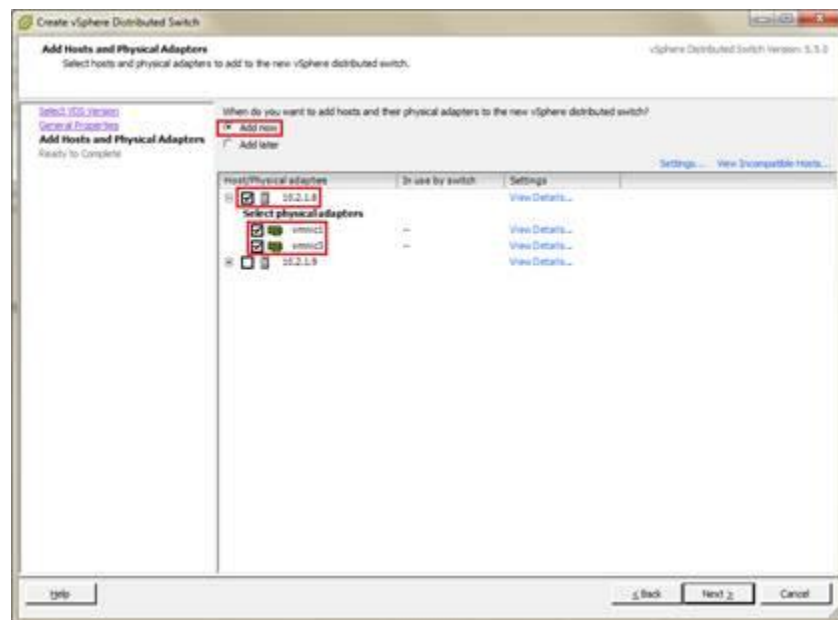
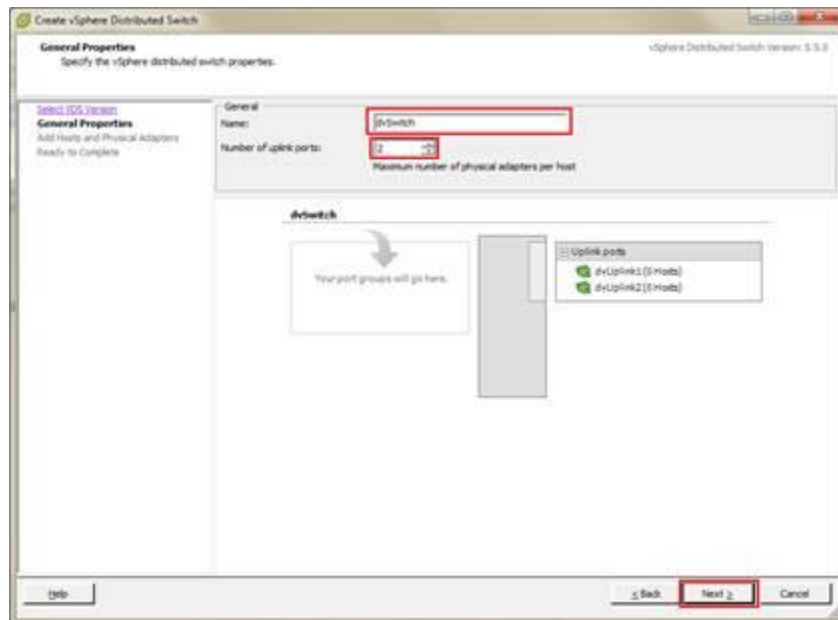
Adapter Policy: VMware  
Adapter Policy Instance: org-root/eth-profile-VMWare  
QoS Policy: <not set>  
QoS Policy Instance:   
Network Control Policy: <not set>  
Network Control Policy Instance: org-root/nwctrl-default  
Pin Group: <not set>  
Stats Threshold Policy: <not set>  
Threshold Policy Instance: LAN Pin Group FIA\_P17  
Virtual Host Interface Placement: LAN Pin Group FIA\_P18  
Desired Placement: LAN Pin Group FIB\_P17  
Actual Assignment: LAN Pin Group FIB\_P18

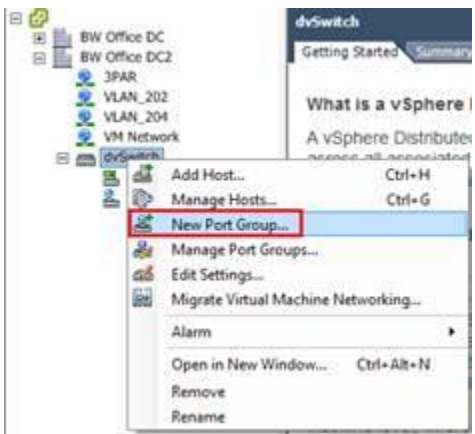
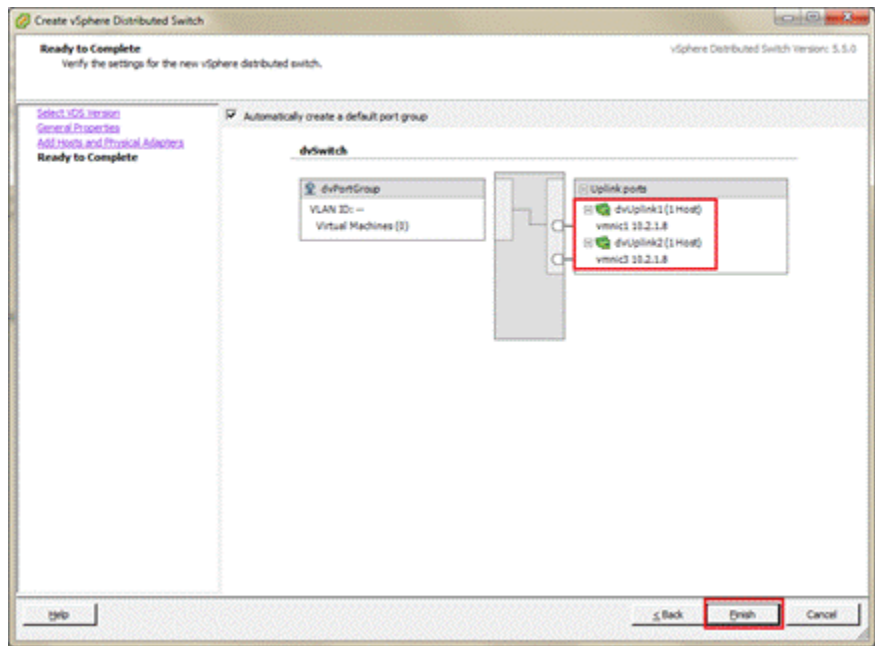


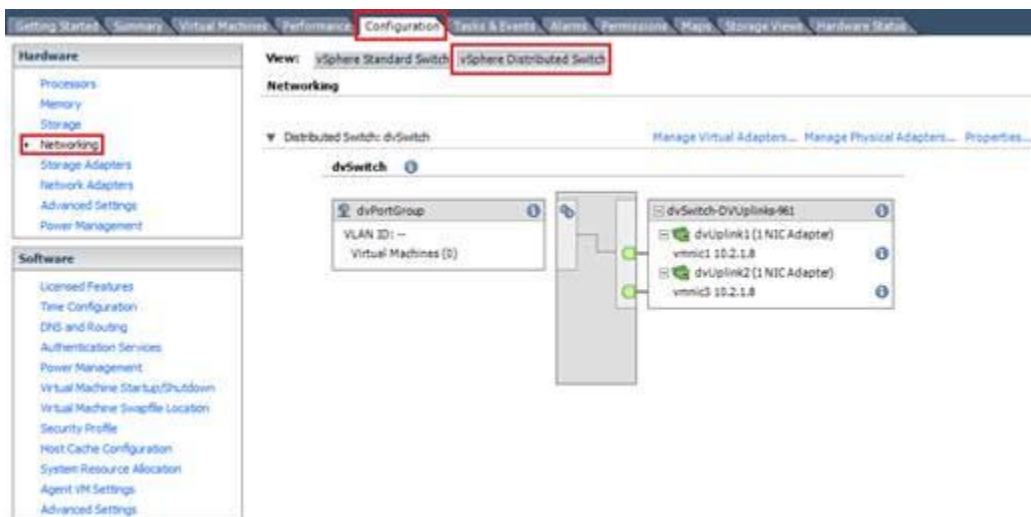
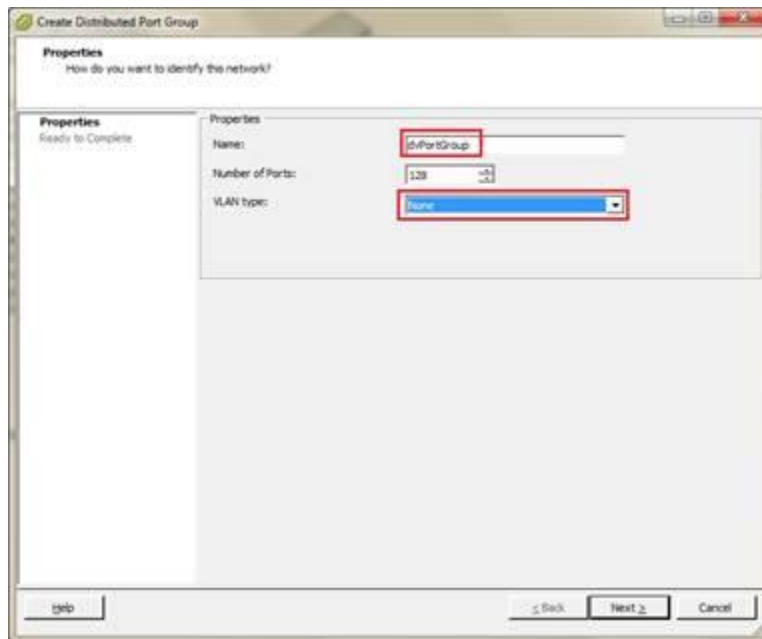


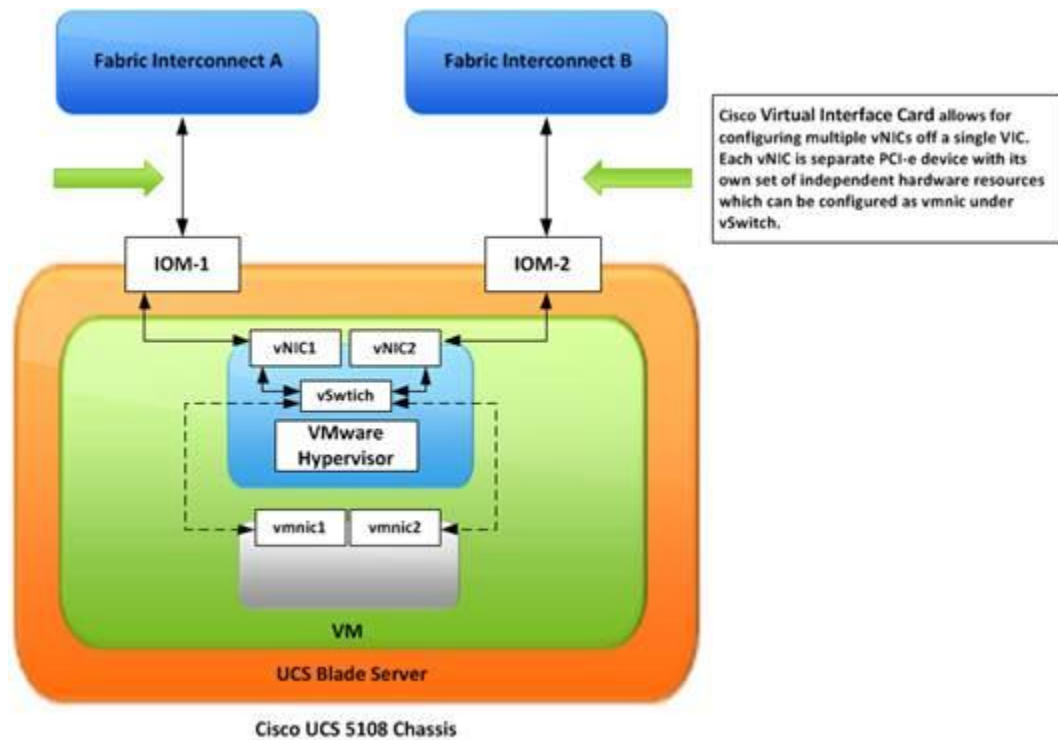
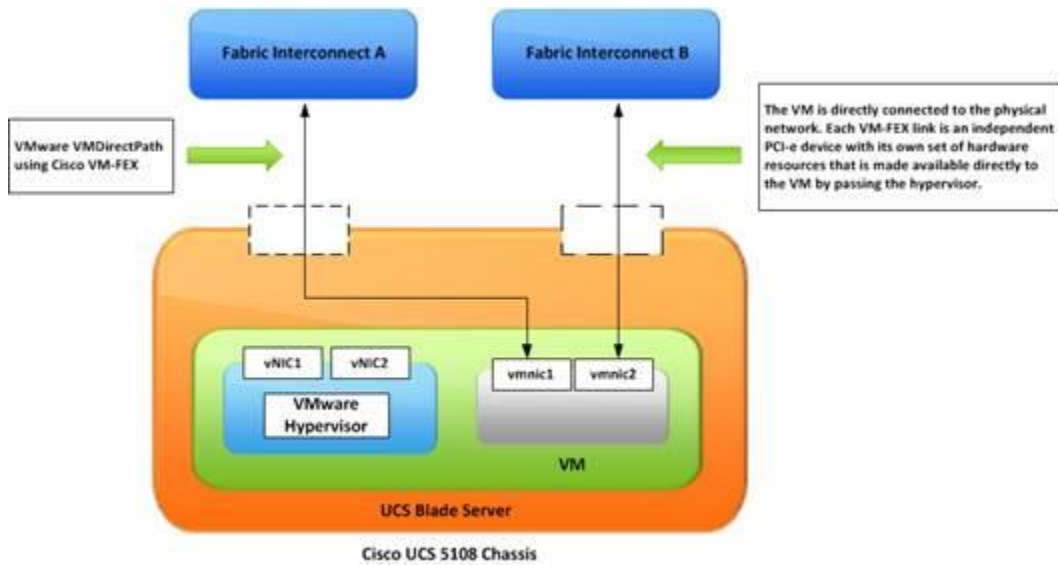












# Chapter 3: Installing an Operating System on Cisco UCS

The screenshot displays three configuration sections in the Cisco UCS Manager interface:

- vHBAs:** A table listing virtual Host Bus Adapters.
- vNICs:** A table listing virtual Network Interface Cards.
- Boot Order:** A table defining the sequence of boot devices.

vHBAs			
Name	WWPN	Desired Order	Actual Order
vHBA vHBA1	20:00:00:25:85:0A:00:04	1	1
vHBA vHBA2	20:00:00:25:85:0B:00:04	2	2

vNICs				
Name	MAC Address	Desired Order	Actual Order	Fabric ID
vNIC vNIC1	00:25:85:0A:00:0A	3	3	A
vNIC vNIC2	00:25:85:0B:00:0A	4	4	B

Boot Order									
Name	Order	vNIC/vHBA/SC...	Type	Lun ID	WWN	Slot Number	Lun ID/NAME	Boot Name	Boot Path
Remote CD/DVD	1								
Local Disk	2								

The screenshot shows the Cisco Unified Computing System Manager (UCS) interface with the following elements:

- Left Panel:** A tree view of the UCS configuration hierarchy, with 'vNIC vNIC1' selected.
- Right Panel:** The configuration page for 'vNIC vNIC1', showing various tabs like General, Storage, Network, etc. The 'Storage' tab is active, displaying 'Local Disk Configuration Policy'.
- Change Local Disk Configuration Policy Dialog:** A modal window is open, showing a warning: 'Changing the Disk Policy may result in data loss.' Below the warning, a dropdown menu is set to 'localdisk\_local'.



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- Unified Computing System (UCS) Documentation Roadmap Bundle
- Unified Computing System (UCS) Drivers**
- Unified Computing System (UCS) Server Software Bundle
- Unified Computing System (UCS) Utilities

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Downloads Home > Products > Servers - Unified Computing > **UCS B-Series Blade Server Software** > Unified Computing System (UCS) Drivers-2.2(5b)

**UCS B-Series Blade Server Software**

Search:  Add Device Add Notification

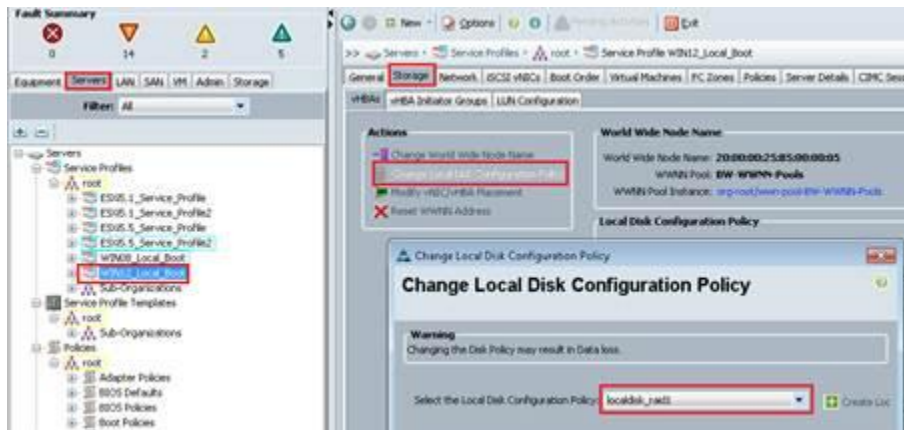
Expand All | Collapse All

Latest: 3.0(2b), **2.2(5b)**, 2.1(3g), 2.0(5c)

All Releases: 3.0, 2.2

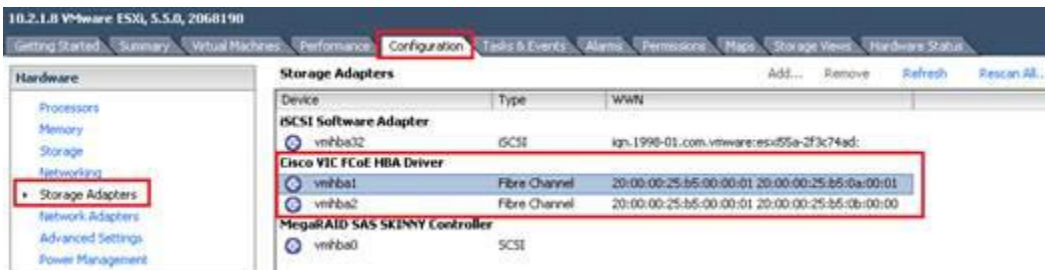
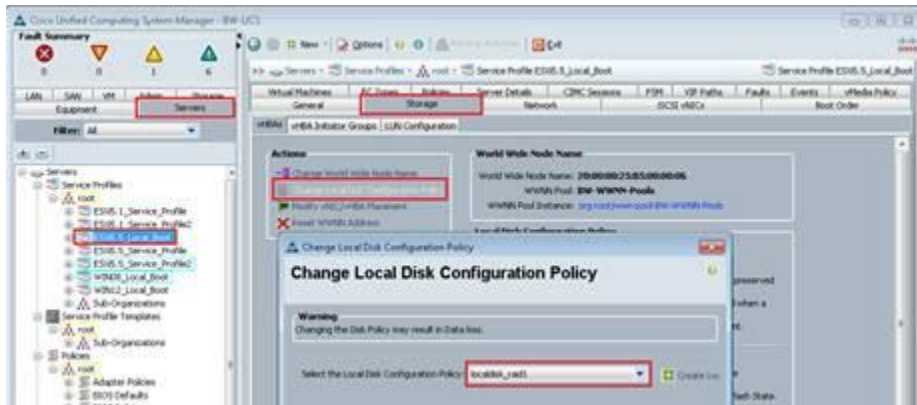
File Information	Release Date	Size	
Inventory List ucs-bxxx-drivers.2.2.5b.iso-inventory-list.zip	10-SEP-2015	0.05 MB	Download Add to cart
<b>ISO image of UCS-related drivers</b> ucs-bxxx-drivers.2.2.5b.iso	07-AUG-2015	1927.74 MB	Download Add to cart











10.2.1.8 VMware ESXi, 5.5.0, 2068190

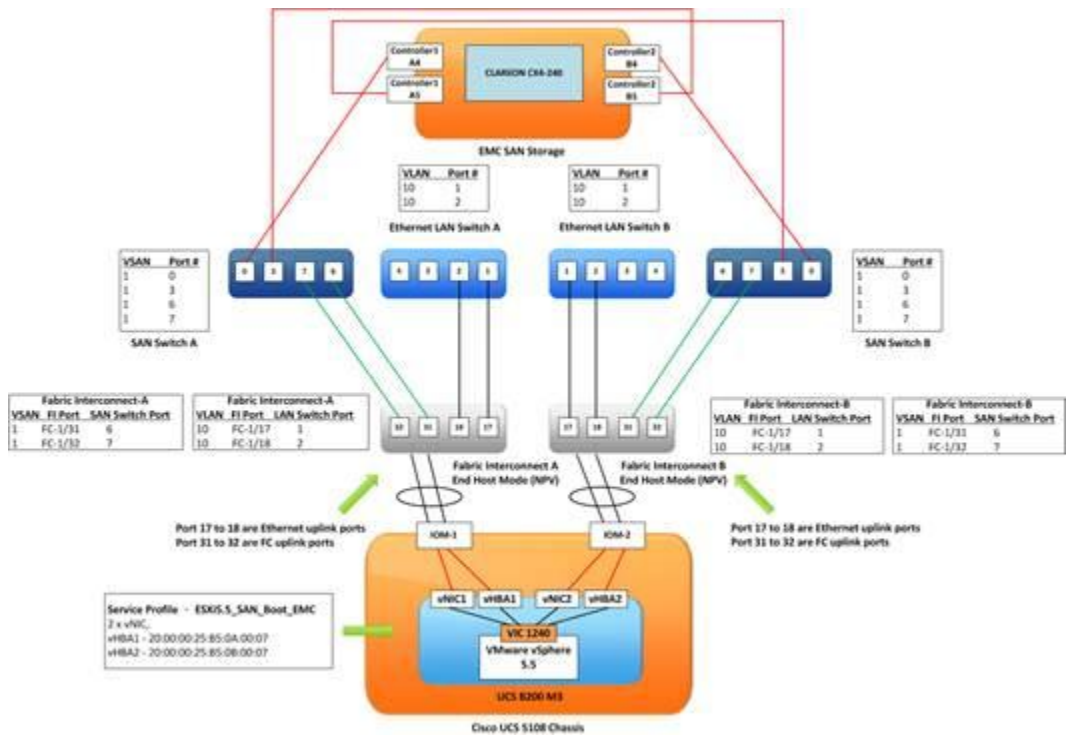
Getting Started Summary Virtual Machines Performance **Configuration** Tasks & Events Alarms Permissions Maps Storage View Hardware Status

Hardware

- Processors
- Memory
- Storage
- Networking
- Storage Adapters
- Network Adapters**
- Advanced Settings
- Power Management

**Network Adapters**

Device	Speed	Configured	Switch	MAC Address	Observed IP ranges
<b>Cisco Systems Inc Cisco VIC Ethernet NIC</b>					
vmnic0	20000 Full	20000 Full	vSwitch0	00:25:b5:0a:00:03	10.2.1.192-10.2.1.254
vmnic1	20000 Full	20000 Full	vSwitch1	00:25:b5:0a:00:02	10.2.4.12-10.2.4.15 (VLAN



**Actions**

- Change World Wide Node Name
- Change Local Disk Configuration Policy
- Modify vHBA Placement
- Reset WWNN Address

**World Wide Node Name**

World Wide Node Name: 20:00:00:25:85:00:00:07  
 WWNN Pool: BW-WWNN-Pools  
 WWNN Pool Instance: [arg-root/wwn-pool-BW-WWNN-Pools](#)

**Local Disk Configuration Policy**

Local Disk Policy: default  
 Local Disk Policy Instance: [arg-root/local-disk-config-default](#)

**SAN Connectivity Policy**

SAN Connectivity Policy:   
 SAN Connectivity Policy Instance: [Create SAN Connectivity Policy](#)

Name	WWNN	Desired Order	Actual Order	Fabric ID	Desired Placement
vHBA vHBA1	20:00:00:25:85:0A:00:07	1	3	A	1
vHBA vHBA2	20:00:00:25:85:0B:00:07	1	4	B	3

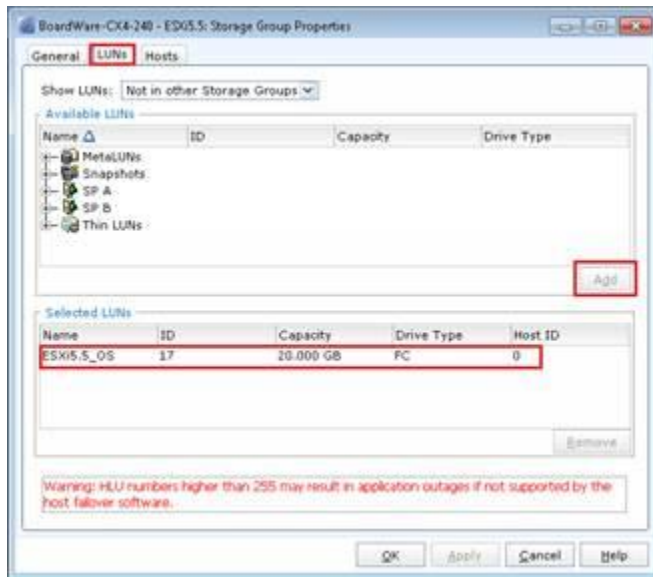
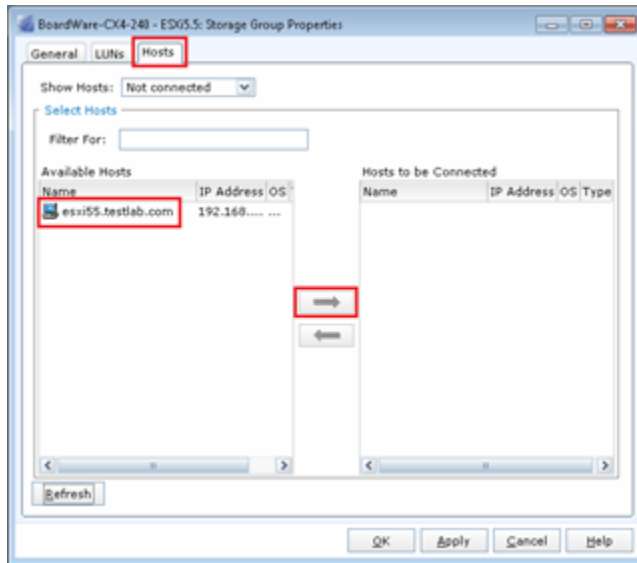
Physical Location	SP-Port	Type	Speed	IP Addresses	IQN/WWN
Slot A0, Part 2	A-0	Fibre	N/A	N/A	50:06:01:60:C7:20:25:EB:50:06:01:60:47:20:25:EB
Slot A0, Part 3	A-1	Fibre	N/A	N/A	50:06:01:60:C7:20:25:EB:50:06:01:61:47:20:25:EB
Slot A1, Part 0	A-2	iSCSI	N/A	N/A	iqn.1992-04.com.emc:cxv.apm00120503654.a2
Slot A1, Part 1	A-3 (MirrorView)	iSCSI	N/A	N/A	iqn.1997-04.com.emc:cxv.apm00120503654.a3
Slot A2, Part 0	A-4	Fibre	4Gbps	N/A	50:06:01:60:C7:20:25:EB:50:06:01:64:47:20:25:EB
Slot A2, Part 1	A-5	Fibre	4Gbps	N/A	50:06:01:60:C7:20:25:EB:50:06:01:65:47:20:25:EB
Slot A2, Part 2	A-6	Fibre	N/A	N/A	50:06:01:60:C7:20:25:EB:50:06:01:66:47:20:25:EB
Slot A2, Part 3	A-7 (MirrorView)	Fibre	N/A	N/A	50:06:01:60:C7:20:25:EB:50:06:01:67:47:20:25:EB
Slot A0, Part 0	A-Bus 0	Fibre	4Gbps	N/A	N/A
Slot A0, Part 1	A-Bus 1	Fibre	N/A	N/A	N/A
Slot B0, Part 2	B-0	Fibre	N/A	N/A	50:06:01:60:C7:20:25:EB:50:06:01:68:47:20:25:EB
Slot B0, Part 3	B-1	Fibre	N/A	N/A	50:06:01:60:C7:20:25:EB:50:06:01:69:47:20:25:EB
Slot B2, Part 0	B-4	Fibre	4Gbps	N/A	50:06:01:60:C7:20:25:EB:50:06:01:6C:47:20:25:EB
Slot B2, Part 1	B-5	Fibre	4Gbps	N/A	50:06:01:60:C7:20:25:EB:50:06:01:6D:47:20:25:EB
Slot B2, Part 2	B-6	Fibre	N/A	N/A	50:06:01:60:C7:20:25:EB:50:06:01:6E:47:20:25:EB
Slot B2, Part 3	B-7 (MirrorView)	Fibre	N/A	N/A	50:06:01:60:C7:20:25:EB:50:06:01:6F:47:20:25:EB
Slot B0, Part 0	B-Bus 0	Fibre	4Gbps	N/A	N/A
Slot B0, Part 1	B-Bus 1	Fibre	N/A	N/A	N/A

Index	Port	Address	Media	Speed	State	Proto
0	0	010000	1d	N/A	Online	FC F-Port 50:06:01:64:47:20:25:eb SPA-4
1	1	010100	1d	N/A	Online	FC F-Port 20:11:00:02:ac:00:8e:5b
2	2	010200	1d	N/A	No Light	FC
3	3	010300	1d	4G	Online	FC F-Port 50:06:01:6d:47:20:25:eb SPA-5
4	4	010400	1d	N/A	No Light	FC
5	5	010500	1d	N/A	Online	FC F-Port 21:11:00:02:ac:00:8e:5b
6	6	010600	1d	8G	Online	FC F-Port 1 N Port + 2 NPV public FI-A FC uplinks
7	7	010700	1d	8G	Online	FC F-Port 1 N Port + 2 NPV public
8	8	010800	--	4G	No Module	FC (No POD License) Disabled
9	9	010900	--	N/A	No Module	FC (No POD License) Disabled

Type	PID	World Wide Name	credit	df_sz	cos	
fe	010701	20:00:00:25:b5:0a:00:07	16	2112	8	scr=0x3 <b>VHBA1</b>
fe	010700	20:20:00:2a:6a:ea:b3:80	16	2112	8	scr=0x0
ff	010701	20:00:00:25:b5:0a:00:07	0	0	8	d_id=FFFFFFC
ff	010700	20:20:00:2a:6a:ea:b3:80	8	2112	c	d_id=FFFFFFA
ff	010700	20:20:00:2a:6a:ea:b3:80	8	2112	c	d_id=FFFFFFC

Index	Port	Address	Media	Speed	State	Proto	
0	0	010000	ld	N4	Online	FC F-Port 50:06:01:6e:47:20:25:4b	<b>SPB-4</b>
1	1	010100	ld	N8	Online	FC F-Port 21:12:00:02:ac:00:8e:5b	
2	2	010200	ld	8G	No Light	FC	
3	3	010300	ld	4G	Online	FC F-Port 50:06:01:65:47:20:25:4b	<b>SPA-5</b>
4	4	010400	ld	No	No Light	FC	
5	5	010500	ld	N8	Online	FC F-Port 20:12:00:02:ac:00:8e:5b	
6	6	010600	ld	N8	Online	FC F-Port 1 N Port + 2 NPIV public	<b>FI-B FC uplinks</b>
7	7	010700	ld	8G	Online	FC F-Port 1 N Port + 2 NPIV public	
8	8	010800	--	N8	No Module	FC (No POD License) Disabled	

Host Initiators	MirrorView Initiators	SAN Copy Initiators
Initiator Name		
esxi51a.boardware.com.mo [10.2.1.6; Fibre; Manually registered; Host Agent not reachable or connection registered manually or with		
esxi51b.boardware.com.mo [10.2.1.7; Fibre; Manually registered]		
esxi55.testlab.com [192.168.1.20; Fibre; Manually registered; Host Agent not reachable or connection registered manually or with		
20:00:00:25:b5:00:00:07:20:00:00:25:b5:0a:00:07		
20:00:00:25:b5:00:00:07:20:00:00:25:b5:0a:00:07		
20:00:00:25:b5:00:00:07:20:00:00:25:b5:08:00:07		
20:00:00:25:b5:00:00:07:20:00:00:25:b5:08:00:07		
esxi55b.boardware.com.mo [10.2.1.9; Fibre; Manually registered]		



Name: **ESX65.5\_EMC**

Description: \_\_\_\_\_

Reboot on Boot Order Change:

Enforce vNIC/vHBA/iSCSI Name:

Boot Mode:  Legacy  UEFI

**WARNINGS:**  
 The type (primary/secondary) does not indicate a boot order presence.  
 The effective order of boot devices within the same device class (LAN/Storage/iSCSI) is determined by PCIe bus scan order.  
 If **Enforce vNIC/vHBA/iSCSI Name** is selected and the vNIC/vHBA/iSCSI does not exist, a config error will be reported.  
 If it is not selected, the vNIC/vHBAs are selected if they exist, otherwise the vNIC/vHBA with the lowest PCIe bus scan order is used.

**Local Devices**

- vNICs
- vHBAs
- iSCSI vNICs
- CPIC Mounted vMedia

**Boot Order**

Name	Order	vNIC/vHBA	Type	Lun ID	WWN
Remote CD/DVD	1				
San	2				
SAN primary		vHBA1	Primary		
SAN Target primary			Primary	0	50060164472025EB
SAN Target secondary			Secondary	0	50060160472025EB
SAN secondary		vHBA2	Secondary		
SAN Target primary			Primary	0	5006016C472025EB
SAN Target secondary			Secondary	0	50060165472025EB

```

Cisco VIC FC, Boot Driver Version 4.0(1d)
(C) 2010 Cisco Systems, Inc.
DGC 50060164472025eb:000
DGC 5006016d472025eb:000
Option ROM installed successfully

Cisco VIC FC, Boot Driver Version 4.0(1d)
(C) 2010 Cisco Systems, Inc.
DGC 5006016c472025eb:000
DGC 50060165472025eb:000
Option ROM installed successfully
  
```

10.2.1.10 VMware ESXi, 5.5.0, 2068190

Getting Started | Summary | Virtual Machines | Performance | **Configuration** | Tasks & Events | Alarms | Permissions | Maps | Storage Views | Hardware Status

**Hardware**

- Processors
- Memory
- Storage
- Networking
- Storage Adapters**
- Network Adapters
- Advanced Settings
- Power Management

**Storage Adapters**

Device	Type	WWN
<b>Cisco VIC FCoE HBA Driver</b>		
vmhba1	Fibre Channel	20:00:00:25:b5:00:00:07 20:00:00:25:b5:0a:00:07
vmhba2	Fibre Channel	20:00:00:25:b5:00:00:07 20:00:00:25:b5:0b:00:07
<b>MegaRAID SAS SKINNY Controller</b>		
vmhba0	SCSI	

10.2.1.10 VMware ESX, 5.5.0, 2068190

Getting Started | Summary | Virtual Machines | Performance | **Configuration** | Tasks & Events | Alarms | Permissions | Maps | Storage Views | Hardware Status

**Hardware**

- Processors
- Memory
- Storage
- Networking
- Storage Adapters
- Network Adapters**
- Advanced Settings
- Power Management

**Network Adapters**

Device	Speed	Configured	Switch	MAC Address	Observed IP ranges
<b>Cisco Systems Inc Cisco VIC Ethernet NIC</b>					
vnic0	20000 Full	20000 Full	vSwitch0	00:25:b5:0a:00:0d	10.2.1.1-10.2.1.254
vnic1	20000 Full	20000 Full	None	00:25:b5:0b:00:0d	10.2.1.1-10.2.1.254

**Fault Summary**

Equipment | Servers | SAN | SAN | VM | Admin | Storage

Filter: All

Equipment

- Chassis 1
  - Fans
  - IO Modules
  - PSUs
  - Servers
    - Server 2
    - Server 2
    - Server 3**
- Rack Mounts
  - PCI
  - Servers
- Fabric Interconnects

**General** | Inventory | Virtual Machines | Installed Firmware | CMC Sessions | SSL Logs | VIP Paths | Faults | Events | P2P | Statistics | Temperature | Power

Inventory Location LED: Locked/LED | PP Buttons: Unlocked

Summary

Number of Processors: 2	Cores Enabled: 12
Cores: 12	Threads: 24
Effective Memory (MB): 65536	Total Memory (MB): 65536
Operating Memory Speed: 1600	Operating Memory Voltage: Regular Voltage
Adapters: 2	
NICs: 2	HBAs: 2
Original LUID: 5780942f-e632-4d6b-b851-1e5730206378	

**Part Details**

**Connection Details**

**Boot Order Details**

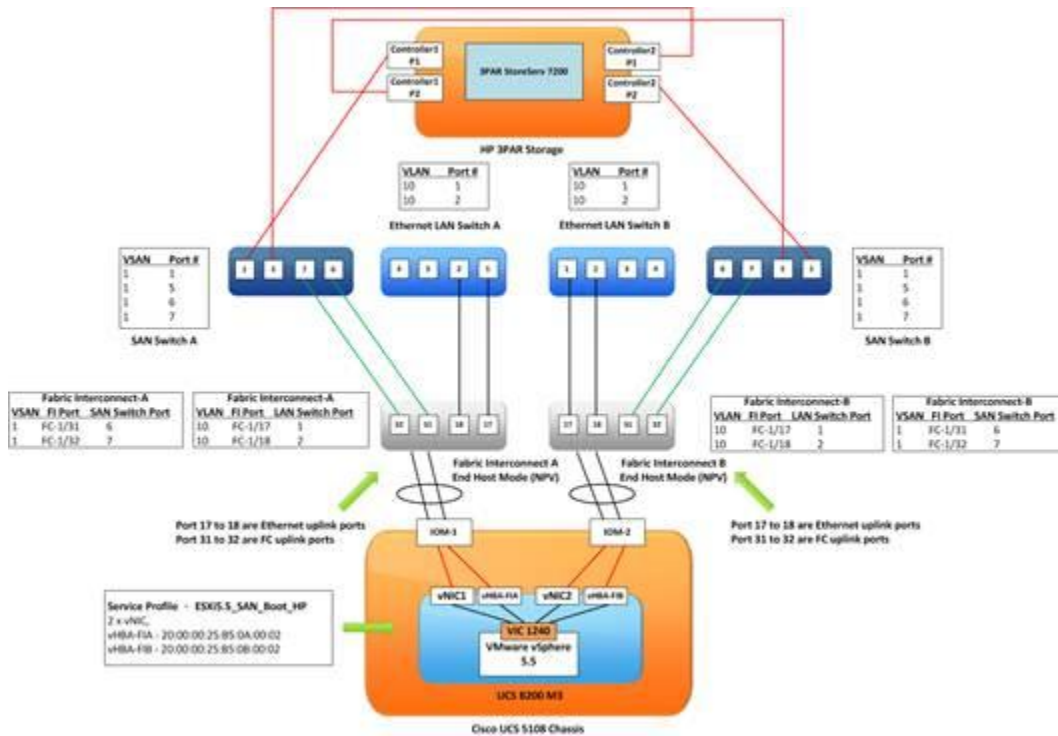
Configured Boot Order: Actual Boot Order

There may be a delay of a few minutes before the actual boot order is updated.  
Last Update: 2015-10-27T23:40:37

Export | Print

Name	Order	Device
VMWBootCD		
() Not found. Please verify device presence		
SAN	(2)	DGC 500601644720256-000
SAN	(3)	DGC 500601644720256-000
SAN	(4)	DGC 500601644720256-000
SAN	(5)	DGC 500601644720256-000
SAN	(6)	DGC 500601644720256-000





The screenshot shows the Cisco UCS Manager GUI. The 'Storage' tab is selected, and the 'vHBAs' section is expanded. The 'vHBAs' table shows two vHBAs: vHBA vHBA-F1A and vHBA vHBA-F1B. The 'World Wide Node Name' and 'Local Disk Configuration Policy' are also visible.

Name	WWNN	Desired Order	Actual Order	Fabric ID	Dest
vHBA vHBA-F1A	20:00:00:25:85:0A:00:02	1	5	A	1
vHBA vHBA-F1B	20:00:00:25:85:0B:00:02	1	6	B	3

**World Wide Node Name**

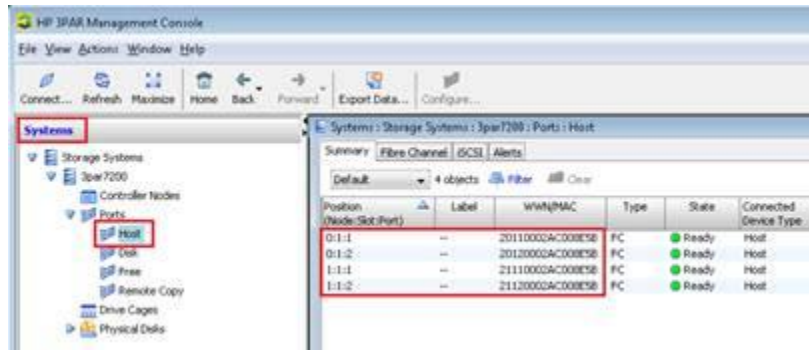
World Wide Node Name: 20:00:00:25:85:00:00:02  
 WWNN Pool: BW-WWNN-Pools  
 WWNN Pool Instance: org-root/wwn-pool-BW-WWNN-Pools

**Local Disk Configuration Policy**

Local Disk Policy: localdisk\_raid1  
 Local Disk Policy Instance: org-root/local-disk-config-localdisk\_raid1

**SAN Connectivity Policy**

SAN Connectivity Policy: <not set>  
 SAN Connectivity Policy Instance: <not set>  
 Create SAN Connectivity Policy



Index	Port	Address	Media	Speed	State	Proto	
0	0	010000	id	N4	Online	FC	F-Port 50:06:01:64:47:20:25:eb
1	1	010100	id	N8	Online	FC	F-Port 20:11:00:02:ac:00:8e:5b
2	2	010200	id	N8	No_Light	FC	
3	3	010300	id	N8	No_Light	FC	
4	4	010400	id	N8	No_Light	FC	
5	5	010500	id	N8	Online	FC	F-Port 21:11:00:02:ac:00:8e:5b
6	6	010600	id	8G	Online	FC	F-Port 1 N Port + 2 NPIV public
7	7	010700	id	8G	Online	FC	F-Port 1 N Port + 2 NPIV public
8	8	010800	--	4G	No_Module	FC	(No POD License) Disabled
9	9	010900	--	N8	No_Module	FC	(No POD License) Disabled

**Controller1-P1**

**Controller2-P1**

FIA's FC uplinks

Type	PID	World Wide Name	credit	df	sz	cos	
fe	010701	20:00:00:25:b5:0a:00:02	16	2112	8	scr=0x3	
fe	010700	20:20:00:2a:6a:ea:b3:80	16	2112	8	scr=0x0	
ff	010701	20:00:00:25:b5:0a:00:02	0	0	8	d_id=FFFFFFC	<b>VHBA-FIA</b>
ff	010700	20:20:00:2a:6a:ea:b3:80	8	2112	c	d_id=FFFFFFA	
ff	010700	20:20:00:2a:6a:ea:b3:80	8	2112	c	d_id=FFFFFFC	

Index	Port	Address	Media	Speed	State	Proto	
0	0	010000	id	N4	Online	FC	F-Port 50:06:01:6e:47:20:25:eb
1	1	010100	id	N8	Online	FC	F-Port 21:12:00:02:ac:00:8e:5b
2	2	010200	id	8G	No_Light	FC	
3	3	010300	id	8G	No_Light	FC	
4	4	010400	id	N8	No_Light	FC	
5	5	010500	id	N8	Online	FC	F-Port 20:12:00:02:ac:00:8e:5b
6	6	010600	id	N8	Online	FC	F-Port 1 N Port + 2 NPIV public
7	7	010700	id	8G	Online	FC	F-Port 1 N Port + 2 NPIV public

**Controller2-P2**

**Controller1-P2**

FIB's FC uplinks

**Steps**

1. Welcome
2. **Host Settings**
3. Fibre Channel Settings
4. SCSI Settings
5. Summary

**Host Settings**

1. Enter a name for the host and select the host system's operating system. If desired, select the domain and host set in which to create the host.
2. In the **Descriptors** pane, add any notes you want to save for reference.
3. To create an FC or SCSI path to the host, click **Next**.

If you click **Finish** now, the system creates the new host but does not enable you to export (present) any volumes to the host until you specify an FC or SCSI path.

General

System: [3par7200 (163644)]

Domain: <none>

Name: **ES05\_5\_SAN\_Boot\_HP**

Set Name: <none>

Host OS: **ESI 4.x/5.x**

Persona: [1] - iPrsane  
(Enable Sub-LUN Addressing, Asymmetric Logical Unit Access)

Descriptors

Location:

IP Address:

Operating System: ESI 4.x/5.x

Model:

Contact:

Comments:

**Fibre Channel Settings**

Assign at least two Fibre Channel World Wide Names (WWNs). Select available WWNs or, to create new WWNs, enter the new WWNs in the **New WWN** text box and click **Assign**.

The assigned WWNs are the host paths the storage system will use to connect to the host system.

Fibre Channel Host Paths

Available WWNs		Assigned WWNs	
WWN	Port	WWN	Port
20000025B50A0002	0:1:1		
20000025B50B0002	0:1:2		
20000025B50A0002	1:1:1		
20000025B50B0002	1:1:2		

New WWN:  Assign

Name: **ESX5.5\_IP**

Description:

Reboot on Boot Order Change:

Enforce vNIC/vHBA/iSCSI Name:

Boot Mode: Legacy  UEFI

**WARNINGS:**  
 The type (primary/secondary) does not indicate a boot order preference.  
 The effective order of boot devices within the same device class (LAN/Storage/iSCSI) is determined by PCIe bus scan order.  
 If Enforce vNIC/vHBA/iSCSI Name is selected and the vNIC/vHBA/iSCSI does not exist, a config error will be reported.  
 If it is not selected, the vNICs/vHBAs are selected if they exist, otherwise the vNIC/vHBA with the lowest PCIe bus scan order is used.

**Local Devices**

- vNICs
- vHBAs
- iSCSI vNICs
- CPMC Mounted vMedia

**Boot Order**

Name	Order	vNIC/vHBA/iSCSI...	Type	Lu...	WWN	Sh...
Remote CD/DVD	1					
San	2					
SAN primary		vHBA-F1A	Primary			
SAN Target primary			Primary	0	20:11:00:02:AC:00:0E:58	
SAN Target secondary			Secondary	0	21:11:00:02:AC:00:0E:58	
SAN secondary		vHBA-F1B	Secondary			
SAN Target primary			Primary	0	21:12:00:02:AC:00:0E:58	
SAN Target secondary			Secondary	0	20:17:00:02:AC:00:0E:58	

```

Cisco VIC FC, Boot Driver Version 4.0(1d)
(C) 2010 Cisco Systems, Inc.
3PARdata 20110002ac008e5b:000
3PARdata 21110002ac008e5b:000
Option ROM installed successfully

Cisco VIC FC, Boot Driver Version 4.0(1d)
(C) 2010 Cisco Systems, Inc.
3PARdata 21120002ac008e5b:000
3PARdata 20120002ac008e5b:000
Option ROM installed successfully
  
```

10.2.1.9 VMware ESX, 5.5.0, 2068190

Getting Started | Summary | Virtual Machines | Performance | **Configuration** | Tasks & Events | Alarms | Permissions | Maps | Storage Views | Hardware Status

**Hardware**

- Processors
- Memory
- Storage
- Networking
- Storage Adapters**
- Network Adapters
- Advanced Settings
- Power Management

**Storage Adapters**

Device	Type	WWN
<b>Cisco VIC FCoE HBA Driver</b>		
vmhba1	Fibre Channel	20:00:00:25:b5:00:00:02 20:00:00:25:b5:0a:00:02
vmhba2	Fibre Channel	20:00:00:25:b5:00:00:02 20:00:00:25:b5:0b:00:02
<b>MegaRAID SAS SKINNY Controller</b>		
vmhba0	SCSI	

10.2.1.9 VMware ESX, 5.5.0, 2068190

Getting Started | Summary | Virtual Machines | Performance | **Configuration** | Tasks & Events | Alarms | Permissions | Maps | Storage Views | Hardware Status

**Hardware**

- Processors
- Memory
- Storage
- Networking
- Storage Adapters
- Network Adapters**
- Advanced Settings
- Power Management

**Network Adapters**

Device	Speed	Configured	Switch	MAC Address	Observed IP ra
<b>Cisco Systems Inc Cisco VIC Ethernet NIC</b>					
vmnic0	1000 Full	1000 Full	vSwitch0	00:25:b5:0a:00:05	10.2.1.1-10.2.
vmnic1	1000 Full	1000 Full	None	00:25:b5:0a:00:04	10.2.4.1-10.2.

**Fault Summary**

Equipment | Servers | LAN | SAN | VM | Admin | Storage

Equipment

- Equipment
  - Chassis 1
    - Fibre Channel
      - Server 1
      - Server 2
      - Server 3**

General | Inventory | Virtual Machines | Installed Peripherals | CPC Sessions | SED Logs | VFP Paths | Faults | Events | FSM | Statistics | Temperatures | Power

Summary

Number of Processors: 2      Cores Enabled: 12  
 Cores: 12      Threads: 24  
 Effective Memory (HE): 65536      Total Memory (HE): 65536  
 Operating Memory Speed: 1600      Operating Memory Voltage: **Regular Voltage**  
 Adapters: 2  
 NICs: 4      HBAs: 2  
 Original LUN: 5709942f-e632-4de9-bd5-1a5738206a59

**Part Details**

**Connection Details**

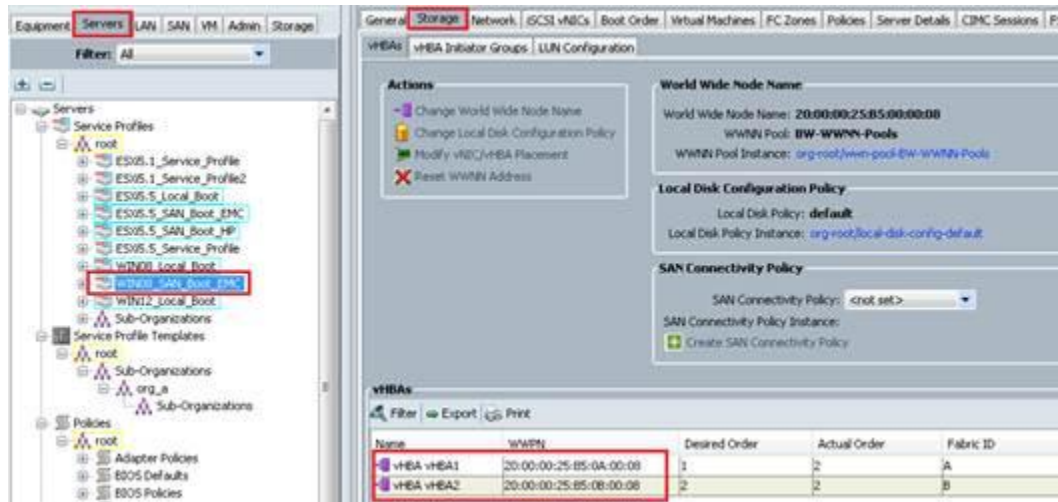
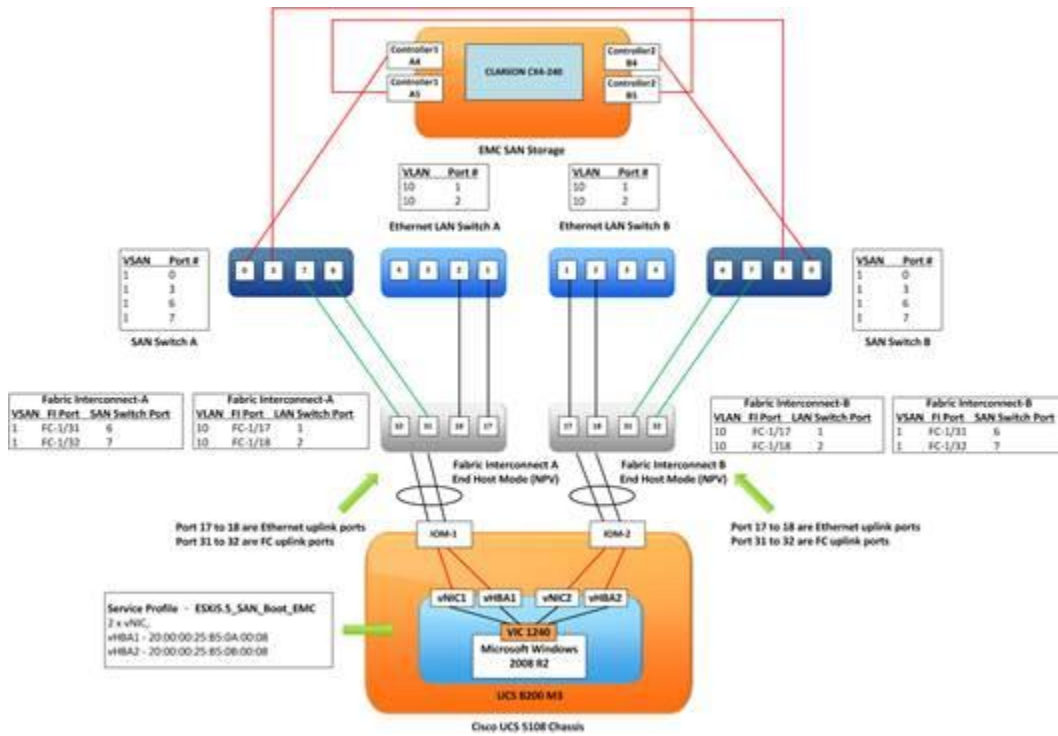
**Boot Order Details**

Configured boot order: **Actual boot order**

There may be a delay of a few minutes before the actual boot order is updated.  
 Last Update: 2013-10-31T11:28:37

Name

- vmxnic0
- (1) Not found. Please verify device presence
- SAN**
- (2) 3PARdata.20110002ac00e9b-000
- SAN**
- (3) 3PARdata.21110002ac00e9b-000
- SAN**
- (4) 3PARdata.21120002ac00e9b-000
- SAN**
- (5) 3PARdata.20120002ac00e9b-000

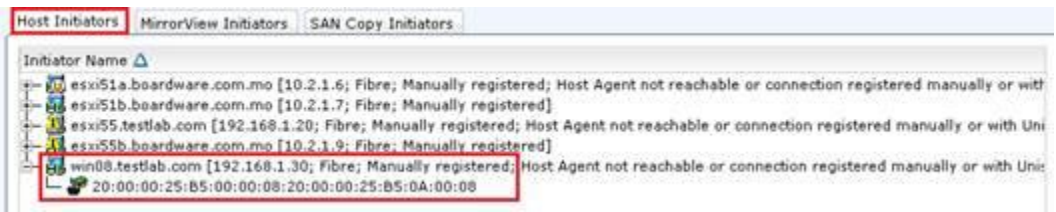


Physical Location	SP-Port	Type	Speed	IP Addresses	DQN/www
Slot A0, Port 2	A-0	Fibre	N/A	N/A	50:06:01:60:C7:20:25:EB:50:06:01:60:47:20:25:EB
Slot A0, Port 3	A-1	Fibre	N/A	N/A	50:06:01:60:C7:20:25:EB:50:06:01:61:47:20:25:EB
Slot A1, Port 0	A-2	iSCSI	N/A	N/A	ipn.1992-04.com.amcc.vx.agm0020503454.42
Slot A1, Port 1	A-3 (MirrorView)	iSCSI	N/A	N/A	ipn.1992-04.com.amcc.vx.agm0020503454.42
Slot A2, Port 0	A-4	Fibre	40Gbps	N/A	50:06:01:60:C7:20:25:EB:50:06:01:64:47:20:25:EB
Slot A2, Port 1	A-5	Fibre	40Gbps	N/A	50:06:01:60:C7:20:25:EB:50:06:01:65:47:20:25:EB
Slot A2, Port 2	A-6	Fibre	N/A	N/A	50:06:01:60:C7:20:25:EB:50:06:01:66:47:20:25:EB
Slot A2, Port 3	A-7 (MirrorView)	Fibre	N/A	N/A	50:06:01:60:C7:20:25:EB:50:06:01:67:47:20:25:EB
Slot A0, Port 0	A-Bus 0	Fibre	40Gbps	N/A	N/A
Slot A0, Port 1	A-Bus 1	Fibre	N/A	N/A	N/A
Slot B0, Port 0	B-0	Fibre	N/A	N/A	50:06:01:60:C7:20:25:EB:50:06:01:68:47:20:25:EB
Slot B0, Port 1	B-1	Fibre	N/A	N/A	50:06:01:60:C7:20:25:EB:50:06:01:69:47:20:25:EB
Slot B0, Port 0	B-4	Fibre	40Gbps	N/A	50:06:01:60:C7:20:25:EB:50:06:01:6C:47:20:25:EB
Slot B0, Port 1	B-5	Fibre	40Gbps	N/A	50:06:01:60:C7:20:25:EB:50:06:01:6D:47:20:25:EB
Slot B2, Port 2	B-6	Fibre	N/A	N/A	50:06:01:60:C7:20:25:EB:50:06:01:6E:47:20:25:EB
Slot B2, Port 3	B-7 (MirrorView)	Fibre	N/A	N/A	50:06:01:60:C7:20:25:EB:50:06:01:6F:47:20:25:EB
Slot B0, Port 0	B-Bus 0	Fibre	40Gbps	N/A	N/A
Slot B0, Port 1	B-Bus 1	Fibre	N/A	N/A	N/A

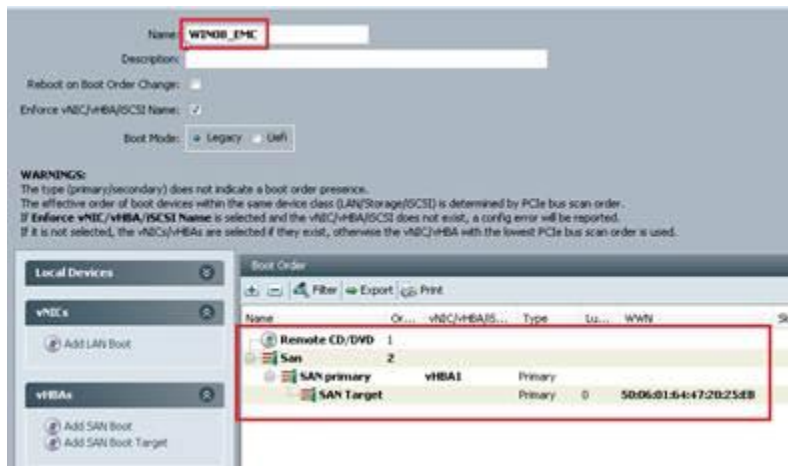
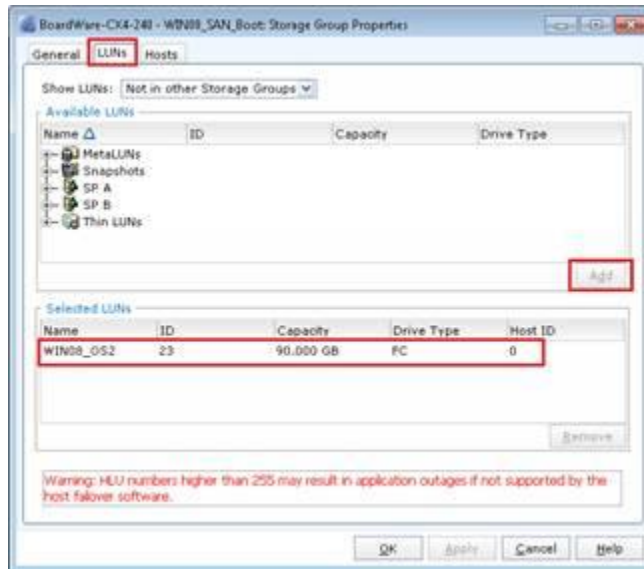
Index	Port	Address	Media	Speed	State	Proto	
0	0	010000	1d	N4	Online	FC	F-Port 50:06:01:64:47:20:25:eb SPA-4
1	1	010100	1d	N8	Online	FC	F-Port 20:11:00:02:ac:00:8e:5b
2	2	010200	1d	N8	No_Light	FC	
3	3	010300	1d	4G	Online	FC	F-Port 50:06:01:6d:47:20:25:eb SPB-5
4	4	010400	1d	N8	No_Light	FC	
5	5	010500	1d	N8	Online	FC	F-Port 21:11:00:02:ac:00:8e:5b
6	6	010600	1d	8G	Online	FC	F-Port 1 N Port + 2 NPIV public FI-A FC uplinks
7	7	010700	1d	8G	Online	FC	F-Port 1 N Port + 2 NPIV public
8	8	010800	--	4G	No_Module	FC	(No POD License) Disabled
9	9	010900	--	N8	No_Module	FC	(No POD License) Disabled

Type	PID	World Wide Name	credit	df_sz	cos	
fe	010701	20:00:00:25:b5:0a:00:08	16	2112	8	scr=0x3 vHBA1
fe	010700	20:20:00:2a:6a:ea:b3:80	16	2112	8	scr=0x0
ff	010701	20:00:00:25:b5:0a:00:08	0	0	8	d_id=FFFFFFA
ff	010701	20:00:00:25:b5:0a:00:08	0	0	8	d_id=FFFFFFC
ff	010700	20:20:00:2a:6a:ea:b3:80	8	2112	c	d_id=FFFFFFA
ff	010700	20:20:00:2a:6a:ea:b3:80	8	2112	c	d_id=FFFFFFC

Index	Port	Address	Media	Speed	State	Proto	
0	0	010000	1d	N4	Online	FC	F-Port 50:06:01:6e:47:20:25:eb SPB-4
1	1	010100	1d	N8	Online	FC	F-Port 21:11:00:02:ac:00:8e:5b
2	2	010200	1d	8G	No_Light	FC	
3	3	010300	1d	4G	Online	FC	F-Port 50:06:01:65:47:20:25:eb SPA-5
4	4	010400	1d	N8	No_Light	FC	
5	5	010500	1d	N8	Online	FC	F-Port 20:11:00:02:ac:00:8e:5b
6	6	010600	1d	N8	Online	FC	F-Port 1 N Port + 2 NPIV public FI-B FC uplinks
7	7	010700	1d	8G	Online	FC	F-Port 1 N Port + 2 NPIV public
8	8	010800	--	N8	No_Module	FC	(No POD License) Disabled







```

Cisco VIC FC, Boot Driver Version 4.0(1d)
(C) 2010 Cisco Systems, Inc.
DGC 50060164472025eb:000
Option ROM installed successfully
  
```

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- 2.2(5b)**
- 2.1(3g)
- 2.0(5c)

All Releases

- 3.0
- 2.2

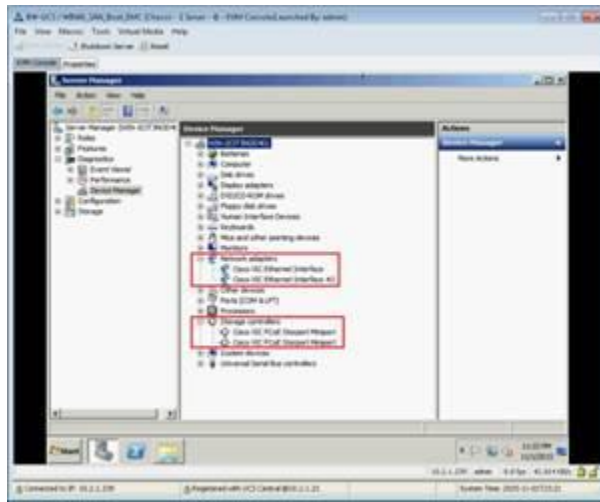
**Release 2.2(5b)**

File Information	Release Date	Size	
<p><b>Inventory List</b></p> <p>ucs-bxxx-drivers.2.2.5b.iso-inventory-list.zip</p>	10-SEP-2015	0.05 MB	Download Add to cart
<p><b>ISO image of UCS-related drivers</b></p> <p>ucs-bxxx-drivers.2.2.5b.iso</p>	07-AUG-2015	1927.74 MB	Download Add to cart

```

Cisco VIC FC, Boot Driver Version 4.0(1d)
(C) 2010 Cisco Systems, Inc.
DGC 50060164472025eb:000
DGC 50060164472025eb:000
Option ROM installed successfully

Cisco VIC FC, Boot Driver Version 4.0(1d)
(C) 2010 Cisco Systems, Inc.
DGC 5006016c472025eb:000
DGC 50060165472025eb:000
Option ROM installed successfully
  
```



Server Manager (WIN-DCT2HC)

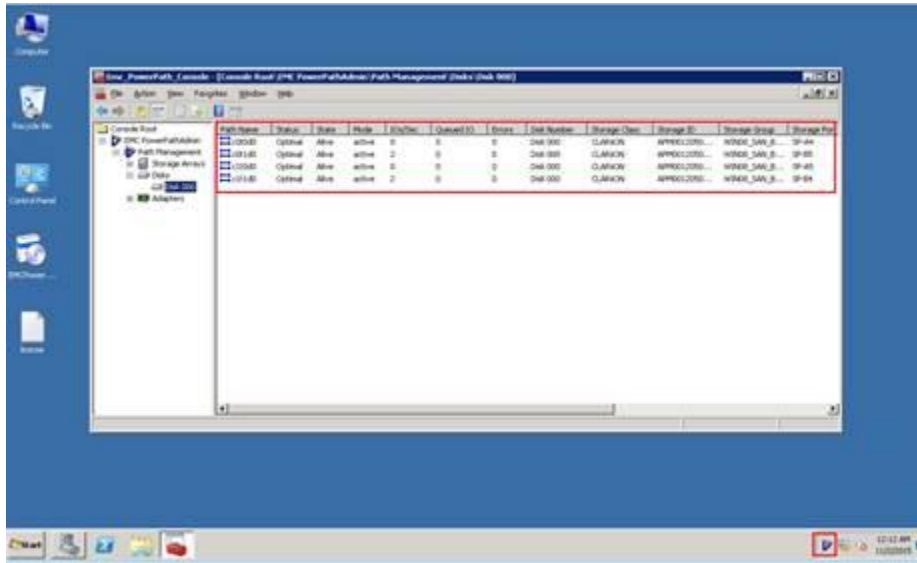
Server Manager (WIN-DCT2HC) > Storage > Disk Management

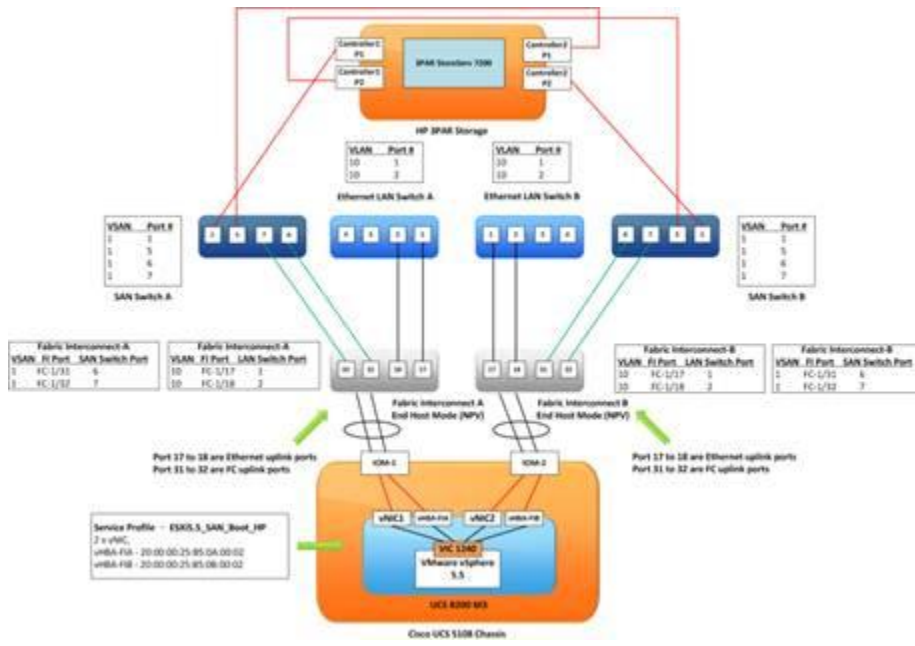
Volume List - Graphical View

Volume	Layout	Type	File System	Status	Capacity	Free Space	% Free
(C:) System Reserved	Simple	Basic	NTFS	Healthy (Boot, Page File, Crash Dump, Primary Partition)	100 MB	72 MB	72%

Drive	Capacity	Free Space	File System	Status
\\.\Disk 0	100 MB	72 MB	NTFS	Healthy (System, Active, Primary)
\\.\Disk 1	100 MB	99.90 GB		Offline
\\.\Disk 2	100 MB	99.90 GB		Offline
\\.\Disk 3	100 MB	99.90 GB		Offline





Equipment: Servers LAN SAN VM Admin Storage

Filters: All

Servers

- Service Profiles
  - ESX5.1\_Service\_Profile
  - ESX5.1\_Local\_Boot
  - ESX5.5\_Local\_Boot
  - ESX5.5\_SAN\_Boot\_EMC
  - ESX5.5\_SAN\_Boot\_HP
  - ESX5.5\_Service\_Profile
  - WIN08\_Local\_Boot
  - WIN08\_SAN\_Boot\_EMC
  - WIN08\_SAN\_Boot\_HP
  - WIN12\_Local\_Boot
- Service Profile Templates
- Sub-Organizations
- Policies
- Adapter Policies
- BIOS Defaults
- BIOS Policies
- Boot Policies
- Boot Policy ESX5-L\_F3A

General: Storage Network iSCSI vNICs Boot Order Virtual Machines FC Zones Policies Server Details CMPC Sessions FSM

vHBAs vHBA Initiator Groups LUN Configuration

Actions

- Change World Wide Node Name
- Change Local Disk Configuration Policy
- Modify vNIC/vHBA Placement
- Reset WWNN Address

World Wide Node Name

World Wide Node Name: 20:00:00:25:85:00:00:09

WWNN Pool: BW-WWNN-Pools

WWNN Pool Instance: org-root/wwn-pool-BW-WWNN-Pools

Local Disk Configuration Policy

Local Disk Policy: default

Local Disk Policy Instance: org-root/local-disk-config-default

SAN Connectivity Policy

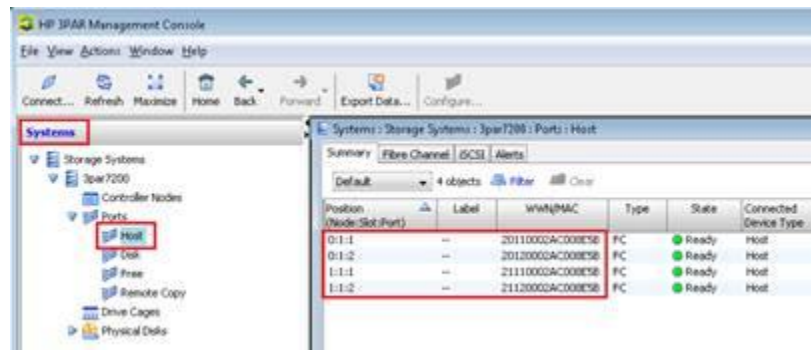
SAN Connectivity Policy: <not set>

SAN Connectivity Policy Instance: Create SAN Connectivity Policy

vHBAs

Filter Export Print

Name	WWNN	Desired Order	Actual Order	Fabric ID
vHBA vHBA1	20:00:00:25:85:0A:00:02	3	3	A
vHBA vHBA2	20:00:00:25:85:0B:00:02	4	4	B



Index	Port	Address	Media	Speed	State	Proto	
0	0	010000	id	N4	Online	FC	F-Port 50:06:01:64:47:20:25:eb
1	1	010100	id	N8	Online	FC	F-Port 20:11:00:02:ac:00:8e:5b
2	2	010200	id	N8	No_Light	FC	
3	3	010300	id	N8	No_Light	FC	
4	4	010400	id	N8	No_Light	FC	
5	5	010500	id	N8	Online	FC	F-Port 21:11:00:02:ac:00:8e:5b
6	6	010600	id	8G	Online	FC	F-Port 1 N Port + 2 NPIV public
7	7	010700	id	8G	Online	FC	F-Port 1 N Port + 2 NPIV public
8	8	010800	--	4G	No_Module	FC	(No POD License) Disabled
9	9	010900	--	N8	No_Module	FC	(No POD License) Disabled

Controller1-P1

Controller2-P1

FIA's FC uplinks

Type	PID	World Wide Name	credit	df_sz	cos	
fe	010701	20:00:00:25:b5:0a:00:09	16	2112	8	scr=0x3
fe	010700	20:20:00:2a:6a:ea:b3:80	16	2112	8	scr=0x0
ff	010701	20:00:00:25:b5:0a:00:09	0	0	8	d_id=FFFFFFA
ff	010701	20:00:00:25:b5:0a:00:09	0	0	8	d_id=FFFFFFC
ff	010700	20:20:00:2a:6a:ea:b3:80	8	2112	c	d_id=FFFFFFA
ff	010700	20:20:00:2a:6a:ea:b3:80	8	2112	c	d_id=FFFFFFC

vHBA1

**Steps**

1. Host Settings
- 2. Fibre Channel Settings**
3. iSCSI Settings
4. Summary

**Fibre Channel Settings**

Assign at least two Fibre Channel World Wide Names (WWNs). Select available WWNs or, to create new WWNs, enter the new WWNs in the **New WWN** text box and click **Assign**.

The assigned WWNs are the host paths the storage system will use to connect to the host system.

Fibre Channel Host Paths

Available WWNs

WWN	Port

Assigned WWNs

WWN	Port
20000025850A0009	0:1:1

Name: **WWSN\_IP**

Description:

Reboot on Boot Order Change:

Enforce vNIC/vHBA/iSCSI Name:

Boot Mode:  Legacy  UEFI

**WARNING:**  
The type (primary/secondary) does not indicate a boot order preference.  
The effective order of boot devices within the same device class (LAN/storage/iSCSI) is determined by PCI bus scan order.  
If **Enforce vNIC/vHBA/iSCSI Name** is selected and the vNIC/vHBA/iSCSI does not exist, a config error will be reported.  
If it is not selected, the vNIC/vHBA are selected if they exist, otherwise the vNIC/vHBA with the lowest PCI bus scan order is used.

Local Devices

vNICs

vHBAs

Boot Order

Name	Order	vNIC/vHBA/iSCSI	Type	Link ID	WWN
Remote CD/DVD	1				
San	2				
San primary		vHBA1	Primary		
San Target			Primary	0	20110002ac008e5b

```

Cisco VIC FC, Boot Driver Version 4.0(1d)
(C) 2010 Cisco Systems, Inc.
3PARdata 20110002ac008e5b:000
Option ROM installed successfully
  
```

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UCS B-Series Blade Server Software

**Release 2.2(5b)** [Add Device](#)  
[Add Instructions](#)

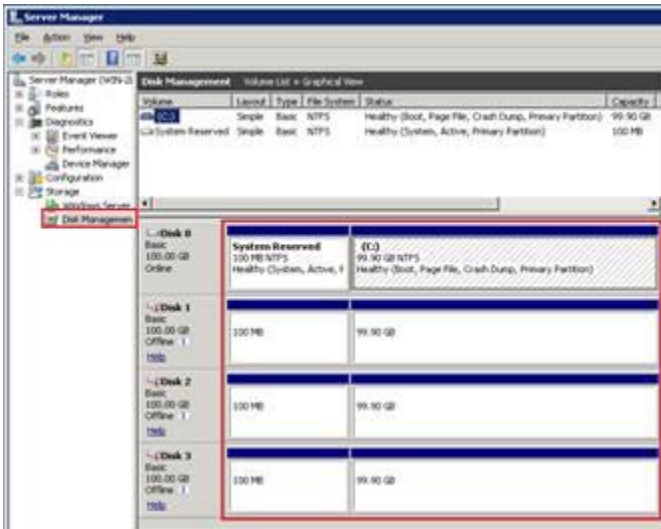
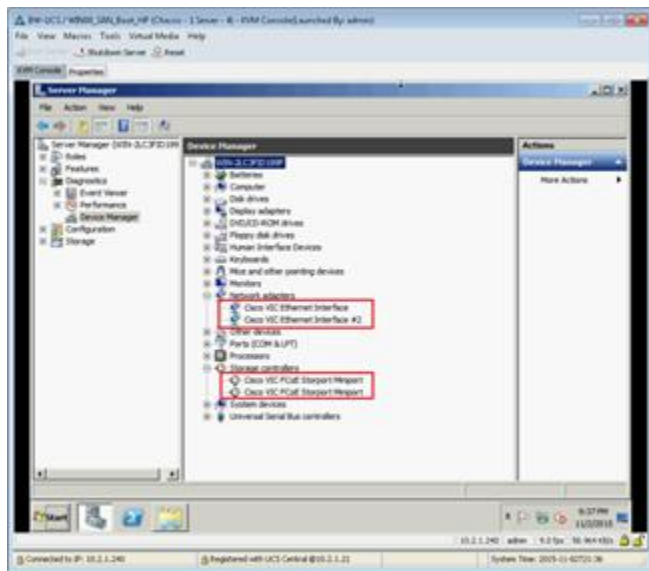
File Information	Release Date	Size	
Inventory List <a href="#">#</a> ucs-bbox-drivers.2.2.5b-iso-inventory-list.zip	18-SEP-2015	0.05 MB	<a href="#">Download</a> <a href="#">Add to cart</a>
ISO image of UCS-related drivers <a href="#">#</a> ucs-bbox-drivers.2.2.5b.iso	07-AUG-2015	1927.74 MB	<a href="#">Download</a> <a href="#">Add to cart</a>

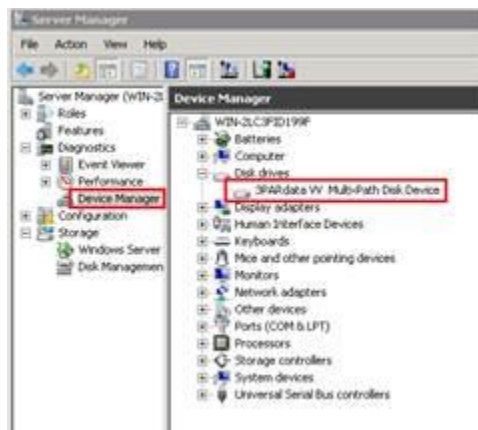
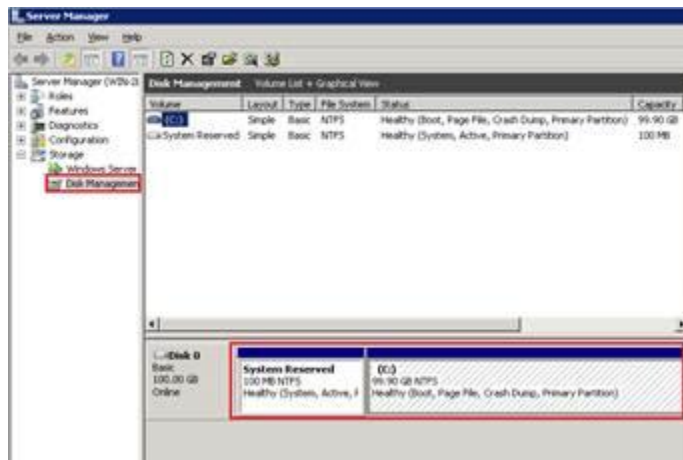
```

Cisco VIC FC, Boot Driver Version 4.0(1d)
(C) 2010 Cisco Systems, Inc.
3PARdata 20110002ac008e5b:000
3PARdata 21110002ac008e5b:000
Option ROM installed successfully

Cisco VIC FC, Boot Driver Version 4.0(1d)
(C) 2010 Cisco Systems, Inc.
3PARdata 21120002ac008e5b:000
3PARdata 20120002ac008e5b:000
Option ROM installed successfully
  
```

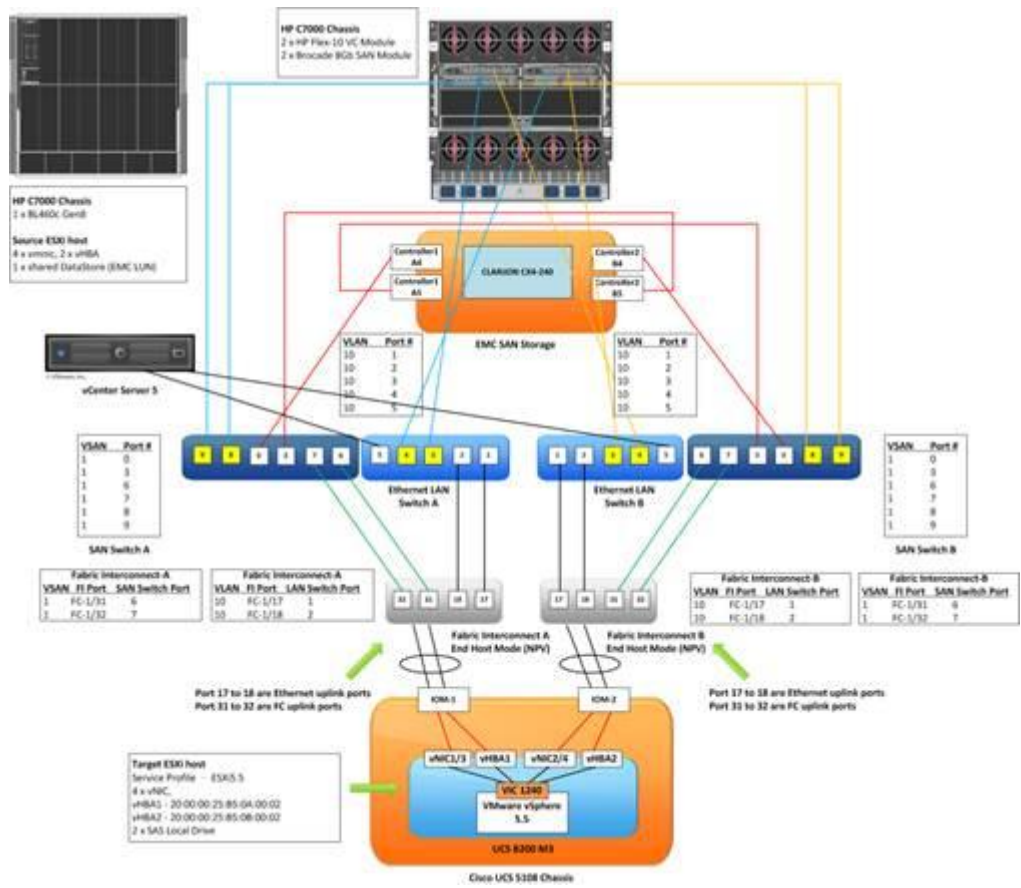


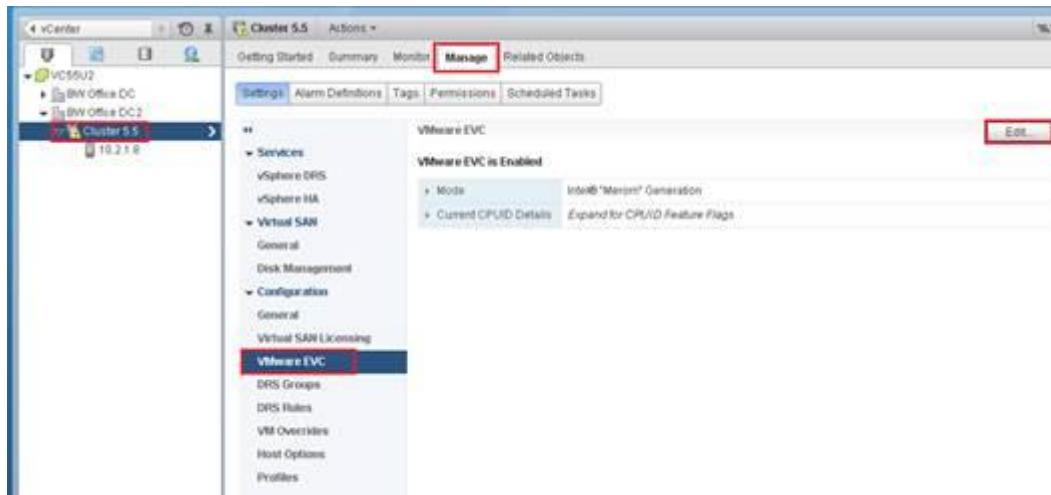






## Chapter 4: Data Migration to Cisco UCS





**Cluster 5.5 - Change EVC Mode** ? >>

**Select EVC Mode**

Disable EVC     Enable EVC for AMD Hosts     Enable EVC for Intel® Hosts

VMware EVC Mode: **Intel® "Merom" Generation**

**Description**

Applies the baseline feature set of Intel® "Merom" Generation (Xeon® Core™2) processors to all hosts in the cluster.

Hosts with the following processor types will be permitted to enter the cluster:

- Intel® "Merom" Generation (Xeon® Core™2)
- Intel® "Penryn" Generation (Xeon® 45nm Core™2)
- Intel® "Nehalem" Generation (Xeon® Core™ i7)
- Intel® "Westmere" Generation (Xeon® 32nm Core™ i7)
- Intel® "Sandy Bridge" Generation
- Intel® "Ivy Bridge" Generation
- Intel® "Haswell" Generation
- Future Intel® processors

For more information, see Knowledge Base article 1003212.

Getting Started   Summary   Monitor   **Manage**   Related Objects

**Settings**   Networking   Storage   Alarm Definitions   Tags   Permissions

←

**Virtual Machines**

- Default VM Compatibility
- VM Startup/Shutdown
- Agent VM Settings
- Swap file location

**System**

- Licensing**
- Host profile

**Licensing** Assign License Key...

Product	VMware vSphere 5 Enterprise Plus
License Key	
Expires	Never
Features	Unlimited virtual SMP vCenter agent for VMware host Reliable Memory vShield Endpoint vSphere Replication SR-IOV

Getting Started Summary Monitor **Manage** Related Objects

Settings **Networking** Storage Alarm Definitions Tags Permissions

Virtual switches

Switch	Discovered Issues
vSwitch0	--
vSwitch1	--

Standard switch: vSwitch0 (VM Network)

The diagram shows a central vSwitch0 connected to three network entities: VM Network (with 0 Virtual Machines), vMotion (with 1 VMkernel Port), and Management Network (with 1 VMkernel Port). On the right, two physical adapters are shown: vmnic0 1000 Full and vmnic2 1000 Full, both connected to vSwitch0.

Getting Started Summary Monitor **Manage** Related Objects

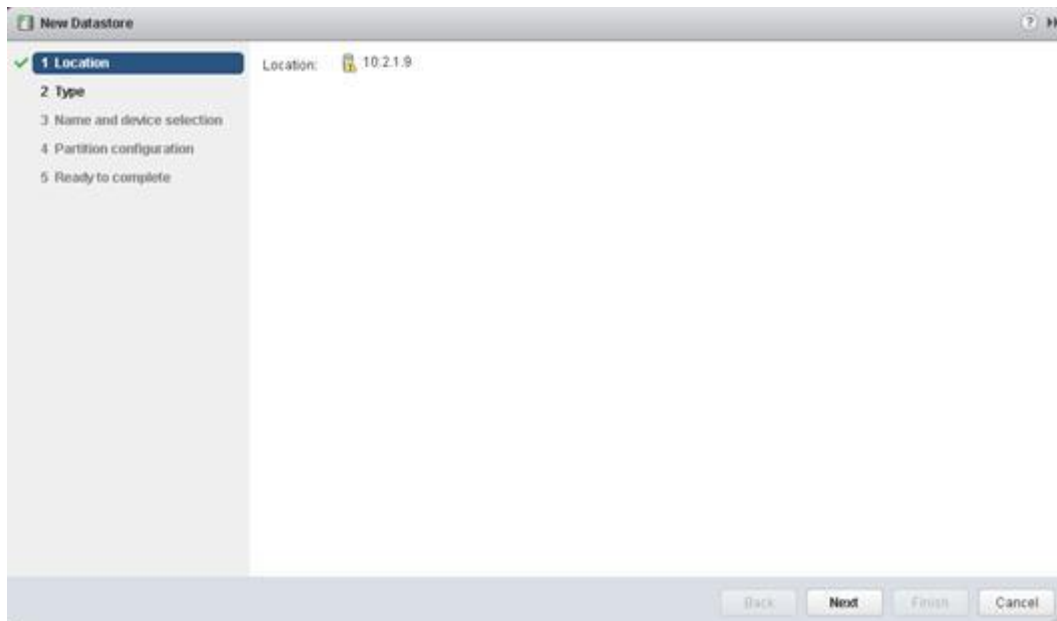
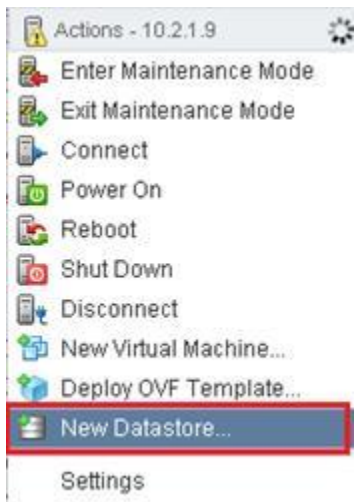
Settings **Networking** Storage Alarm Definitions Tags Permissions

Virtual switches

**Create new vSwitch / port group**

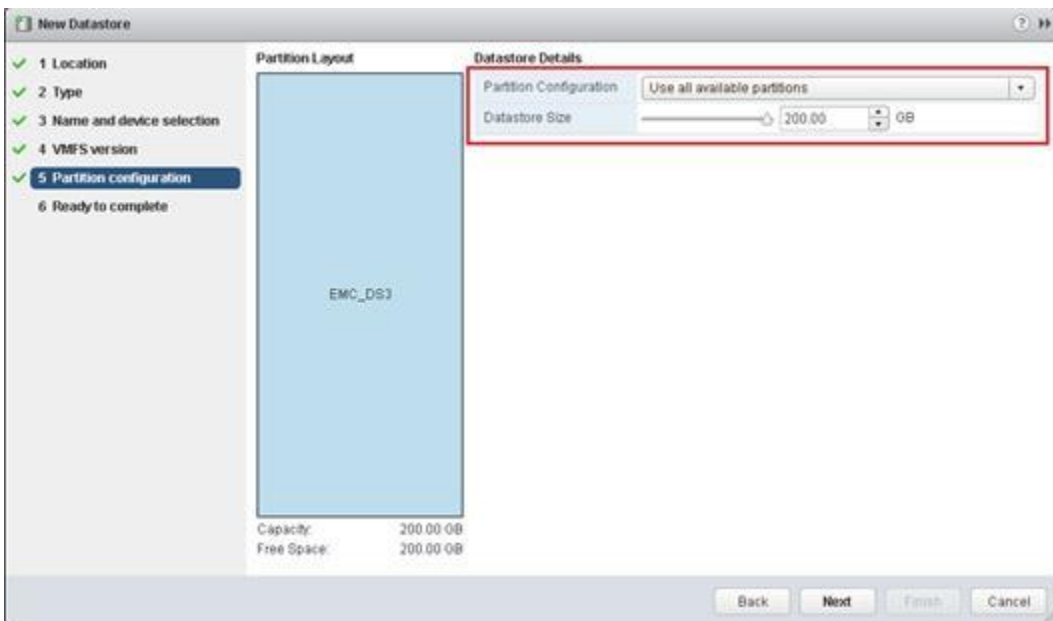
Switch	Discovered Issues
vSwitch0	--

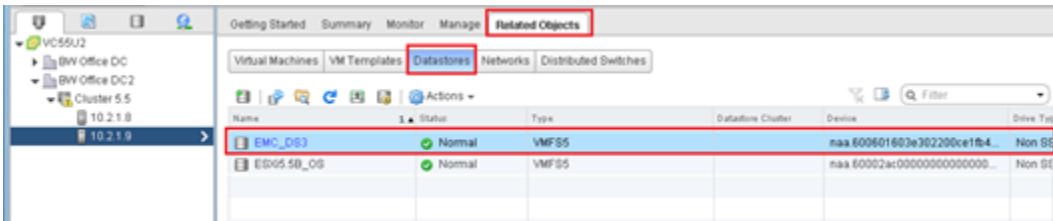
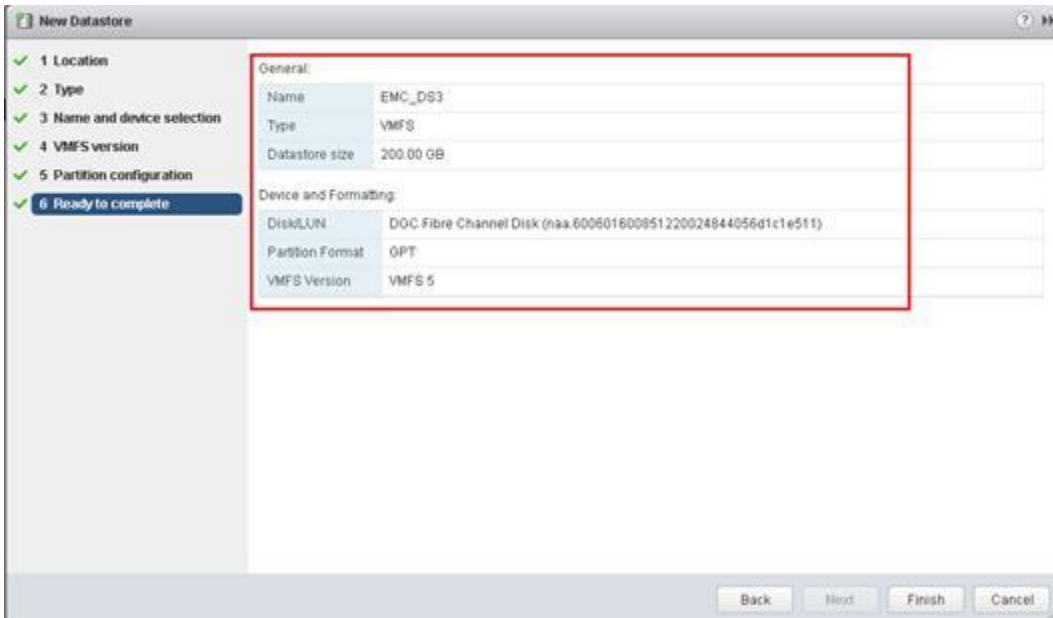
Standard switch: vSwitch0 (VM Network)

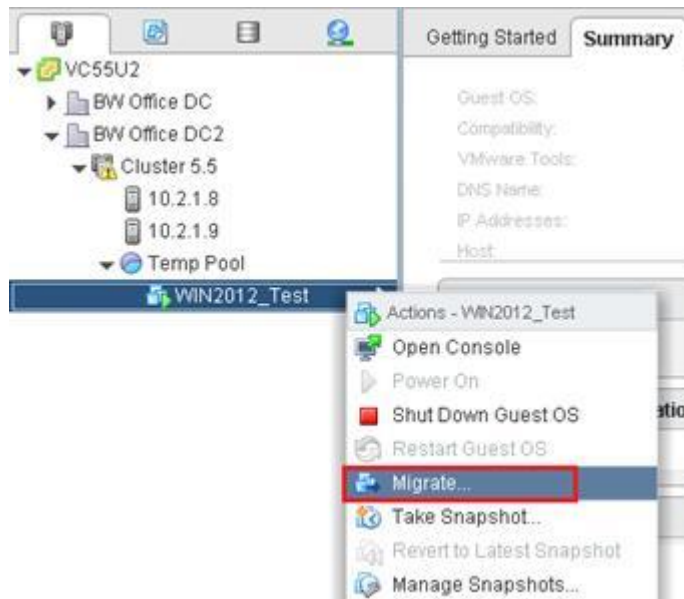












1 Select Migration Type  
2 Select Destination Resource  
3 Select Host  
4 Select Datastore  
5 Select vMotion Priority  
6 Review Selections

Search

- BW Office DC2
  - Cluster 5.5
    - Cluster
    - Temp Pool

Select the cluster, host, resource pool, or vApp as the destination of this virtual machine's migration.

Compatibility:

✔ Compatibility checks succeeded.

Allow host selection within this cluster.

Back Next Finish Cancel

1 Select Migration Type  
2 Select Destination Resource  
3 Select Host  
4 Select Datastore  
5 Select vMotion Priority  
6 Review Selections

Host Name	Status
10.2.1.8	Warning
10.2.1.9	Warning

Compatibility:

✔ Compatibility checks succeeded.

Back Next Finish Cancel

1 Select Migration Type  
 2 Select Destination Resource  
 3 Select Host  
 4 Select Datastore  
 5 Select vMotion Priority  
 6 Review Selections

Select virtual disk format: Same format as source

VM Storage Policy: Keep existing VM storage policies

The following datastores are accessible from the destination resource that you selected. Select the destination datastore for the virtual machine configuration files and all of the virtual disks.

Name	Capacity	Provisioned	Free	Type	Storage DR
datastore1	271.00 GB	1.26 GB	269.74 GB	VMFS	
EMC_DS4	499.75 GB	1.32 TB	101.37 GB	VMFS	
CK4_DS1	99.75 GB	93.08 GB	62.22 GB	VMFS	
EMC_DS3	199.75 GB	1.32 TB	54.33 GB	VMFS	
CK4_DS2	9.75 GB	881.00 MB	8.89 GB	VMFS	
ESX05_5B_OS	2.50 GB	597.00 MB	1.92 GB	VMFS	
vsanDatastore	0.00 B	0.00 B	0.00 B	vsan	

Advanced >>

Compatibility

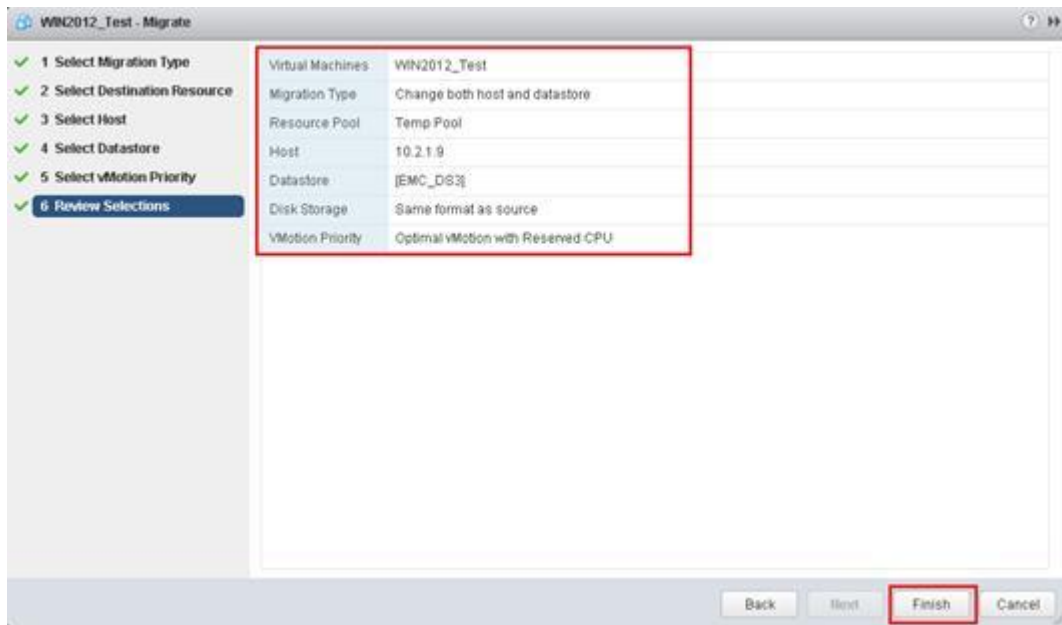
Compatibility checks succeeded.

1 Select Migration Type  
 2 Select Destination Resource  
 3 Select Host  
 4 Select Datastore  
 5 Select vMotion Priority  
 6 Review Selections

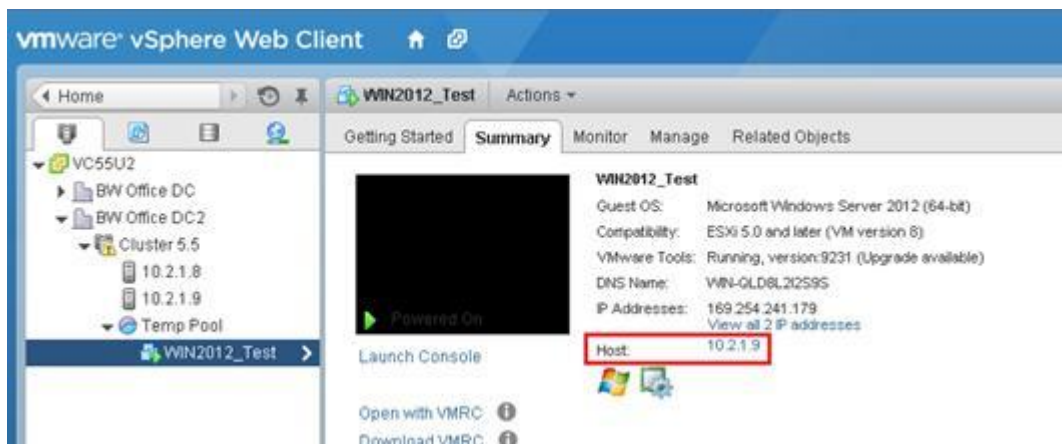
vMotion will move the virtual machine while it remains powered on.

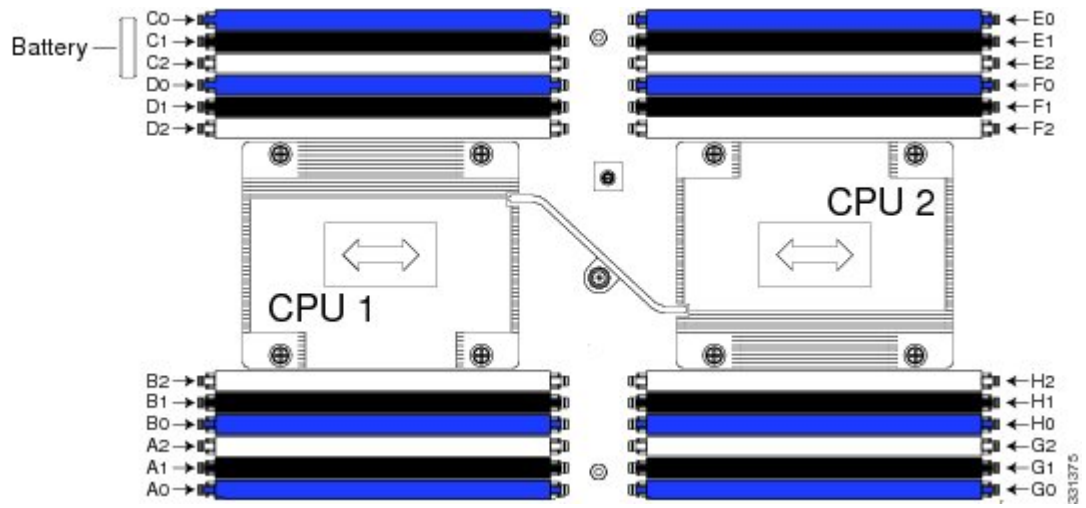
Reserve CPU for optimal vMotion performance (Recommended)  

 If sufficient CPU resources are not immediately available, vMotion will not be initiated.
   
 Perform with available CPU resources  
 If there is a lack of CPU resources, the duration of vMotion might be extended.

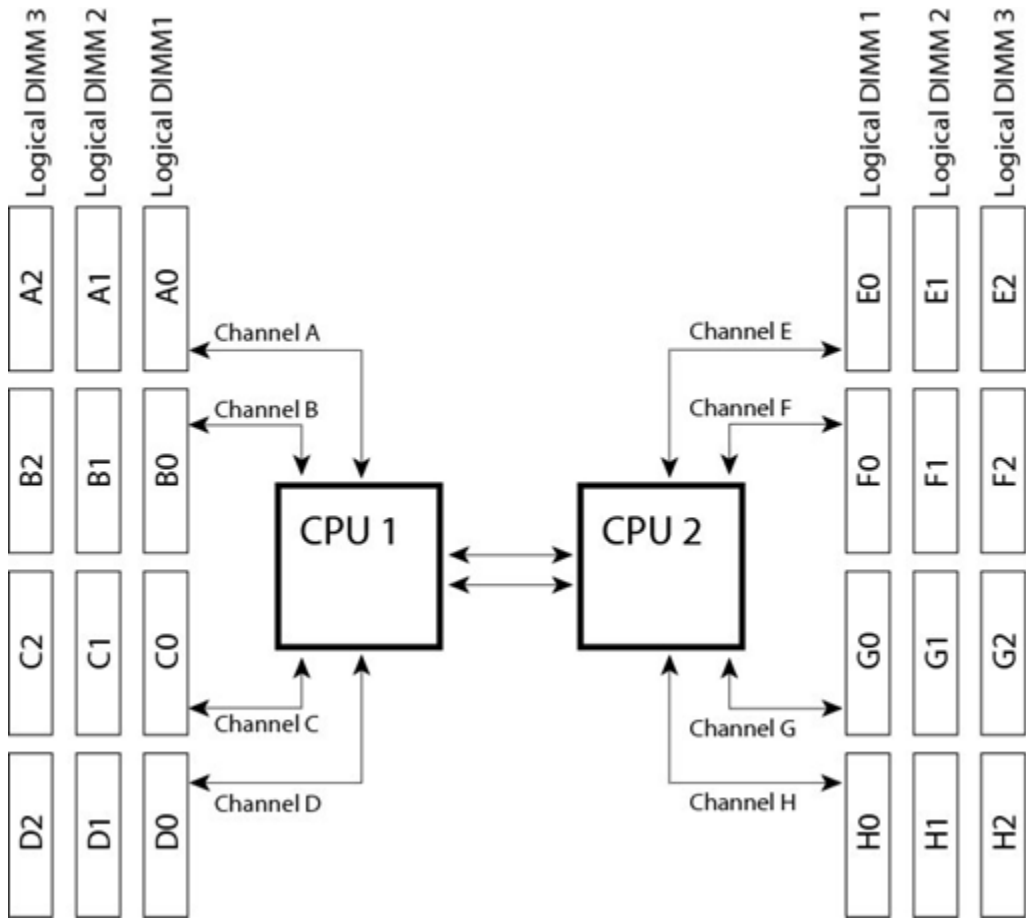


Name	Target	Status	Details
Relocate virtual machine	WIN2012_Test	32%	Migrating the active state of Virtual...









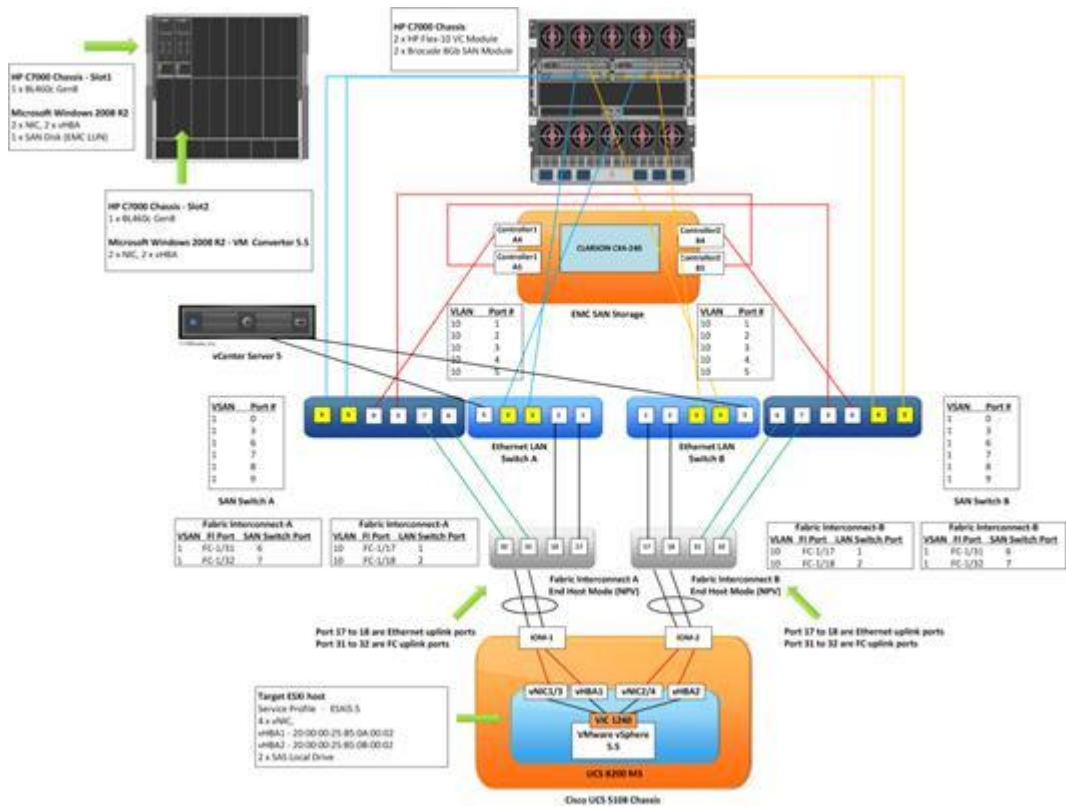
>> Equipment > Chassis > Chassis 1 > Servers > Server 4

General | Inventory | Virtual Machines | Installed Firmware | BMC Sessions | SED Logs | VF Paths | Faults | Events | FRM | Statistics | Temperatures | Power

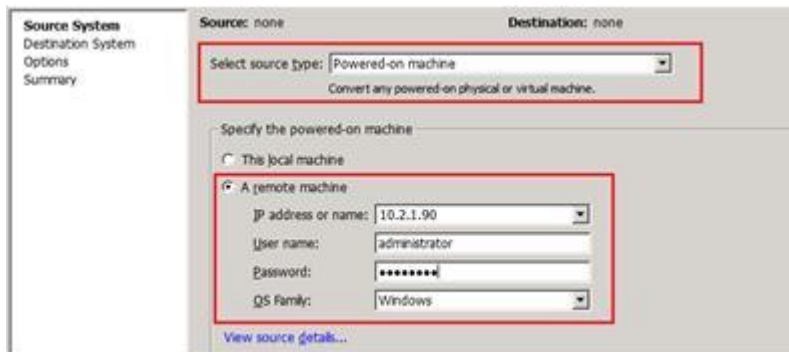
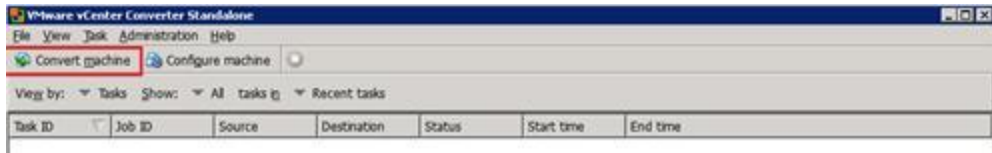
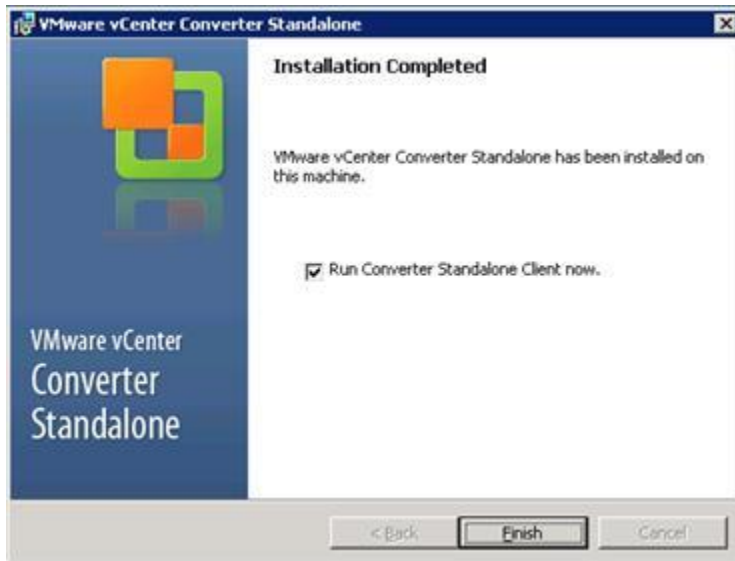
Motherboard | BMC | CPUs | Memory | Adapters | HBAs | NICs | SCSI vNICs | Storage

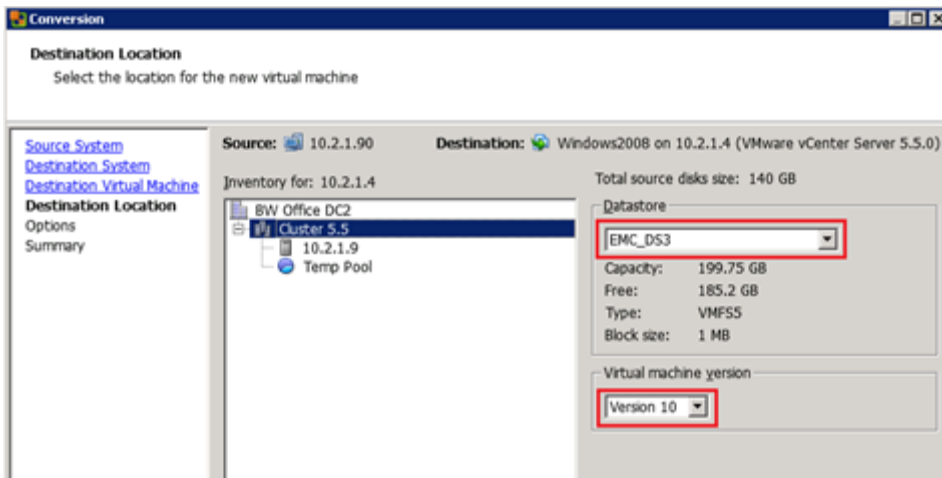
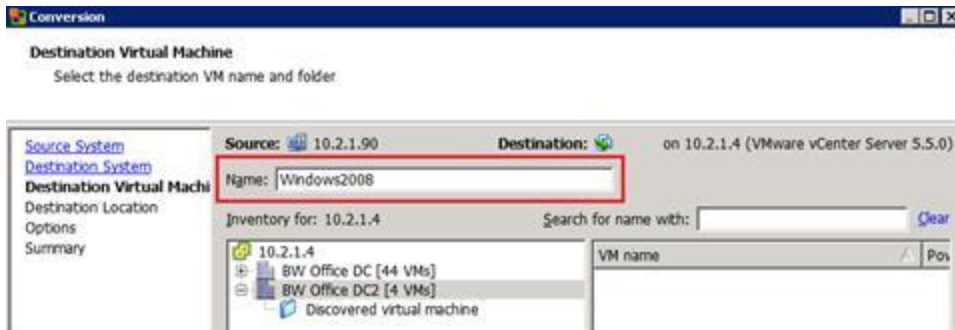
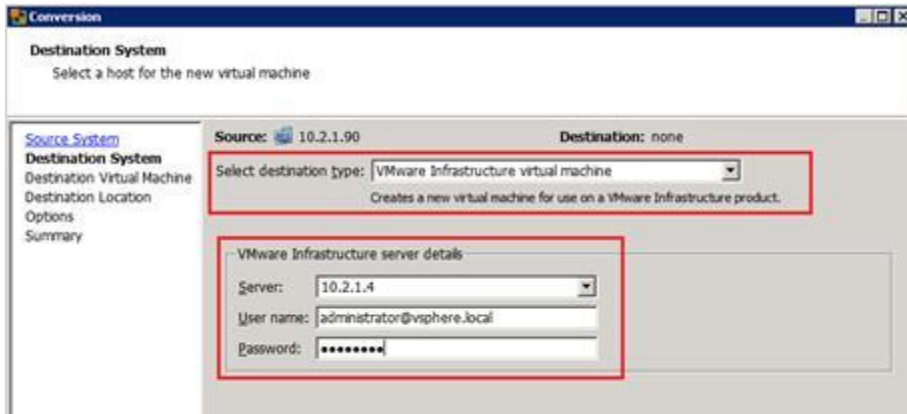
Filter | Export | Print

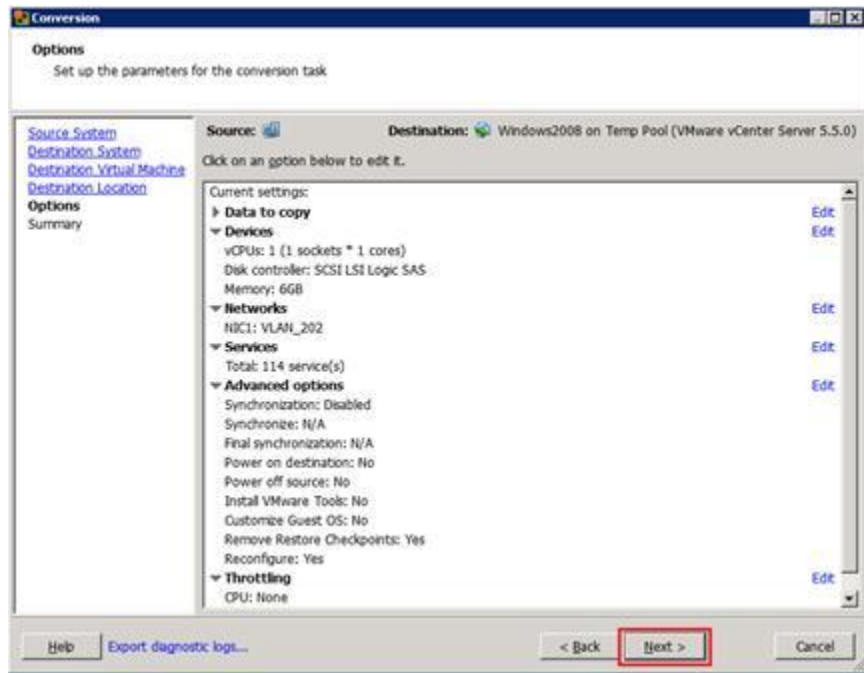
Name	Location	Capacity(GB)	Clock(MHz)
Memory 1	A0	0.00	1866
Memory 2	A1	Unspecified	Unspecified
Memory 3	A2	Unspecified	Unspecified
Memory 4	B0	0.00	1866
Memory 5	B1	Unspecified	Unspecified
Memory 6	B2	Unspecified	Unspecified
Memory 7	C0	0.00	1866
Memory 8	C1	Unspecified	Unspecified
Memory 9	C2	Unspecified	Unspecified
Memory 10	D0	0.00	1866
Memory 11	D1	Unspecified	Unspecified
Memory 12	D2	Unspecified	Unspecified
Memory 13	E0	0.00	1866
Memory 14	E1	Unspecified	Unspecified
Memory 15	E2	Unspecified	Unspecified
Memory 16	F0	0.00	1866
Memory 17	F1	Unspecified	Unspecified
Memory 18	F2	Unspecified	Unspecified
Memory 19	G0	0.00	1866
Memory 20	G1	Unspecified	Unspecified
Memory 21	G2	Unspecified	Unspecified
Memory 22	H0	0.00	1866
Memory 23	H1	Unspecified	Unspecified
Memory 24	H2	Unspecified	Unspecified

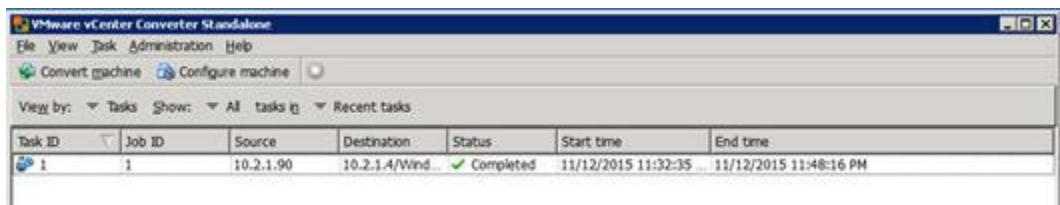
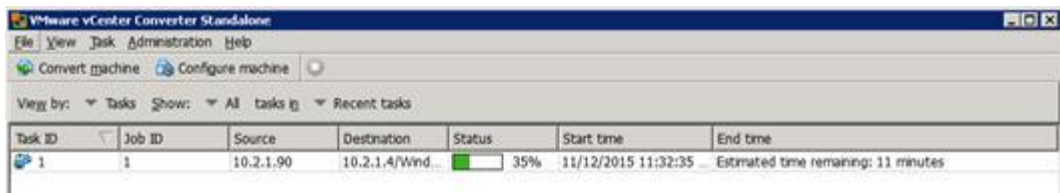
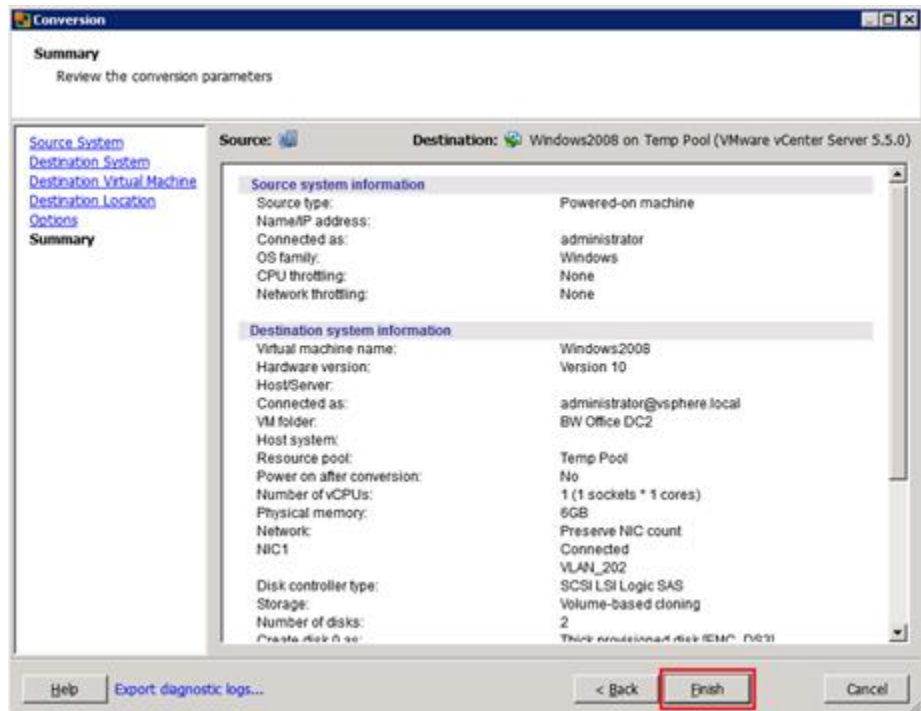














vmware: vSphere Web Client Updated at 1:07 AM

vCenter Windows2008 Actions

Getting Started Summary Monitor Manage Related Objects

**What is a Virtual Machine?**

A virtual machine is a software computer that, like a physical computer, runs an operating system and applications. An operating system installed on a virtual machine is called a guest operating system.

Because every virtual machine is an isolated computing environment, you can use virtual machines as desktop or workstation environments, as testing environments, or to consolidate server applications.

In vCenter Server, virtual machines run on hosts or clusters. The same host can run many virtual machines.

The diagram illustrates the vSphere architecture. A vCenter Server is connected to a Datacenter. Inside the Datacenter, there is a Cluster of hosts. Virtual Machines are shown running on these hosts.

vmware: vSphere Web Client Updated at 1:07 AM

vCenter Windows2008 Actions

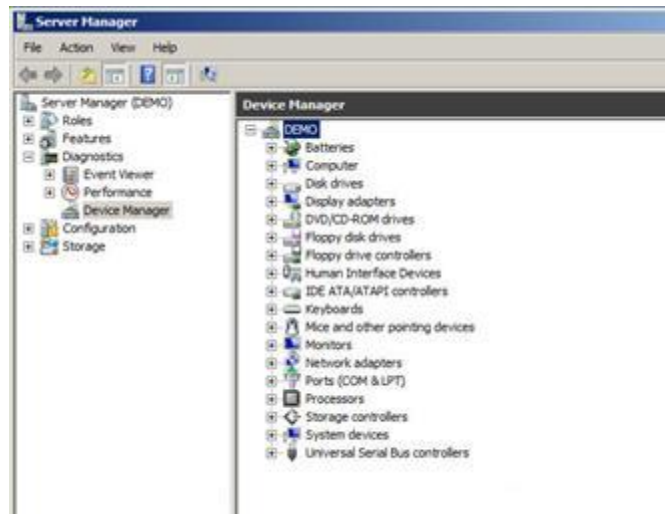
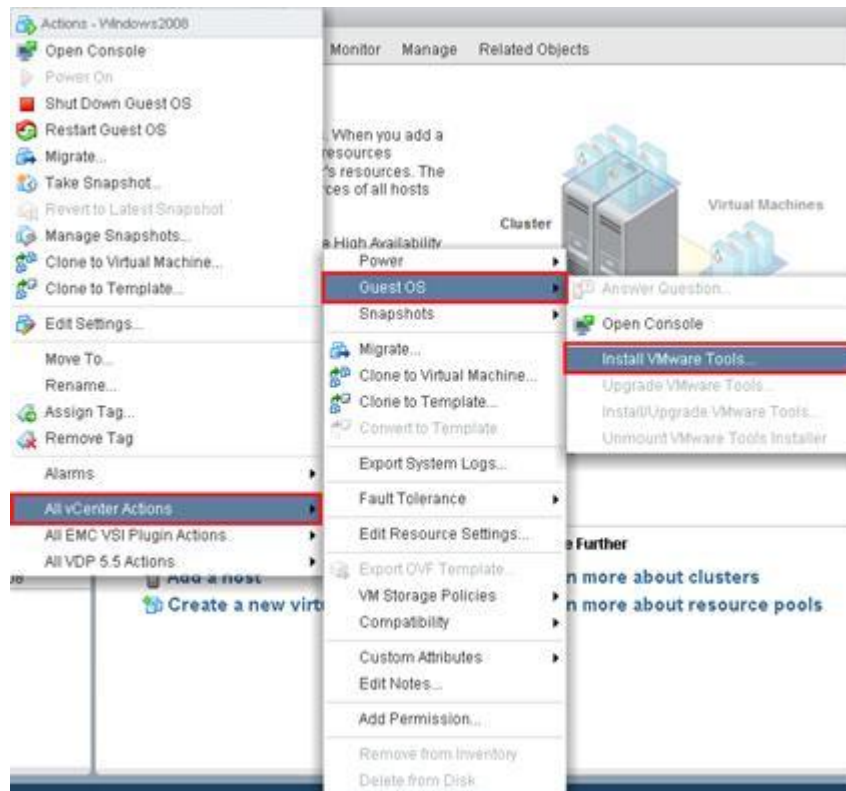
Getting Started **Summary** Monitor Manage Related Objects

**Windows2008**

Guest OS: Microsoft Windows Server 2008 R2 (64-bit)  
 Compatibility: ESX 5.5 and later (VM version 10)  
 VMware Tools: Running, version 9354 (Current)  
 DNS Name: demo  
 IP Addresses: 169.254.19.86  
 View all 2 IP addresses  
 Host: 10.21.9


Launch Console

Open with VMRC  
 Download VMRC





Windows2008 Actions

Getting Started **Summary** Monitor Manage Related Objects



Launch Console

Open with VMRC 

Download VMRC 

**Windows2008**

Guest OS: Microsoft Windows Server 2008 R2 (64-bit)


Compatibility: ESXi 5.5 and later (VM version 10)

**VMware Tools: Running, version:9354 (Current)**

DNS Name: demo

IP Addresses: 10.2.2.107  
View all 2 IP addresses

Host: 10.2.1.8



Source: 10.2.1.90 Destination: demo2 on Resources (VMware vCenter Server 5.5.0)

Click on an option below to edit it.

Source System  
Destination System  
Destination Virtual Machine  
Destination Location  
**Options**  
Summary

Current settings:

- ▼ **Data to copy** Edit
  - Copy type: Volume-based
  - <V>Volume[1bacdec4-8809-11e5-b10c-806e05e69633]:<: 100 MB
  - <C>: 59.9 GB
  - <G>: 80 GB
- ▼ **Devices** Edit
  - vCPU: 1 (1 sockets \* 1 cores)
  - Disk controller: SCSI LSI Logic SAS
  - Memory: 6GB
- ▼ **Networks** Edit
  - NIC1: VLAN\_202
- ▼ **Services** Edit
  - Total: 114 service(s)
- ▼ **Advanced options** Edit
  - Synchronization: Disabled
  - Sync mode: N/A
  - Final synchronization: N/A
  - Power on destination: No
  - Power off source: No
  - Install VMware Tools: No
  - Customize Guest OS: No



- Open Console
- Power On
- Shut Down Guest OS
- Restart Guest OS
- Migrate...**
- Take Snapshot...
- Revert to Latest Snapshot
- Manage Snapshots...

Cluster-Node2 - Migrate

1 Select Migration Type

2 Select Destination Resource

3 Select Datastore

4 Review Selections

- Change host  
Move the virtual machine to another host
- Change datastore  
Move the virtual machine's storage to another datastore
- Change both host and datastore  
Move the virtual machine to another host and move its storage to another datastore**

Failover Cluster Manager

File Action View Help

MS-Cluster2008.victorlab.com

Services and applications

Cluster2008-FS

Nodes

Name	Status
Cluster-Node1	Up
cluster-node2	Up

Storage

Networks

Cluster Events

Failover Cluster Manager

MS-Cluster2008.victorlab.com

Services and applications

Cluster2008-FS

Nodes

Cluster-Node1

cluster-node2

Storage

Networks

Cluster Events

File Server Cluster2008-FS

Recent Cluster Events: None in the last 24 hours

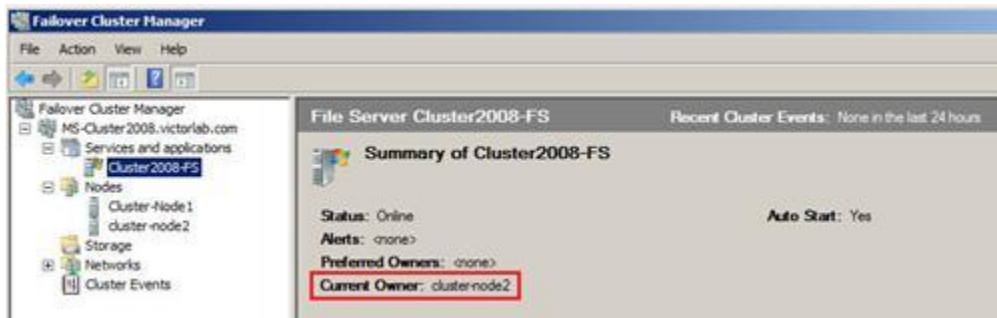
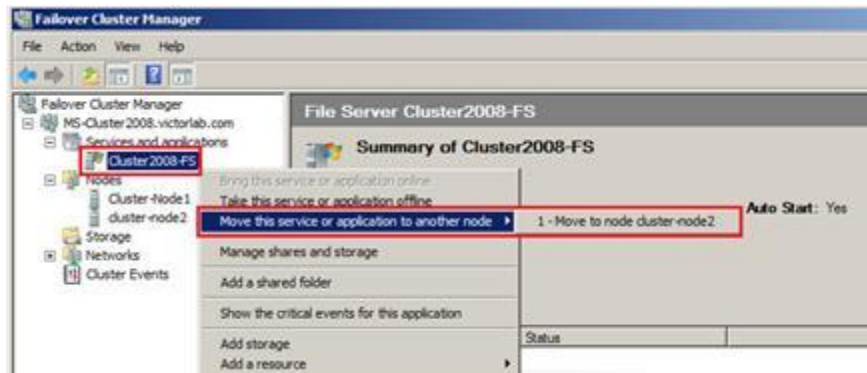
Summary of Cluster2008-FS

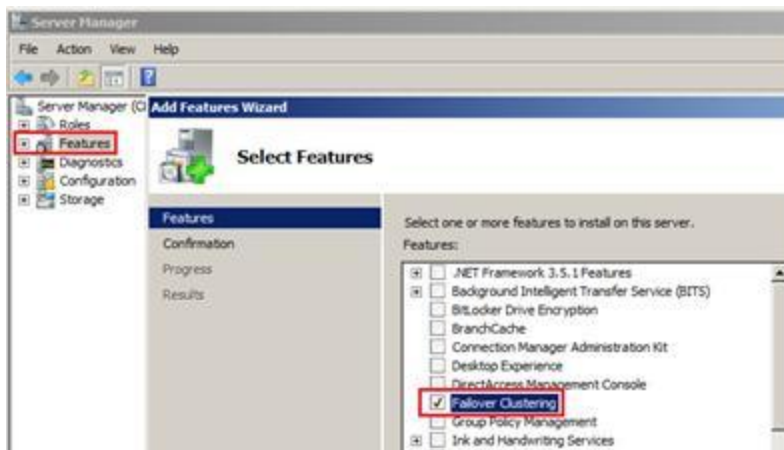
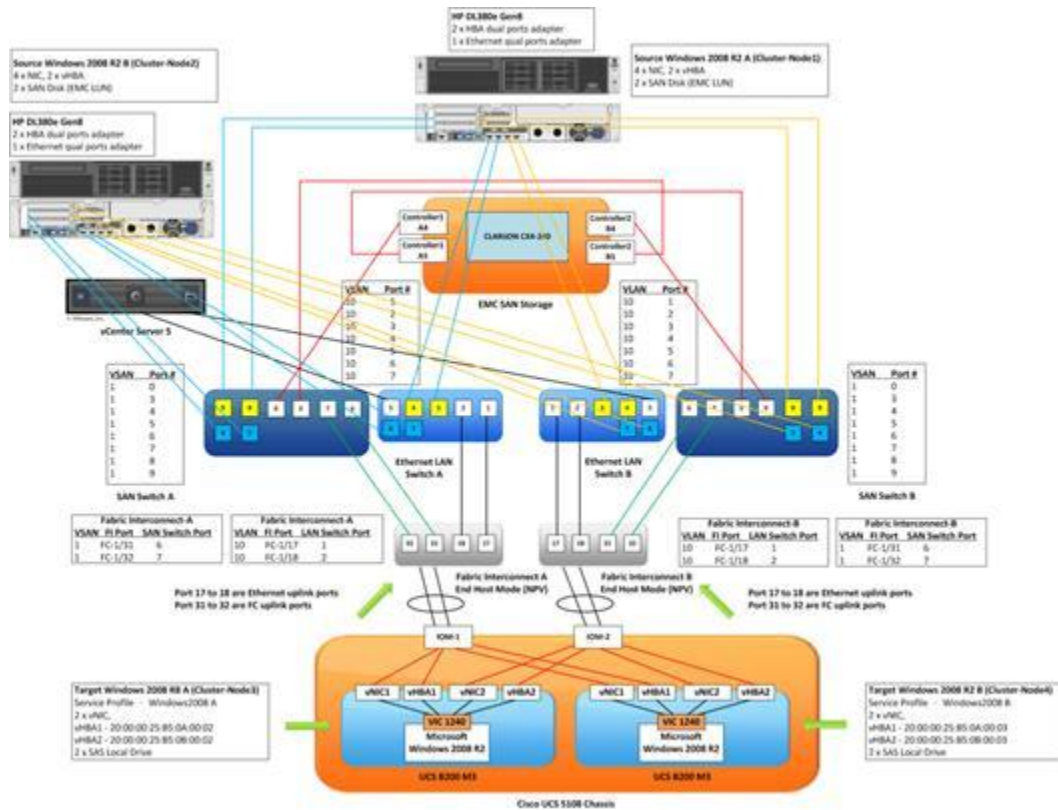
Status: Online **Auto Start: Yes**

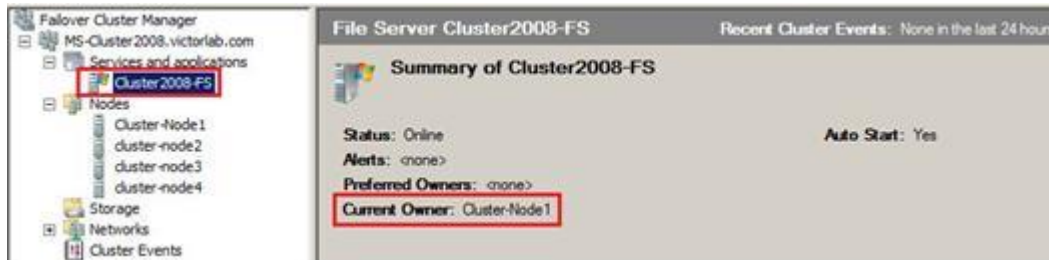
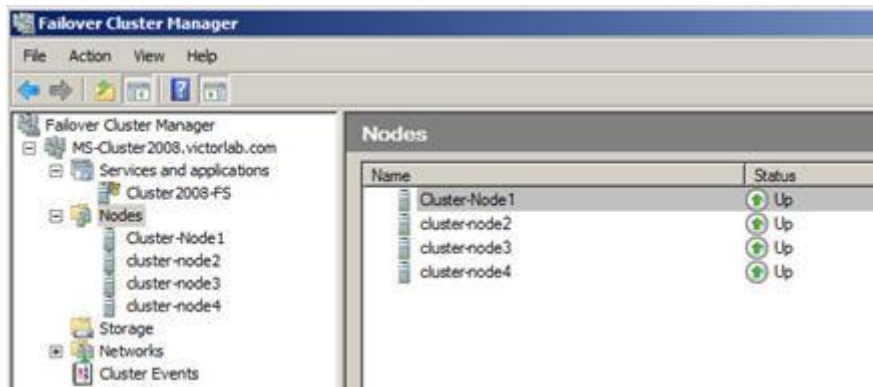
Alerts: <none>

Preferred Owners: <none>

**Current Owner: Cluster-Node1**









Failover Cluster Manager

MS-Cluster2008.victorlab.com

- Services and applications
  - Cluster2008-FS
    - Nodes
      - Cluster-Node1
      - cluster-node2
      - cluster-node3
      - cluster-node4
    - Storage
    - Networks
    - Cluster Events

File Server Cluster2008-FS

Summary of Cluster2008-FS

Status: Online

Alerts: <none>

Preferred Owners: <none>

Current Owner: cluster-node3

```
Administrator: Command Prompt
C:\>cluster group
Listing status for all available resource groups:
Group                Node                Status
-----
Cluster Group        Cluster-Node1       Online
Available Storage    Cluster-Node1       Online
Cluster2008-FS       cluster-node3        Online
C:\>_
```

```
Administrator: Command Prompt
C:\>cluster group
Listing status for all available resource groups:
Group                Node                Status
-----
Cluster Group        Cluster-Node1       Online
Available Storage    Cluster-Node1       Online
Cluster2008-FS       cluster-node3        Online
C:\>cluster group "Cluster Group" /moveto:cluster-node3
Moving resource group 'Cluster Group'...
Group                Node                Status
-----
Cluster Group        cluster-node3        Online
C:\>
```

```
Administrator: Command Prompt
C:\>cluster group
Listing status for all available resource groups:
Group                Node                Status
-----
Cluster Group        cluster-node3        Online
Available Storage    cluster-node3        Online
Cluster2008-FS       cluster-node3        Online
C:\>
```

Failover Cluster Manager

- MS-Cluster2008.victorlab.com
  - Services and applications
    - Cluster2008-FS
  - Nodes
    - Cluster-Node1
    - cluster-node2
    - cluster-node3
    - cluster-node4
  - Storage
  - Networks
  - Cluster Events

**File Server Cluster2008-FS**

**Summary of Cluster2008-FS**

Status: Online  
 Alerts: <none>  
 Preferred Owners: <none>  
**Current Owner: cluster-node3**

Failover Cluster Manager

- MS-Cluster2008.victorlab.com
  - Services and applications
    - Cluster2008-FS
  - Nodes
    - Cluster-Node1
    - cluster-node2
    - cluster-node3
    - cluster-node4
  - Storage
  - Networks
  - Cluster Events

**File Server Cluster2008-FS**      Recent Cluster Events: None in the last 24 hours

**Summary of Cluster2008-FS**

Bring this service or application online  
 Take this service or application offline  
**Move this service or application to another node** ▶  
 Manage shares and storage  
 Add a shared folder  
 Show the critical events for this application  
 Add storage  
 Add a resource ▶

1 - Best possible  
 2 - Move to node Cluster-Node1  
 3 - Move to node cluster-node2  
**4 - Move to node cluster-node4**

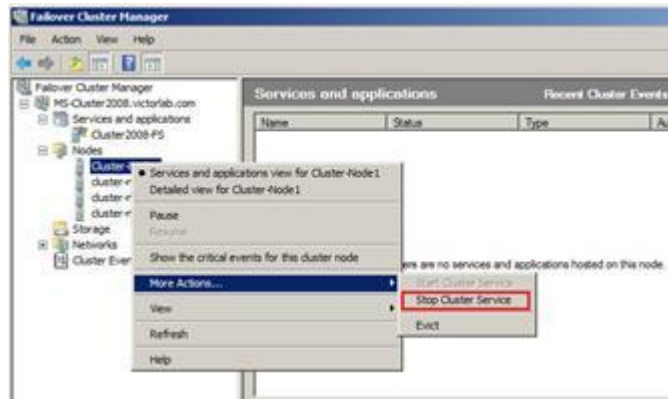
Auto Start: Yes

Status

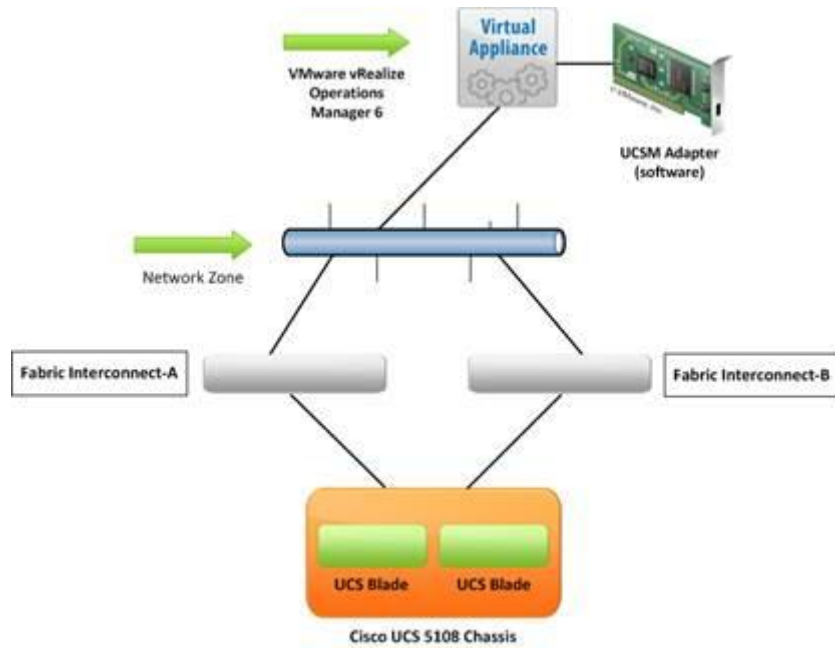
**File Server Cluster2008-FS**

**Summary of Cluster2008-FS**

Status: Online  
 Alerts: <none>  
 Preferred Owners: <none>  
**Current Owner: cluster-node4**



## Chapter 5: System Integration on Cisco UCS



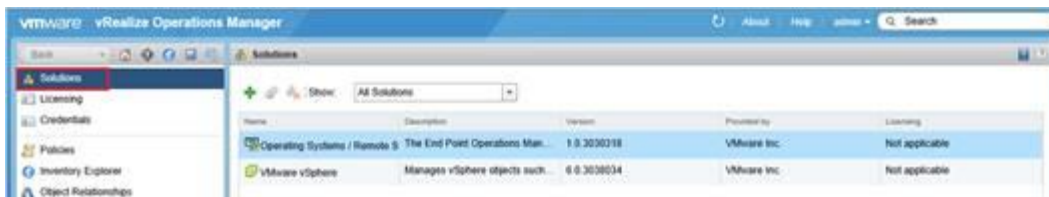
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### UCS Manager Integrations

Release 1.1.1		Release Notes for 1.1.1	Add Device
Expand All   Collapse All		Release Notes for 1.1.1	Add Notification
File Information	Release Date	Size	
Cisco UCS Manager Plugin for VMware vRealize Operations Manager UCSMAdapter-1.1.1 bin	04-AUG-2015	13.02 MB	<a href="#">Download</a> <a href="#">Add to cart</a>
Cisco UCS Manager Plugin for VMware vRealize Operations Manager UCSMAdapter-1.1.1 pak	04-AUG-2015	11.62 MB	<a href="#">Download</a> <a href="#">Add to cart</a>



## Solutions

   Show:

### Add Solution

- Select Solution**
- End User License Agreement
- Install

**Select a Solution to Install**  
Browse your file system to select a PAK file for the solution you want to install.

The selected file is ready to upload and install. Click Upload to continue.

Install the PAK file even if it is already installed.

Reset predefined content to a newer version provided by this update. User modifications to predefined Alerts, Symptoms, Recommendations, and Policies will be overwritten.

### Solutions

   Show:

Name	Description	Version	Provided by	Licensing
 Operating Systems / Remote S	The End Point Operations Man...	1.0.3030318	VMware Inc.	Not applicable
 VMware vSphere	Manages vSphere objects suc...	6.0.3038034	VMware Inc.	Not applicable
<b>UCSMAdapter</b>	<b>UCSMAdapter</b>	<b>1.1.1</b>		<b>Not applicable</b>

### Solutions

   Show:

Name	Description	Version	Provided by	Licensing
 Operating Systems / Remote S	The End Point Operations Man...	1.0.3030318	VMware Inc.	Not applicable
 VMware vSphere	Manages vSphere objects suc...	6.0.3038034	VMware Inc.	Not applicable
<b>UCSMAdapter</b>	<b>UCSMAdapter</b>	<b>1.1.1</b>		<b>Not applicable</b>

**Manage Solution - UCSMAdapter**

Adapter Type	Description	Instances	Version	Provided by
UCSM Adapter	UCSM Adapter	0	1.1.1	

Instance Name

**Instance Settings** The name of UCS instance, just display name

Display Name:

Description:

**Basic Settings**

UCS Domain IP/Host Name:  IP address of UCS Cluster

Secure Connection:

Port:

Auto Discover New Resource:

Enable Fault/Event Collection:

Collection Interval for Port Statistics (in Sec):  UCSM admin user and password

Collection Interval for Adapter Statistics (in Sec):

Credential:

**Solutions**

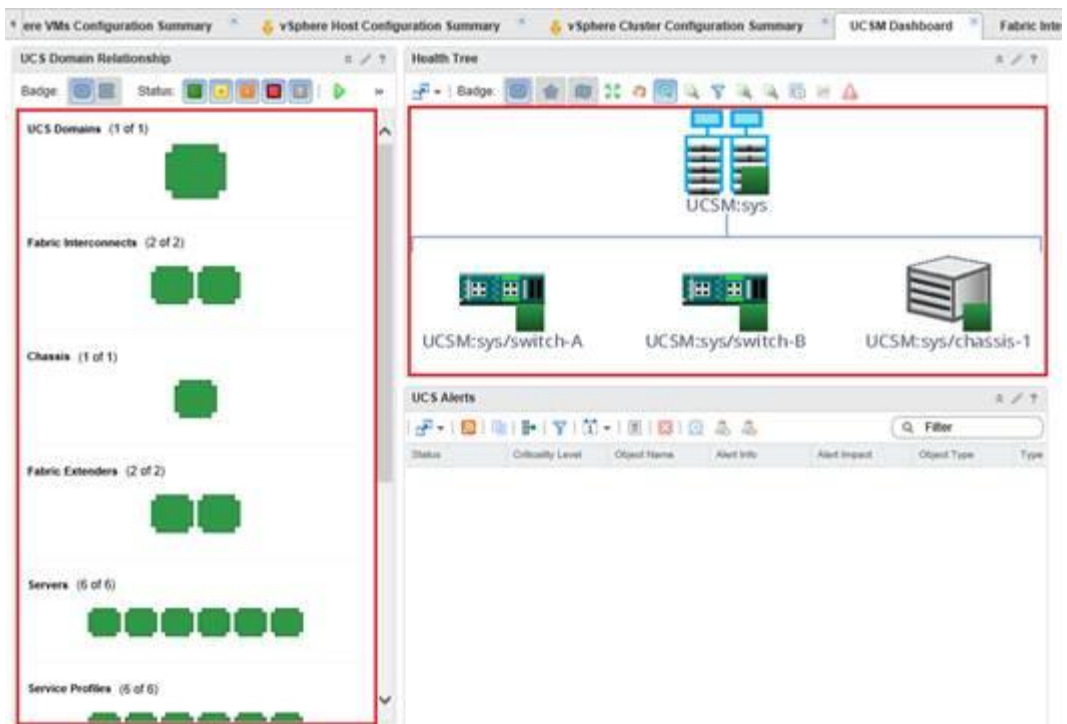
Show: All Solutions

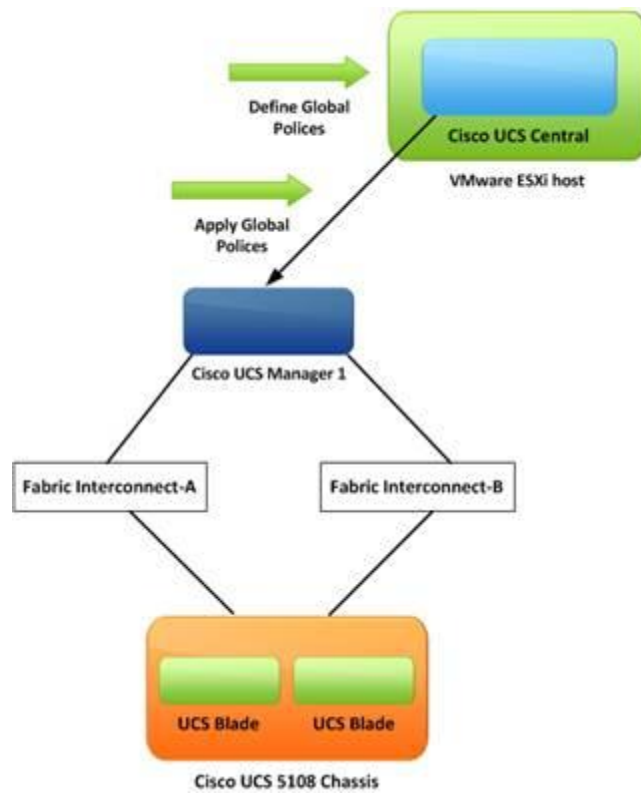
Name	Description	Version	Provided by	Licensing
Operating Systems / Remote S...	The End Point Operations Man...	1.0.3030318	VMware Inc.	Not applicable
VMware vSphere	Manages vSphere objects suc...	6.0.3038034	VMware Inc.	Not applicable
UCSMAdapter	UCSMAdapter	1.1.1		Not applicable

**UCSMAdapter Solution Details**

Adapter Type	Adapter Instance Name	Credential name	Collector	Collection State	Collection Status
UCSM Adapter	UCSM	USM_admin	vRealize Operations Man...	Collecting	Data receiving





## Download Software

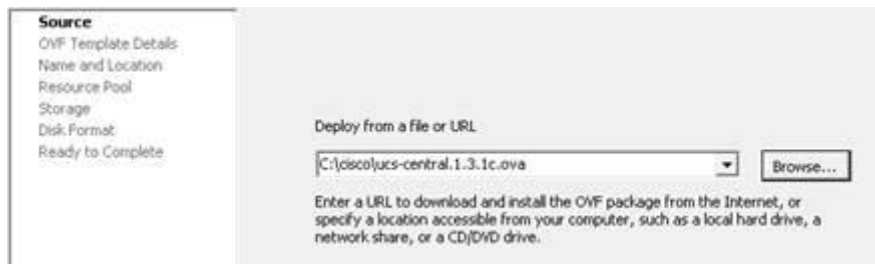
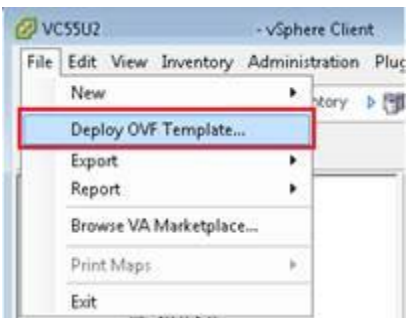
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### UCS Central Software

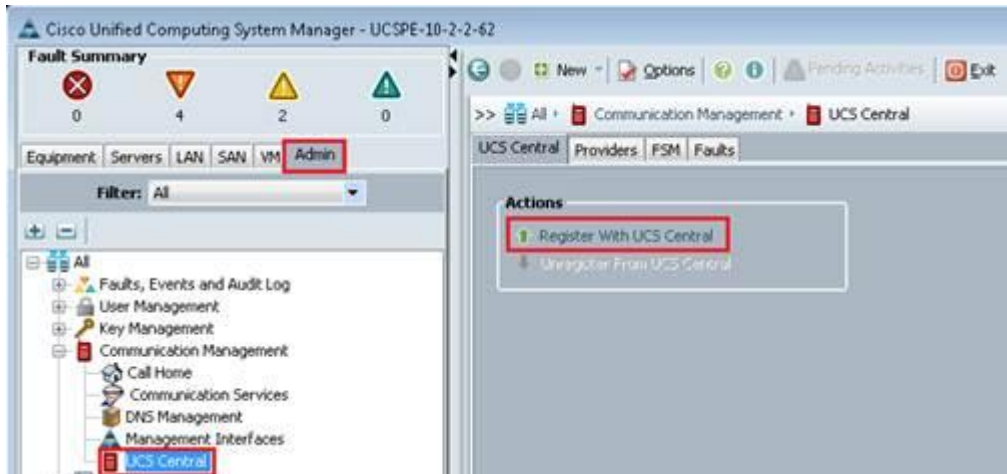
File Information	Release Date	Size	
<a href="#">Cisco UCS Central Provider Bundle</a> ucs-central-bundle.1.3.1c.bin	03-NOV-2015	502.64 MB	<a href="#">Download</a> <a href="#">Add to cart</a>
<a href="#">Cisco UCS Central Password Reset ISO</a> ucs-central-passreset.1.3.1c.iso	03-NOV-2015	140.63 MB	<a href="#">Download</a> <a href="#">Add to cart</a>
<a href="#">Cisco UCS Central ISO Installer</a> ucs-central.1.3.1c.iso	03-NOV-2015	1480.47 MB	<a href="#">Download</a> <a href="#">Add to cart</a>
<a href="#">Cisco UCS Central Virtual Appliance</a> ucs-central.1.3.1c.ovf	03-NOV-2015	1721.68 MB	<a href="#">Download</a> <a href="#">Add to cart</a>





```
Validating the installation medium's disk (/dev/mapper/VolGroup81-LogVol188) speed
Average disk read speed measured: 386
Disk speed validation - Succeeded
Setup new configuration or restore full-state configuration from backup[setup/restore] - setup_
```

```
File View VM
Starting monitoring for UG Vo1Group01: 1 logical volume(s) in volume group "Vo1Group01" monitored [ OK ]
Starting snmpd: [ OK ]
Starting sshd: [ OK ]
Starting xinetd: [ OK ]
Starting pmon: [ OK ]
Starting postgresql service: [ OK ]
Starting console mouse services: [ OK ]
Starting crond: [ OK ]
Shutting down pmon: [ OK ]
Validating the installation medium's disk (/dev/mapper/Vo1Group01-LogVo100) speed
Average disk read speed measured: 306
Disk speed validation - Succeeded
Setup new configuration or restore full-state configuration from backup[setup/restore] - setup
Enter the UCS Central VM eth0 IPv4 Address : 10.2.2.63
Enter the UCS Central VM eth0 IPv4 Netmask : 255.255.255.0
Enter the VM IPv4 Default Gateway : 10.2.2.254
Is this VM part of a cluster(select 'no' for standalone) (yes/no) ? no_
```



Register With UCS Central

## Register With UCS Central

Hostname/IP Address:

Shared Secret:

**Policy Resolution Control**

**Actions**

- 
- 

**Status**

Repair State:  Done

Registration Status:  **Registered**

Cleanup Mode:  Localize Global  Deep Remove Global

Suspend State:

Acknowledge State:

 **UCS Central**  
Version 1.3(1c)

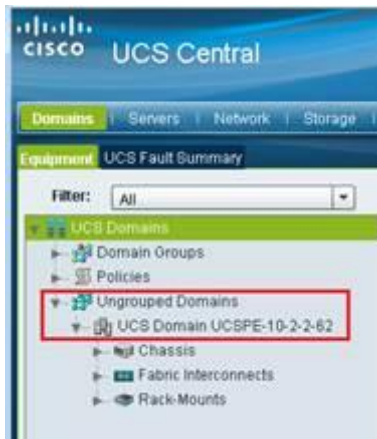
[Switch to Next Generation User Interface](#)

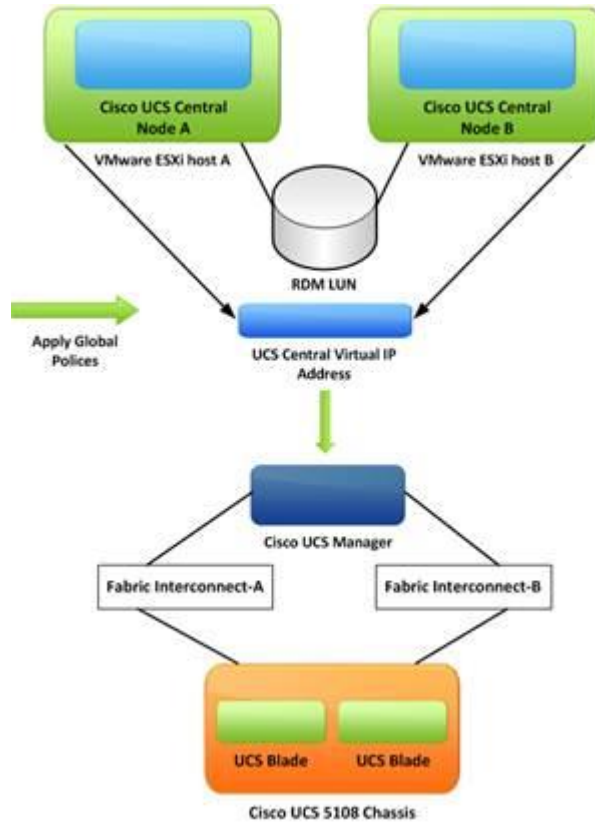
Username:

Password:

Domain:

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# Download Software

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## UCS Central Software

Search

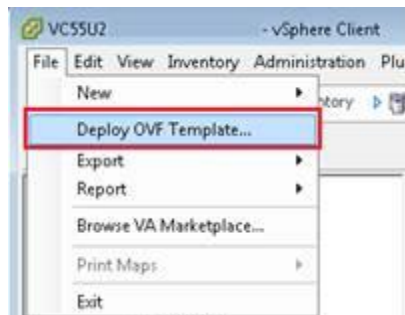
Expand All | Collapse All

Suggested

- 1.3(1c)
- Latest
- All Releases

**Release 1.3(1c)** Release Notes for 1.3(1c)

File Information	Release Date	Size	
Cisco UCS Central Provider Bundle ucs-central-bundle-1.3.1c.bin	03-NOV-2015	502.64 MB	<input type="button" value="Download"/> <input type="button" value="Add to cart"/>
Cisco UCS Central Password Reset ISO ucs-central-passreset-1.3.1c.iso	03-NOV-2015	140.63 MB	<input type="button" value="Download"/> <input type="button" value="Add to cart"/>
Cisco UCS Central ISO Installer ucs-central-1.3.1c.iso	03-NOV-2015	1460.47 MB	<input type="button" value="Download"/> <input type="button" value="Add to cart"/>
<b>Cisco UCS Central Virtual Appliance  ucs-central-1.3.1c.ova</b>	03-NOV-2015	1721.66 MB	<input type="button" value="Download"/> <input type="button" value="Add to cart"/>



**Source**

- OVF Template Details
- Name and Location
- Resource Pool
- Storage
- Disk Format
- Ready to Complete

Deploy from a file or URL

Enter a URL to download and install the OVF package from the Internet, or specify a location accessible from your computer, such as a local hard drive, a network share, or a CD/DVD drive.

A virtual disk is composed of one or more files on the host file system. Together these files appear as a single hard disk to the guest operating system.

Select the type of disk to use.

Disk

Create a new virtual disk

Use an existing virtual disk  
Reuse a previously configured virtual disk.

Raw Device Mappings  
Give your virtual machine direct access to SAN. This option allows you to use existing SAN commands to manage the storage and continue to access it using a datastore.

Policy

Path Selection: Fixed (VMware) Change

Storage Array Type: VMW\_SATP\_ALUA\_CX

Paths

Runtime Name	Target	LUN	Status	Preferred
vmhba1:C0:T0:L4	50:06:01:60:c7:20:25:eb 50:06:01:6d:47:20:25:eb	4	Active (I/O)	*
vmhba1:C0:T1:L4	50:06:01:60:c7:20:25:eb 50:06:01:64:47:20:25:eb	4	Disabled	
vmhba2:C0:T0:L4	50:06:01:60:c7:20:25:eb 50:06:01:6c:47:20:25:eb	4	Disabled	
vmhba2:C0:T1:L4	50:06:01:60:c7:20:25:eb 50:06:01:65:47:20:25:eb	4	Disabled	

```

Validating the installation medium's disk (/dev/mapper/VolGroupB1-LogVol00) speed
Average disk read speed measured: 386
Disk speed validation - Succeeded
Setup new configuration or restore full-state configuration from backup[setup/restore] - setup_

```

```

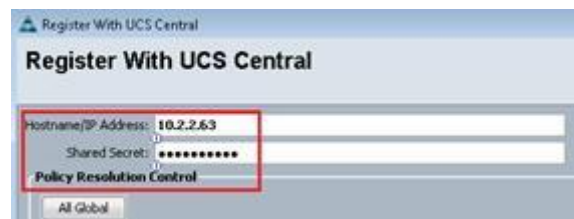
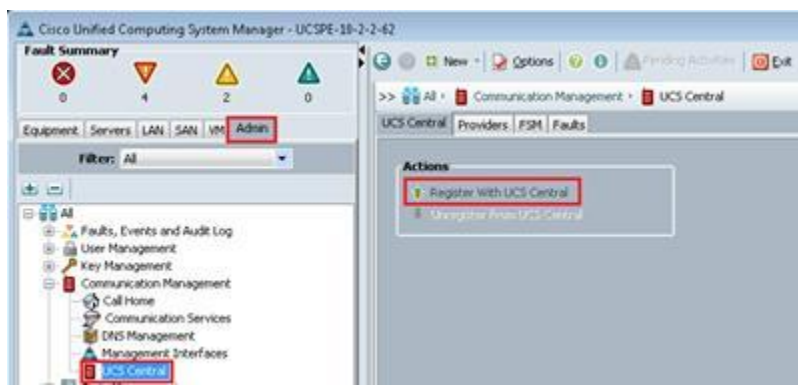
Use RDM or NFS for shared storage[rdm/nfs] - rdm

A Shared Storage Device needs to be configured for the Database & Image Repository

List of External Storage Devices detected
-----
SNo.      Device      Size      Vendor      Unique ID
-----
1         /dev/sdc    107.3 GB  DGC         8x68168512288a445e1b3e39ce511
-----
Enter the Shared Storage Device from the above list (enter serial no.) : 1_

```

```
Performance of system is not guaranteed. Do you want to continue installation.  
[yes/no] yes  
Continuing Installation...  
Enforce Strong Password (yes/no) ? yes  
Enter the admin Password :  
Confirm admin Password :  
Enter the Shared Secret :  
Confirm Shared Secret :  
Enter the Peer UCS Central Node IPv4 Address : _
```





**Actions**

- Register With UCS Central
- Unregister From UCS Central

**Status**

Repair State: **Done**

Registration Status: **Registered**

Cleanup Mode:  Localize Global  Deep Remove Global

Suspend State:

Acknowledge State:

CISCO UCS Central

Domains | Servers | Network | Storage

Equipment UCS Fault Summary

Filter: All

- UCS Domains
  - Domain Groups
  - Policies
  - Ungrouped Domains
    - UCS Domain UCSPE-10-2-2-62**
    - Chassis
    - Fabric Interconnects
    - Rack-Mounts

Domains | Servers | Network | Storage | Operations Management | Statistics | Logs and Faults | Administration | Import

Equipment UCS Fault Summary

Filter: All

- UCS Domains
  - Domain Groups
  - Policies
  - Ungrouped Domains
    - UCS Domain UCSPE-10-2-2-62**

UCS Domains > Ungrouped Domains > UCS Domain UCSPE-10-2-2-62

General | Faults | Events | Audits | Tech Support Files

- Launch UCS Manager
- Change Group Assignment**
- Re-evaluate Membership

**Fault Summary**

0	4	2	0

**Provisioning**

In Use: 0 (0%) of 18

Servers:

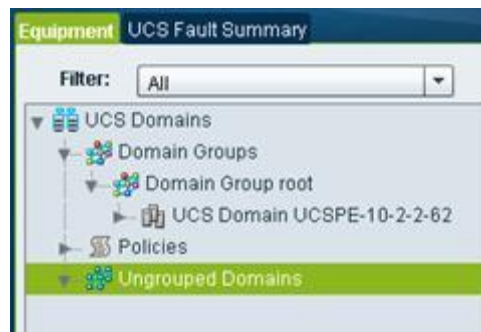
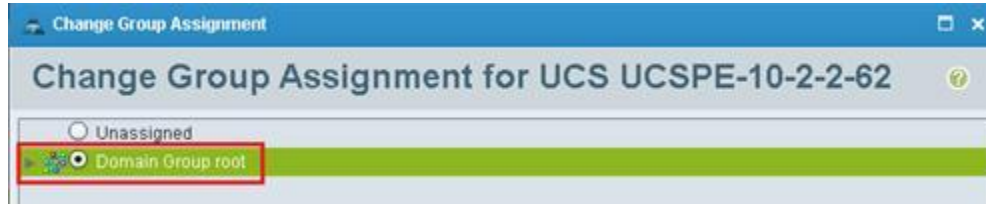
FW Version:

FW Status: ready

Domain Group:

Last Modified: 2015-12-06T21:00:46

Fabric Interconnects | Servers | Chassis | Fex | IO Modules

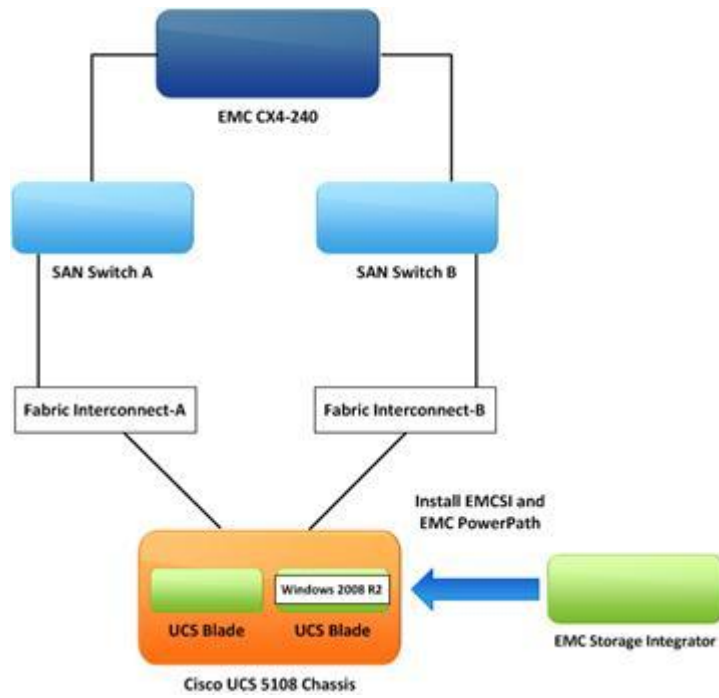


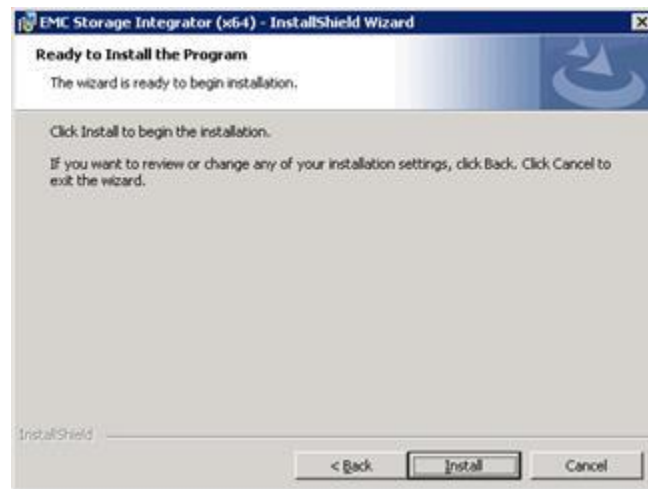
```
UCSCUM-A login: admin
Password:
Last login: Tue Dec  8 05:46:55 on tty1
Logged in from tty1
Cisco UCS Central
TAC support: http://www.cisco.com/tac
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license. Certain components of this software are licensed under
the GNU General Public License (GPL) version 2.0 or the GNU
Lesser General Public License (LGPL) Version 2.1. A copy of each
such license is available at
http://www.opensource.org/licenses/gpl-2.0.php and
http://www.opensource.org/licenses/lgpl-2.1.php

UCSCUM-A# show cluster state
Cluster Id: 0xd502ab989cfb11e5-0x9f0d49d5dcb87a33

A: UP, PRIMARY
B: UP, SUBORDINATE

HA READY
UCSCUM-A#
```







Add System

System Type: CLARiiON-CX4

Friendly Name:

Provide detailed connection information (Fields with \* are required):

Username(*)	
Password(*)	
SPA's IP address(*)	
SPB's IP address(*)	
Port number	443


Test Connection Add Cancel

EMC Storage Integrator (x64)

File Action View Help

EMC Storage Integrator

- Storage Systems
  - CX4-240 - APM0012050365
- Hosts
- Host Clusters
- Hypervisors
- Applications
- Replication



**Friendly Name:** CX4-240  
**Array Name:** BoardWare-CX4-240  
**Serial Number:** APM0012050365  
**System Type:** CLARiON-CX4  
**Model:** CX4-240  
**Software Revision:** 04.30.000.5.526

Storage Pools	LUNs	Registered Hosts	Storage Groups	Service Nodes	
Name	User Capacity	Available Capacity	Subscribed Capac...	RAID Type	Prov
RaidGroup 0	1.330 TB	783.425 GB	579.000 GB	RAID5	Thic
RaidGroup 1	536.775 GB	0	536.775 GB	Hot Spare	Thic
RaidGroup 2	1.310 TB	531.855 GB	810.000 GB	RAID5	Thic
RaidGroup 3	183.388 GB	83.388 GB	100.000 GB	RAID5	Thic
MetaLuns	0	0	0	N/A	N/A

EMC Storage Integrator (x64)

File Action View Help

EMC Storage Integrator

- Storage Systems
- Hosts
- Host Clusters
- Hypervisors
- Applications
- Replication

## EMC STORAGE INTEGRATOR for Microsoft Windows

**Add Host**

Enter the host name or IP Address of the host you want to add and your user login credentials for that host.

Storage Syst

**Add Storage**

IP address/Name:

User login credentials:

Username:

Password:

Use current Windows credentials

Test Connection Add Cancel

**Actions**

- EMC Storage Integrator
- Add Storage System
- Add Host
- Add Host Cluster
- Add Hypervisor
- Add Application
- Add Replication
- Refresh
- Options
- Publish Connection
- View
- Help

CX4-240 - APM0012050365

- Connect...
- Remove System
- Help

EMC Storage Integrator (64)

File Action View Help

EMC Storage Integrator

- Storage Systems
  - CV4-240 - AP00012050365
    - Hosts
      - EMCSI - 10.2.2.151
      - Host Clusters
      - Hypervisors
      - Applications
      - Replication

Host: EMCSI  
 IP Address: 10.2.2.151  
 Username: EMC3Administrator  
 OS Information: Microsoft Windows Server 2008 R2 Standard Service Pack 1 64-bit

EMC<sup>2</sup>

Host	Partition	Capacity	Mount P...	Disk Flags	Status	Disk Type	Source	Storage C...	LUN Name	ID on Sto...	LUN Ident...
Physical	MBR	90,000 GB	C:\	BootDisk...	Online	Physical	N/A	BoardWa...	WB000_0...	23	NAA.60000...
Volumes											
Mount Path		Host Volume Identif...	Size	Allocation Unit Size	File System Type	Label					
C:\		\\GLOBALROOTD...	89,900 GB	4,000 KB	NTFS	System Reserved					
Physical	MBR	100,000 GB	D:\	None	Online	Physical	N/A	BoardWa...	EMC_EIG...	27	NAA.60000...
Volumes											
Mount Path		Host Volume Identif...	Size	Allocation Unit Size	File System Type	Label					
D:\		\\GLOBALROOTD...	99,997 GB	4,000 KB	NTFS	DATA					

EMC Storage Integrator

- Storage Systems
  - CV4-240 - AP00012050365
    - Hosts
      - EMCSI - 10.2.2.151
      - Host Clusters
      - Hypervisors
      - Applications
      - Replication

Create Disk  
 Connect Disk  
 Create Shared Folder  
 Mount Shared Folder  
 Refresh  
 Test Connection  
 Remove System  
 View  
 Help

Storage System	Name	User Capacity	Available Capac...	Raid Type	Provision Type
Storage Pool	RaidGroup 0	1.330 TB	783.425 GB	RAID5	Thick
New LUN	RaidGroup 2	1.310 TB	531.855 GB	RAID5	Thick
LUN Masking Settings	RaidGroup 3	183.388 GB	83.388 GB	RAID5	Thick
Disk Preparation Settings					
Review Input Parameters					
Progress					
Summary					

Storage System  
Storage Pool  
**New LUN**

LUN Masking Settings  
Disk Preparation Settings  
Review Input Parameters  
Progress  
Summary

LUN Count: 1  Maximum: 9

Sequence Number: 1

Name: EMC\_TEST\_LUN

Description:

Size: 80  GB

Available Capacity: 783.425 GB

Service Node: Auto

Provision Type:  Thick  Thin

Stop provisioning new LUNs when error occurs

Storage System  
Storage Pool  
New LUN  
**LUN Masking Settings**

**Disk Preparation Settings**

Review Input Parameters  
Progress  
Summary

Partition Type: MBR

Volume Size: 81920 (MaxFree)  MB

File System: Nfs

Allocation Unit Size: 65536  Bytes

Volume Label:

Choose a drive letter or a mount path.

Drive Letter: G

Mount Path:

Storage System  
Storage Pool  
New LUN  
LUN Masking Settings  
Disk Preparation Settings  
Review Input Parameters  
**Progress**

Summary

Task Count: 6 Status: Completed [More Information](#)

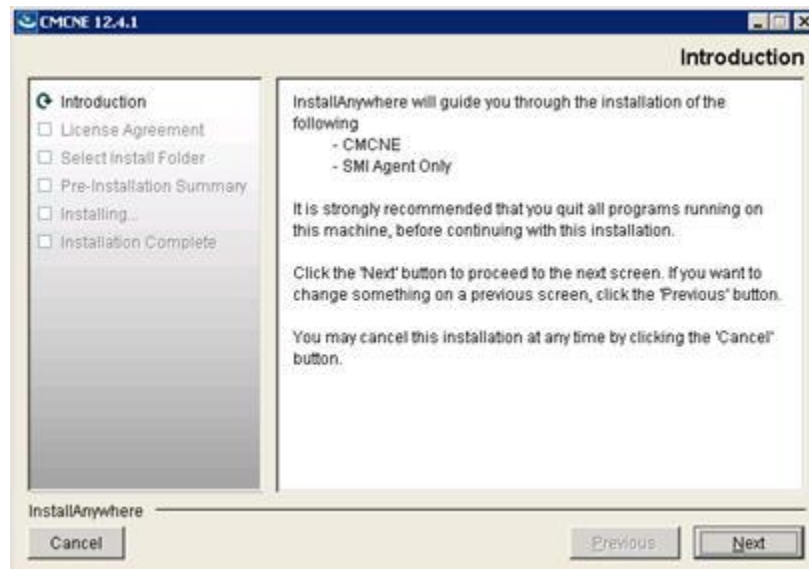
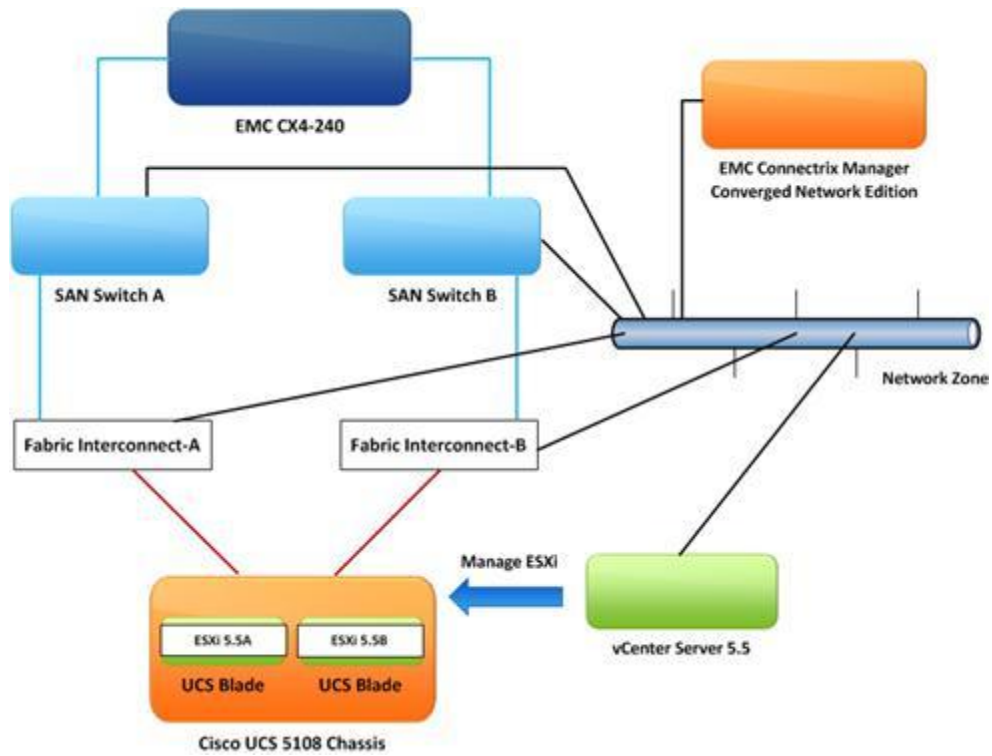
Task	Progress	Elapsed Time
- ✓ Create host disk	Completed	00:00:33.6884592
✓ Create LUN	Completed	00:00:07.1292126
✓ Unblock LUN: EMC_TEST_LUN	Completed	00:00:05.9592104
✓ Rescan disk	Completed	00:00:07.1916126
✓ Initialize disk	Completed	00:00:01.7004030
✓ Provision volume	Completed	00:00:07.3320129
✓ Mount volume	Completed	00:00:04.3056076





**Host:** EMCSI  
**IP Address:** 10.2.2.151  
**Username:** EMCSI\Administrator  
**OS Information:** Microsoft Windows Server 2008 R2 Standard Service Pack 1 64

Host Disks		Network Disks		SAN Initiators					
Disk	Partition ...	Capacity	Mount P...	Disk Flags	Status	Disk Type	Source	Storage ...	L
▶ <input type="checkbox"/> Physic...	MBR	90.000 GB	C:\	BootDisk...	Online	Physical	N/A	BoardWa... \	
Volumes									
🔍	Mount Path		Host Volume Identi...		Size		Allocation Unit Size		File System
▶			\\?\GLOBALROOT\...		100.000 MB		4.000 KB		NTFS
	C:\		\\?\GLOBALROOT\...		89.900 GB		4.000 KB		NTFS
<input type="checkbox"/> Physic...	MBR	100.000 GB	D:\	None	Online	Physical	N/A	BoardWa... E	
Volumes									
🔍	Mount Path		Host Volume Identi...		Size		Allocation Unit Size		File System
▶	D:\		\\?\GLOBALROOT\...		99.997 GB		4.000 KB		NTFS
<input type="checkbox"/> Physic...	MBR	80.000 GB	G:\	None	Online	Physical	N/A	BoardWa... E	
Volumes									
🔍	Mount Path		Host Volume Identi...		Size		Allocation Unit Size		File System
▶	G:\		\\?\GLOBALROOT\...		79.999 GB		64.000 KB		NTFS



CMCNE Configuration

### Copy Data and Settings from previous releases

You can copy data and settings to Connectrix Manager Converged Network Edition 12.4.1 from version 12.2.0 or later.

Do you want to copy data and settings (migrate)?

Yes, from the following location

No, don't copy any data and settings

 You will not be able to migrate any data to Connectrix Manager Converged Network Edition 12.4.1 after configuration.

CMCNE Configuration

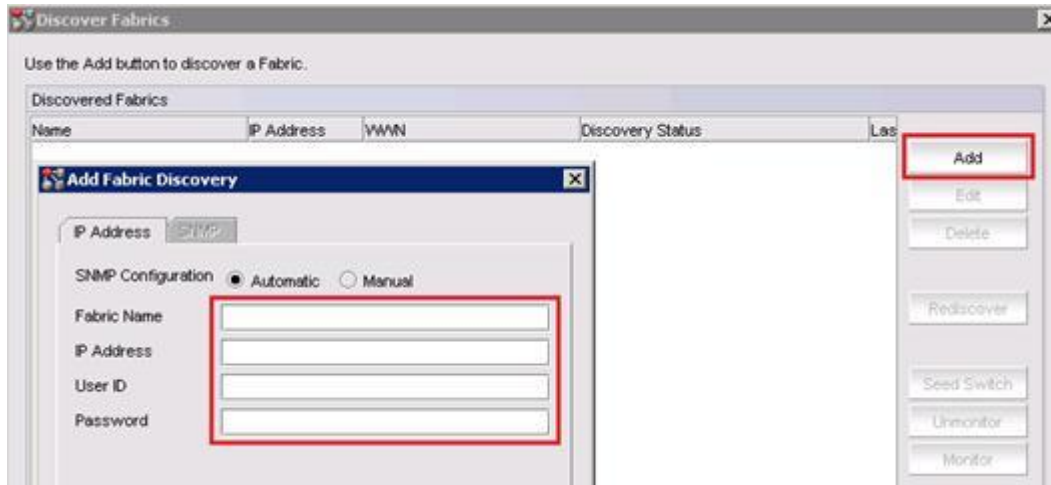
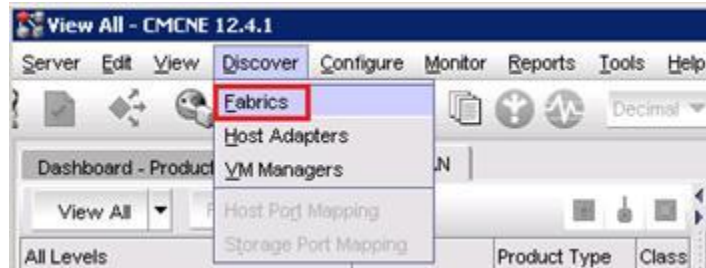
### Database Administrator Password (dcmadmin)

Choose the database password option.

Default password

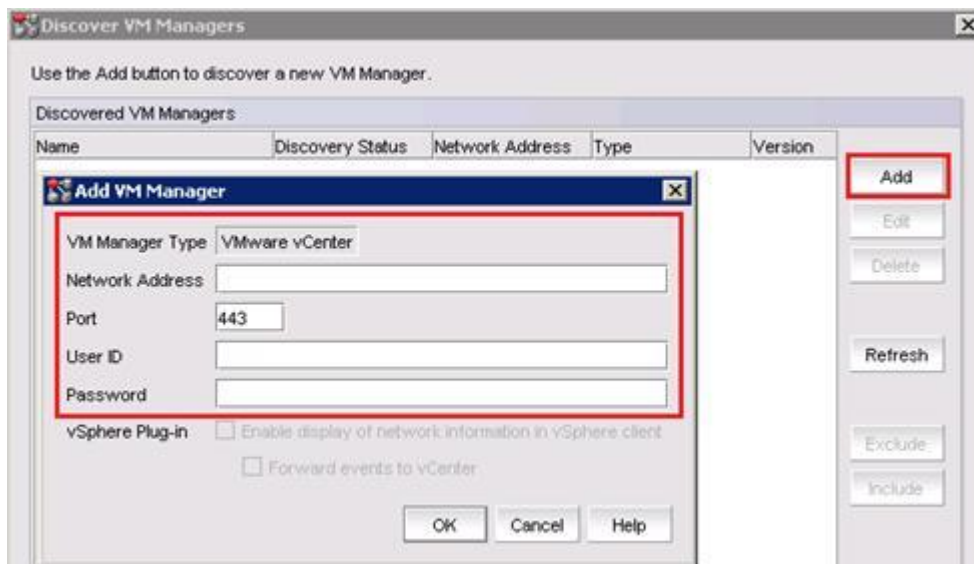
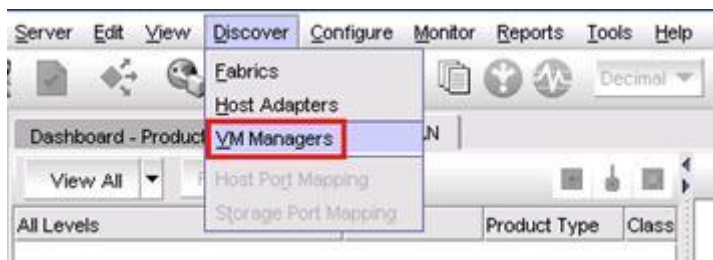
New password

 Database password can be changed later using Server Management Console.



Use the Add button to discover a Fabric.

Discovered Fabrics			
Name	IP Address	WWN	Discovery Status
[-] DS_300B_A			
✓ DS300B01	10.2.1.13	10:00:00:27:F8:BD:C7:85	Discovered: Seed Switch
[-] DS_300B_B			
✓ DS300b02	10.2.1.14	10:00:00:27:F8:BD:9A:51	Discovered: Seed Switch

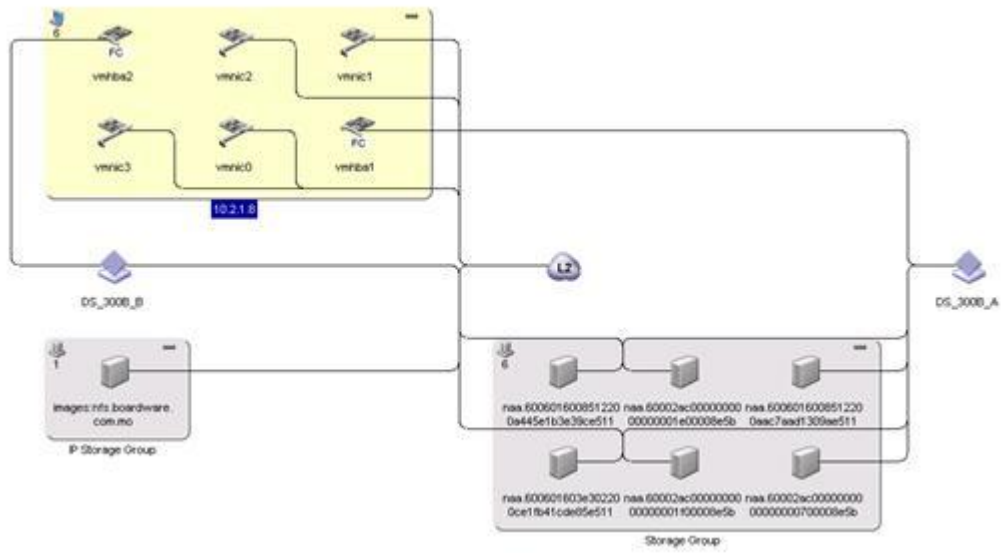


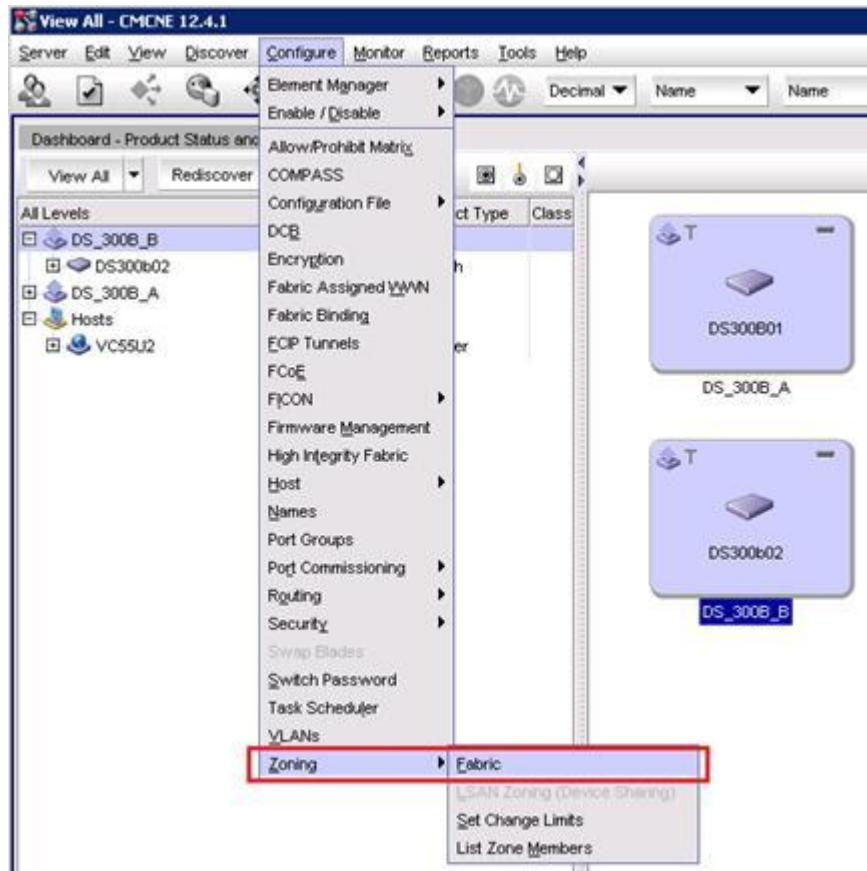
Use the Add button to discover a new VM Manager.

Discovered VM Managers					
Name	Discovery Status	Network Address	Type	Version	
VC55U2	Active	VC55U2	vCenter	5.5.0	
10.2.1.8	Active	10.2.1.8			
10.2.1.7	Active	10.2.1.7			
10.2.1.6	Active	10.2.1.6			

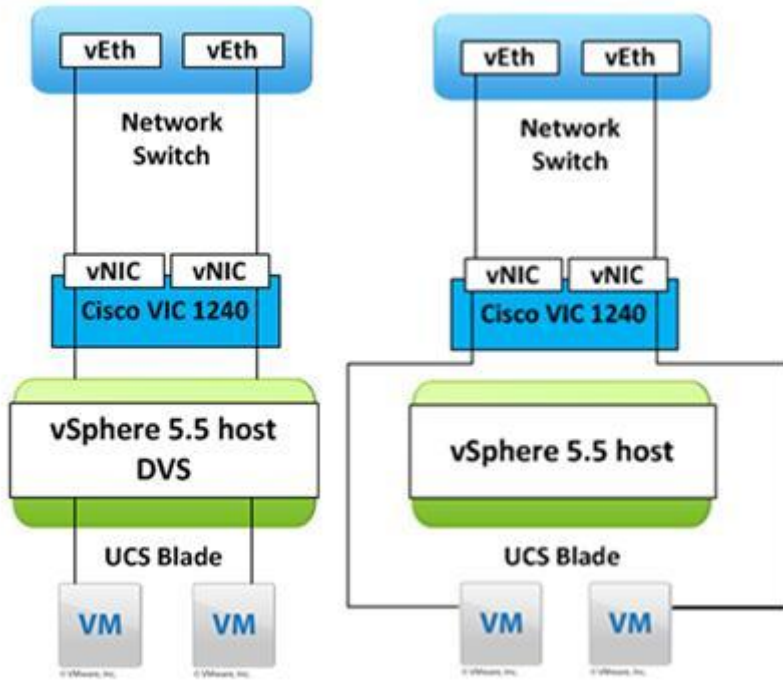
The screenshot shows the VMware vCenter console interface. The title bar reads "View All - CMCNE 12.4.1". The menu bar includes "Server", "Edit", "View", "Discover", "Configure", "Monitor", "Reports", "Tools", and "Help". The toolbar contains various icons for navigation and management. The main content area is titled "Dashboard - Product Status and Traffic" and has a "SAN" tab selected. Below the title bar, there are buttons for "View All" and "Rediscover". The main table displays the following data:

All Levels	Name	Product Type	Class
DS_300B_B	DS_300B_B		
DS_300B_A	DS_300B_A		
Hosts			
VC55U2	VC55U2	vCenter	
BW Office DC	BW Office DC	Data Center	
BW Office DC2	BW Office DC2	Data Center	
10.2.1.8	10.2.1.8	Host	









Create Dynamic vNIC Connection Policy

**Create Dynamic vNIC Connection Policy**

Name:

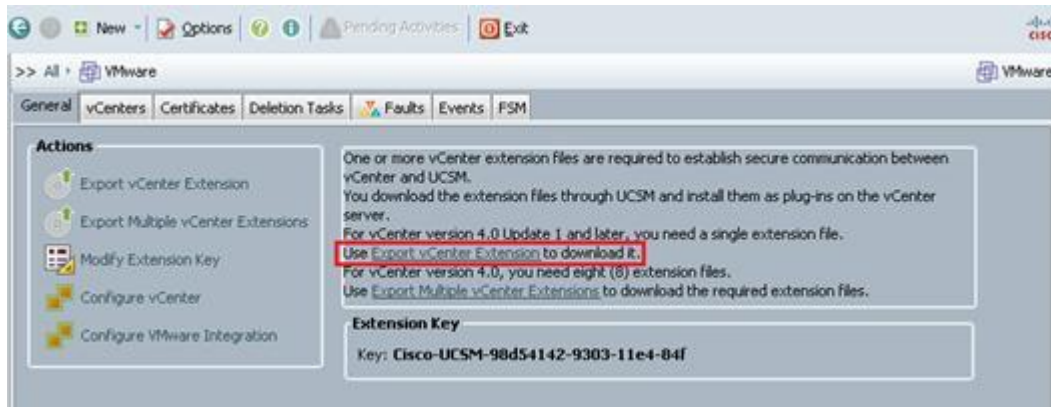
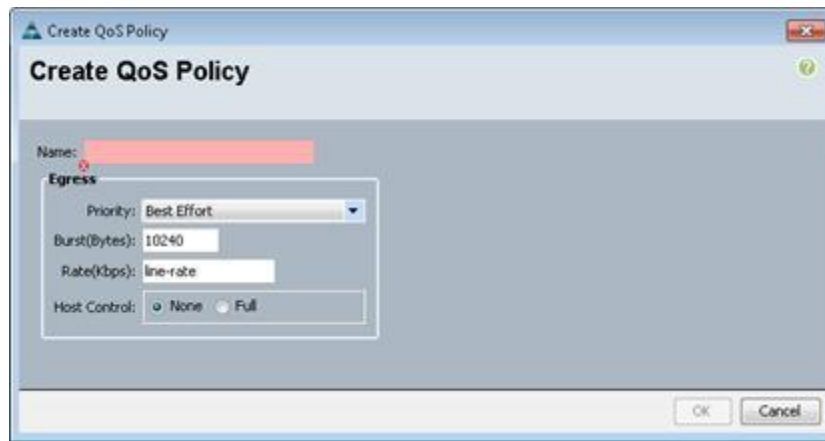
Description:

Number of Dynamic vNICs: 54

Adapter Policy: <not set>

Protection:  Protected Pref A  Protected Pref B  Protected

OK Cancel



### Define VMware Distributed Virtual Switch(DVS)

**vCenter Server**

vCenter Server Name:   
 Description:   
 vCenter Server Hostname or IP Address:

**Datacenter**

vCenter Datacenter Name:   
 Description:

**DVS Folder**

Folder Name:   
 Description:

**DVS**

DVS Name:   
 Description:   
 DVS:  Disable  Enable

### Port Profile

Name:

QoS Policy:

Network Control Policy:

Max Ports:

Pin Group:

**VLANs**

Select	Name	Native VLAN
<input type="checkbox"/>	VLAN_102	<input type="radio"/>
<input type="checkbox"/>	VLAN_103	<input type="radio"/>
<input type="checkbox"/>	VLAN_104	<input type="radio"/>
<input type="checkbox"/>	VLAN_105	<input type="radio"/>
<input checked="" type="checkbox"/>	VLAN_201	<input type="radio"/>
<input checked="" type="checkbox"/>	VLAN_202	<input checked="" type="radio"/>
<input type="checkbox"/>	VLAN_203	<input type="radio"/>
<input type="checkbox"/>	VLAN_204	<input type="radio"/>
<input type="checkbox"/>	VLAN_205	<input type="radio"/>
<input type="checkbox"/>	VLAN_206	<input type="radio"/>

**Profile Client**

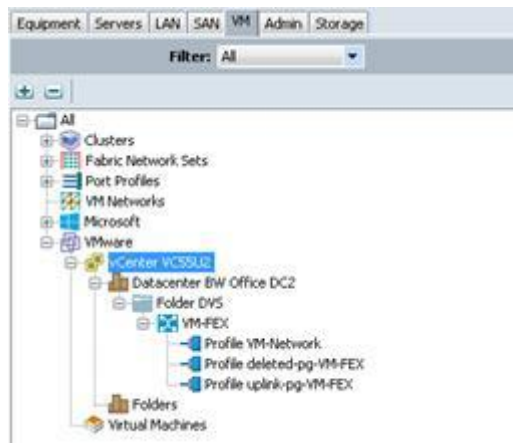
Name:

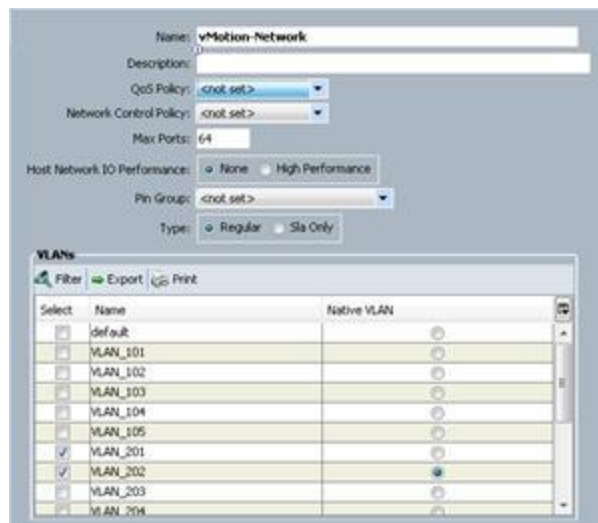
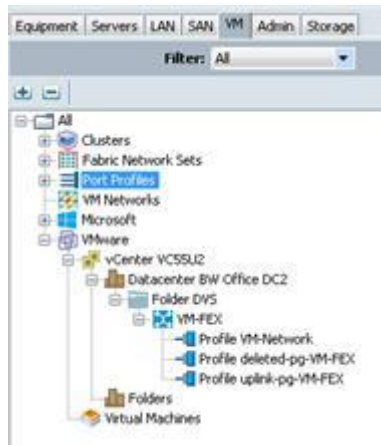
Description:

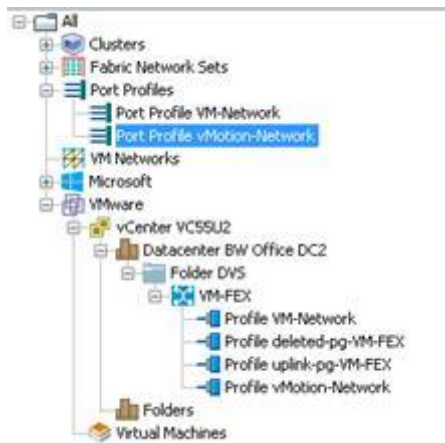
Datacenter:

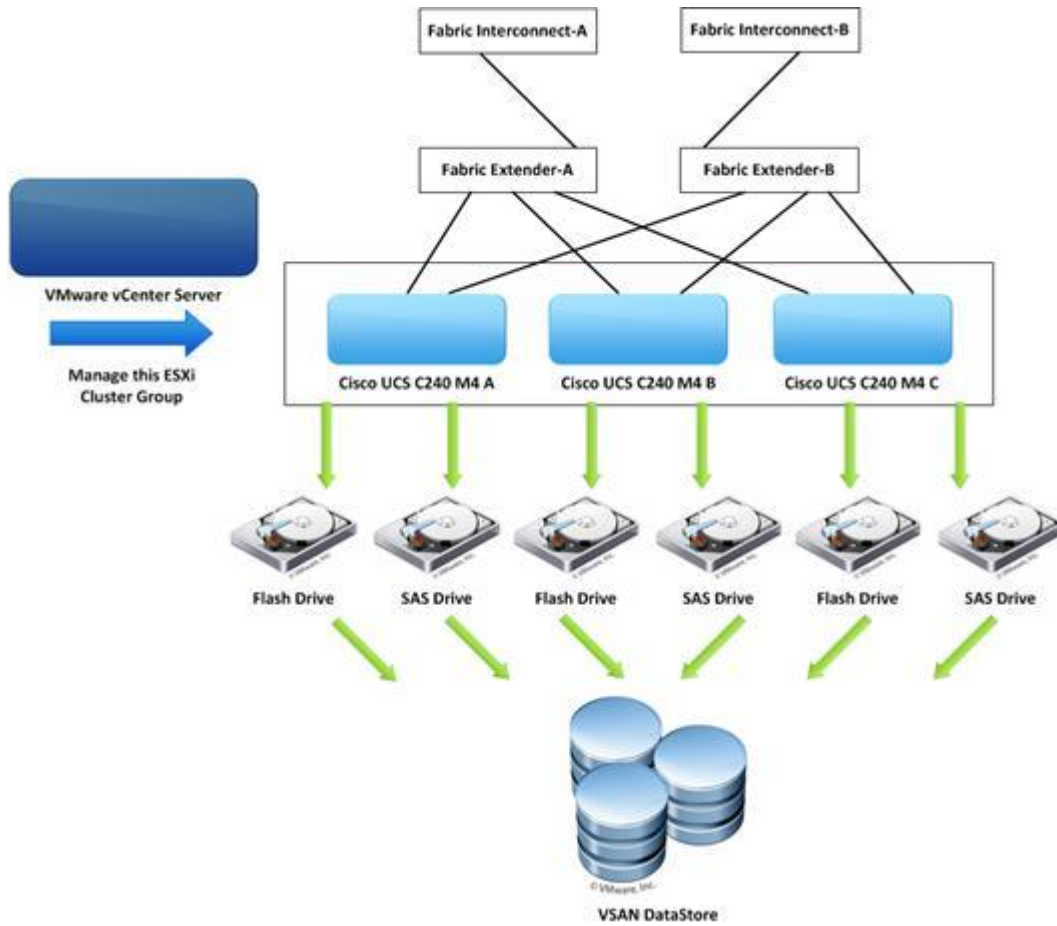
Folder:

Distributed Virtual Switch:









**Properties**

Name: **localdisk\_raid1**

Description:

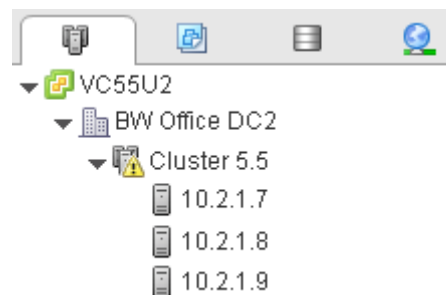
Owner: **Local**

Mode: **RAID 1 Mirrored**

Protect Configuration:

Main	Advanced	Boot Options	Server Management	Events				
Processor	Intel Directed IO	RAS Memory	Serial Port	USB	PCI	QPI	LOM and PCIe Slots	Trusted Platform
Turbo Boost:	<input type="radio"/> disabled	<input checked="" type="radio"/> enabled	<input type="radio"/> Platform Default					
Enhanced Intel Speedstep:	<input type="radio"/> disabled	<input checked="" type="radio"/> enabled	<input type="radio"/> Platform Default					
Hyper Threading:	<input type="radio"/> disabled	<input type="radio"/> enabled	<input type="radio"/> Platform Default					
Core Multi Processing:	Platform Default							
Execute Disabled Bit:	<input type="radio"/> disabled	<input type="radio"/> enabled	<input type="radio"/> Platform Default					
Virtualization Technology (VT):	<input type="radio"/> disabled	<input checked="" type="radio"/> enabled	<input type="radio"/> Platform Default					
Hardware Pre-fetcher:	<input type="radio"/> disabled	<input type="radio"/> enabled	<input type="radio"/> Platform Default					
Adjacent Cache Line Pre-fetcher:	<input type="radio"/> disabled	<input type="radio"/> enabled	<input checked="" type="radio"/> Platform Default					
DCU Streamer Pre-fetch:	<input type="radio"/> disabled	<input type="radio"/> enabled	<input type="radio"/> Platform Default					
DCU IP Pre-fetcher:	<input type="radio"/> disabled	<input type="radio"/> enabled	<input type="radio"/> Platform Default					
Direct Cache Access:	<input type="radio"/> disabled	<input type="radio"/> enabled	<input type="radio"/> Platform Default					
Processor C State:	<input type="radio"/> disabled	<input type="radio"/> enabled	<input checked="" type="radio"/> Platform Default					
Processor C1E:	<input type="radio"/> disabled	<input type="radio"/> enabled	<input type="radio"/> Platform Default					
Processor C3 Report:	Platform Default							
Processor C6 Report:	<input checked="" type="radio"/> disabled	<input type="radio"/> enabled	<input type="radio"/> Platform Default					
Processor C7 Report:	<input type="radio"/> disabled	<input type="radio"/> enabled	<input type="radio"/> Platform Default					
CPU Performance:	enterprise							
Max Variable MTRR Setting:	<input type="radio"/> auto-max	<input type="radio"/> 8	<input type="radio"/> Platform Default					
Local X2 APIC:	<input type="radio"/> xapic	<input type="radio"/> x2apic	<input type="radio"/> auto	<input type="radio"/> Platform Default				
Power Technology:	Platform Default							
Energy Performance:	Platform Default							





<b>1 Select connection type</b>	<b>Select connection type</b>
<b>2 Select target device</b>	Select a connection type to create.
3 Connection settings	
3a Port properties	<input checked="" type="radio"/> <b>VMkernel Network Adapter</b> The VMkernel TCP/IP stack handles traffic for ESXi services such as vSphere vMotion, iSCSI, NFS, FC, Fault Tolerance, Virtual SAN and host management.
3b IPv4 settings	<input type="radio"/> <b>Physical Network Adapter</b> A physical network adapter handles the network traffic to other hosts on the network.
4 Ready to complete	<input type="radio"/> <b>Virtual Machine Port Group for a Standard Switch</b> A port group handles the virtual machine traffic on standard switch.

Cluster 5.5 Actions

Getting Started Summary Monitor **Manage** Related Objects

Settings Alarm Definitions Tags Permissions Scheduled Tasks

«

- Services
  - vSphere DRS
  - vSphere HA
  - Virtual SAN
    - General**
    - Disk Management
    - Configuration
      - General
      - Virtual SAN Licensing

Virtual SAN is Turned OFF Edit...

Add disks to storage: Manual

Resources

Hosts	0 hosts
SSD disks in use	0 of 0 eligible
Data disks in use	0 of 0 eligible
Total capacity of VSAN datastore	0.00 B
Free capacity of VSAN datastore	0.00 B
Network status	No hosts in the cluster

Cluster 5.5 - Edit Virtual SAN Settings ?

Turn ON Virtual SAN

Add disks to storage: Manual

Requires manual claiming of any new disks on the included hosts to the shared storage.

OK Cancel

Getting Started Summary Monitor **Manage** Related Objects

Settings Alarm Definitions Tags Permissions Scheduled Tasks

- Services
  - vSphere DRS
  - vSphere HA
- Virtual SAN
  - General
  - Disk Management**
  - Configuration

**Disk Groups**

10.2.1.7  
**10.2.1.8**  
 10.2.1.9

Getting Started Summary Monitor Manage **Related Objects**

Virtual Machines VM Templates **Datastores** Networks Distributed Switches

Actions

Name	Status	Type	Capacity
vsanDatastore	Normal	vsan	10.75 TB

## Environment Requirements

Virtualization Platform

Server Virtualization

Select #VMs and Usable Capacity Required

+Add Additional VM Profile

#VMs	100
#VMs/Host	20
Per-VM profiling:	
#VMDKs	2
VMDK Size (GB)	60
vCPU	2
vMem (GB)	6.0
FTT	1
#Snapshots	0
%Read	70%

**Important Note:** If you are sizing for a stretched cluster solution, use half the amount of VMs and usable capacity that this cluster can typically handle - this will insure that in a case of a site failure

## Chapter 6: Cisco UCS Site Planning



### Cisco UCS 6248UP 48-Port Fabric Interconnect



#### Estimates

Maximum Input Power	376.65 W
Input Power	326.20 W
Site Input Power	273.39 W
System Workload	50 %
Input Current	1.62 A
Air Flow	36.55 cfm
Cooling	1113.12 BTU/hr
Weight	33.86 lbs

**Add to Project**

### Configure Fabric Interconnect

Redundancy Mode: N+1 | Input Voltage: 220 VAC | **Reset** | **Cancel** | **Save Template**

Item	Quantity	Configuration
Power Supply	2	750W PSU
Expansion Modules	0	Select a type of Expansion module
Ports Configured	12	

### Fabric

Cisco UCS 6248UP 48-Port Fabric Interconnect

2 / X

Available Chassis

 <p><b>5108 Blade Chassis (AC) V2</b></p> <p>No of Power Supply: 4          I/O Module: 2          Blade Slots: 8</p> <p>Configure and Add</p>	 <p><b>5108 Blade Chassis (DC) V2</b></p> <p>No of Power Supply: 4          I/O Module: 2          Blade Slots: 8</p> <p>Configure and Add</p>	 <p><b>5108 Blade Chassis (PVDC) V2</b></p> <p>No of Power Supply: 4          I/O Module: 2          Blade Slots: 8</p> <p>Configure and Add</p>
---	---	---

Cisco UCS 5108 Blade Chassis (AC) V2



**Estimates**

Maximum Input Power	117.00 W
Input Power	102.75 W
Max Input Power	102.75 W
System Efficiency	0.7%
Input Current	0.7 A
AC Flow	21.55 W/hr
Cooling	625.72 BTU/hr
Weight	17.0 lbs

Add to Project

Configure Chassis

Redundancy Mode: N+1 Input Voltage: 230 VAC [v] [Reset] [Cancel]

Power Supply: 2500W PSU (2) [v]

Number of Power Supplies: 4 [v]

I/O Module: 1208 [v]

B-Series Servers

Cisco UCS 5108 Blade Chassis (AC) V2

1



+ Add blade to chassis

Configuration

Power Supply	4
• 2500W PSU DV	
IO Module	2
• 2206	



Estimates

Maximum Input Power	477.1 W
Input Power	296.4 W
Max Input Power	113.7 W
System Workload	50 %
Input Current	1.34 A
Air Flow	34.9 cfm
Cooling	100/36 BTU/hr
Weight	15.8 lb

Add to Chassis

Configure Server

Reset Cancel Save Template

Item	Quantity	Configuration
Processor	2	Intel E5-2680 v3 2.5 GHz/120W 12C/30MB Cache-DDR4 2133MHz
Memory	24	16GB DDR4-2133-MHz RDIMM/PC4-17000/2Row/1.2V
Storage	2	600GB 6Gb SAS 10K RPM SFF HDD
Adapter	1	VIC - Cisco 1380 mLOM

Cisco UCS B200 M4

4



## Project Power Summary

<b>Power</b>	<b>2109.39 W</b>	<b>Current</b>	<b>10.02 A</b>
Imperial or Metric:	<input type="text" value="Imperial"/>		
Power Cost per kWhr (\$):	<input type="text" value="0.105"/>		
<a href="#">View Detail Result</a>			

### Results

	System Workload Factor (W)	Max Power (W)	Max Current Draw (A)	kWh Power (W)	Cooling System Workload (BTU/hr)
Fabric	952.8	753	3.69	146.8	2226.6
B-Series Servers	1496.8	2270.6	10.44	677.3	4970.9
C-Series Servers	0	0	0	0	0
Inside Systems	0	0	0	0	0
M-Series Servers	0	0	0	0	0
<b>Total</b>	<b>2109.4</b>	<b>3023.6</b>	<b>14.14</b>	<b>1224.1</b>	<b>7197.5</b>
Annual Cost	\$1,940.22	\$2,790.98		\$1,126.83	

Projects	Edit	Export ▾
		As .csv
		As .prj
		print





## UCS HW and SW Interoperability

Interoperability Matrix

Related Documentation

This form provides interoperability information for Cisco Unified Computing System (UCS) components and configurations that have been tested and validated by Cisco, by Cisco partners, or both. Use this form as a reference for supported hardware and software.

B-Series and UCSM-Managed C-Series Servers	▼	Server series
2.2(6)	▼	UCS release
B200-M4	▼	Server model
VMware	▼	OS vendor
vSphere 5.5 U3	▼	OS
CNA Adapter	▼	Component
UCS 1340 Virtual Interface Card and Port Expander Cs	▼	Adapter

```
Manufacturer =
Adapter Driver = 1.6.0.17a (FNIC) / 2.1.2.71 (ENIC)
Adapter Firmware = 4.0(8)
Boot Code / BIOS =

Note 11: A Cisco OEM Customized ESX ISO maybe required for installation.
Custom ISOs contain the minimum driver level for installation, please check
the Cisco HCL for the supported driver versions. Custom ISOs are available
from VMware.com > Downloads > VMware vSphere > Drivers and Tools > Custom ISOs

Note 12: iSCSI Boot is supported. Both Appliance and Uplink ports are
supported unless otherwise noted
```

For UCS storage and switch interoperability information, see Related Documentation.


Cisco Unified Computing System  
**Technical References**

- [HOME](#)
- [SUPPORT](#)
- [PRODUCT SUPPORT](#)
- [SERVERS - UNIFIED COMPUTING](#)
- [CISCO UNIFIED COMPUTING SYSTEM](#)
- [REFERENCE GUIDES](#)
- [Technical References](#)

Some links below may open a new browser window to display the document you selected.

View Documents by topics:

- UCSM Managed UCS Server Compatibility**
- [Hardware and Software Interoperability Matrix Utility Tool](#)
  - [Hardware and Software Interoperability for UCSM Managed Servers in Release 3.0\(2\)](#) (PDF - 751 KB)
  - [Hardware and Software Interoperability for UCSM Managed Servers in Release 3.0\(1\)](#) (PDF - 1 MB)
  - [Hardware and Software Interoperability for UCS M-Series Modular Servers in Release 2.5\(2\)](#) (PDF - 355 KB)
  - [Hardware and Software Interoperability for UCS M-Series Modular Servers in Release 2.5\(1\)](#) (PDF - 353 KB)
  - [Hardware and Software Interoperability for UCSM Managed Servers in Release 2.2\(6\)](#) (PDF - 1 MB) New
  - [Hardware and Software Interoperability for UCSM Managed Servers in Release 2.2\(5\)](#) (PDF - 1 MB)
  - [Hardware and Software Interoperability for UCSM Managed Servers in Release 2.2\(4\)](#) (PDF - 1 MB)
  - [Hardware and Software Interoperability for UCSM Managed Servers in Release 2.2\(3\)](#) (PDF - 1 MB)
  - [Hardware and Software Interoperability for UCSM Managed Servers in Release 2.2\(2\)](#) (PDF - 790 KB)
  - [Hardware and Software Interoperability for UCSM Managed Servers in Release 2.2\(1\)](#) (PDF - 560 KB)
  - [Hardware and Software Interoperability for UCSM Managed Servers in Release 2.1\(3\)](#) (PDF - 606 KB)
  - [Hardware and Software Interoperability for UCSM Managed Servers in Release 2.1\(2\)](#) (PDF - 714 KB)
  - [Hardware and Software Interoperability for UCSM Managed Servers in Release 2.1\(1\)](#) (PDF - 695 KB)


[HOME](#)
[QUERIES](#)
[PRODUCT DETAILS](#)

ADVANCED QUERIES  
[GUIDED QUERIES](#)

E-LAB INTEROPERABILITY NAVIGATOR

**Your cart:**

Component Type	Component(s)
Storage Array	Unified Storage VNX5200/5400/5600/5800/7600/8000(Block) X
Host System	UCS B200 M4 X
Operating System	Windows Server 2012 R2 X
Switch	300 X
Cluster Software	None Selected
Host Bus Adapter	VIC1340 X
Storage Operating Environment	None Selected
Multipathing Software	None Selected

More Types:

**Configuration Types**

Standard View (Default)
  Component Intersection View
  Storage Array Differences View

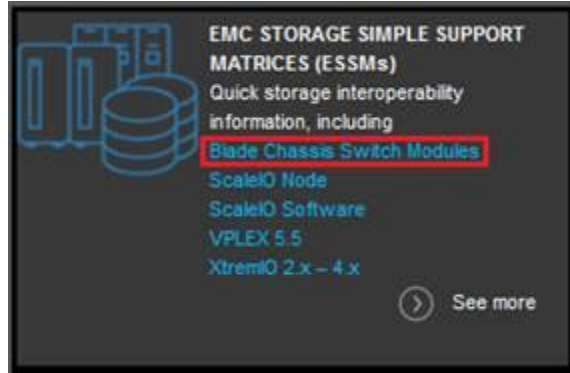
Note: Yellow highlights show in which tables your component types exist. You MUST complete steps 3 and 4 (above) to get results.

Select	Configuration Table Name	Category	Storage Array	Host System	Operating System	Host Bus Adapter	Switch
<input checked="" type="checkbox"/>	<a href="#">Base Connectivity</a>	Basic FC/CoE Storage Connectivity	Unified Storage VNX5200/5400/5600/5800/7600/8000(Block)	UCS B200 M4	Windows Server 2012 R2	VIC1340	
<input type="checkbox"/>	<a href="#">Host Volume Managers Without Clustering</a>	Basic FC/CoE Storage Connectivity	Unified Storage VNX5200/5400/5600/5800/7600/8000(Block)		Windows Server 2012 R2		
<input checked="" type="checkbox"/>	<a href="#">Path Management Software</a>	Basic FC/CoE Storage Connectivity	Unified Storage VNX5200/5400/5600/5800/7600/8000(Block)		Windows Server 2012 R2		
<input type="checkbox"/>	<a href="#">Cluster Software</a>	Basic FC/CoE Storage Connectivity	Unified Storage VNX5200/5400/5600/5800/7600/8000(Block)		Windows Server 2012 R2		
<input type="checkbox"/>	<a href="#">iSCSI Clusters</a>	Basic iSCSI Storage Connectivity	Unified Storage VNX5200/5400/5600/5800/7600/8000(Block)		Windows Server 2012 R2	VIC1340	
<input type="checkbox"/>	<a href="#">Native iSCSI</a>	Basic iSCSI Storage Connectivity	Unified Storage VNX5200/5400/5600/5800/7600/8000(Block)		Windows Server 2012 R2	VIC1340	
<input type="checkbox"/>	<a href="#">Switched Fabric Topology Parameters</a>	Switch Interoperability					300
<input type="checkbox"/>	<a href="#">EMC and Third-Party Storage Array Management Software</a>	EMC and OpenStack	Unified Storage VNX5200/5400/5600/5800/7600/8000(Block)		Windows Server 2012 R2		
<input type="checkbox"/>	<a href="#">Data Mobility Migration Software</a>	EMC Migration					

Configuration Types | **Unnamed Query Results** | Relevant Documentation and Links

Support Statement Tables Export as PDF Export All

**Base Connectivity** | Path Management Software



**EMC STORAGE SIMPLE SUPPORT MATRICES (ESSMs)**  
Quick storage interoperability information, including

- Blade Chassis Switch Modules**
- ScaleIO Node
- ScaleIO Software
- VPLEX 5.5
- XtremIO 2.x – 4.x

[See more](#)

EMC<sup>2</sup>



## EMC Simple Support Matrix

### Blade Chassis Switch Modules

JANUARY 2016  
P/N 300-015-007 REV 16

## Welcome to SPOCK

Welcome to the Single Point of Connectivity Knowledge (SPOCK) website. SPOCK is the primary portal used to obtain detailed information about supported HP Storage product configurations. An HP Passport account is required to enter the SPOCK website.

**Log in or register for an account**



If you already have an HP Passport account, log into the SPOCK portal.

**Log in to SPOCK now »**

If you are new and do not have an HP Passport account, register for one here.

**Register to log in »**

Hewlett Packard Enterprise Solutions Services Products About Us Support

**HP Storage SPOCK**  
Single Point of Connectivity Knowledge for HP Storage Products

Search SPOCK Configuration Set Data. Enter your search string here. **SPOCK Search**

**SPOCK**

- SPOCK is the authoritative source of interoperability information for HP storage products. A particular configuration is supported if and only if it is listed on SPOCK.
- SPOCK complements, but does not replace, technical documentation such as user guides, installation guides, administrator guides, etc.
- Adobe Reader font: Click Edit, Preferences, Internet, Check "Display PDF in Browser"
- Press F5 to guarantee that you're seeing the latest version of a SPOCK page
- HP's software policy: only the firmware versions included in a SPOCK configuration are active for that configuration. The minimum active version is the maximum version included in the configuration. The recommended version is the highest version included in the configuration unless a note says otherwise.
- Switch and router firmware details are in PDF files located here and here. Use the "Explore (SW) Interoperability..." tables below to see which switches and routers are supported for an array/OS combination. Then use the PDF files to explore firmware support for the switch or router of interest.
- \*\*\* Although SPOCK's external URL is unchanged (<http://www2.hp.com/SPOCK>), it has changed SPOCK's external "business plan" URL from <http://h20272.www2.hp.com> to <http://h20272.www2.hp.com/SPOCK> \*\*\*

**Explore Storage Interoperability With SPOCK**

Use this section's tables to explore Storage interoperability on SPOCK. Expand the tables by clicking their + sign, and locate configurations of interest by clicking the check mark in the appropriate cell.

- Explore HPE 3PAR StoreServ Storage interoperability
- Explore HPE 3PAR StoreServ Storage interoperability (EXTENDED SUPPORT CONFIGURATIONS)
- Explore HP (P9000) array interoperability
- Explore P9000 (EVA) array interoperability
- Explore HP StoreVirtual 4000 Storage interoperability
- Explore MSA array interoperability
- Explore DVP interoperability
- Explore legacy array interoperability
- Explore HP StoreOnce Backup Systems interoperability
- Explore HP StoreOnce Storage Systems interoperability
- Explore HP StoreOnce Tape Automation interoperability
- Explore HP StoreOnce Tape Drive Hardware interoperability (look here for RAID information)

**Announcements**

- HP StoreOnce Recovery Manager Central Software here and here 24-Dec-2015
- 3PAR Drive Support matrix 19-Dec-2015
- VFT Performance Indicator v1.4 19-Dec-2015
- Small Server Instant Vault Support Matrix streams 14-Dec-2015
- HP Networking Switches Connectivity stream 11-Dec-2015
- StoreVirtual Compatibility matrix 10-Dec-2015
- 3PAR Additional Hardware Support for 3PAR OS 3.2.2 stream 10-Dec-2015
- B-Series FCCL 4.0-B-Series FC - stream 9-Dec-2015
- B-Series FC Funding/FCP Extension

**SPOCK Home**

- Announcements
- SAN Compatibility
  - Compatibility Test
  - View by Array
  - View by OS
  - View by FC Switch
  - View by FC/CL Switch
  - View by SAS Switch
  - View by Router
  - View by DMA
  - View by NSA
  - My SPOCK
  - Configuration Set ZIP Files
- Documentation
  - SPOCK User Guide
  - Useful Links
- Design Guides
  - Self Design Guide
  - Switch Design Guide
  - Mainframe Connectivity Design Guide
  - Other Configuration Guides
- Apparatus Status
  - Boot Guides
  - Continuous Access EVA
  - Fabric Interoperability
  - OCB/FCP/HP & Leftron

## Other Hardware

### » 3PAR

- » Converged Application Solutions
- » Disk Encryption
- » External Storage
- » Host Bus Adapters
- » iSCSI / FCoE / FCIP / DM (HP)
- » JBOD
- » Mainframe Connectivity
- » StoreEasy / NAS
- » StoreVirtual / LeftHand
- » Switches
- » Virtual Connect

## HP Storage SPOCK

### 3PAR

SPOCK Home > Other Hardware > 3PAR

#### HP 3PAR Additional Hardware Support for 3PAR OS

- » [HP 3PAR Additional Hardware Support For 3PAR OS 3.2.2](#)  
(342 KB PDF, 2015\_12\_08)
- » [HP 3PAR Additional Hardware Support For 3PAR OS 3.2.1](#)  
(262 KB PDF, 2015\_11\_02)
- » [HP 3PAR Additional Hardware Support For 3PAR OS 3.1.3](#)  
(252 KB PDF, 2015\_11\_02)
- » [HP 3PAR Additional Hardware Support For 3PAR OS 3.1.2](#)  
(756 KB PDF, 2015\_05\_05)
- » [HP 3PAR Additional Hardware Support For 3PAR OS 3.1.1](#)  
(815 KB PDF, 2014\_05\_29)
- » [HP 3PAR Legacy HBA Support](#)  
(23 KB PDF, 2012\_04\_12)

In addition to the Cisco HCL support, please also refer to the below notes for HP 3PAR support:

Notes
Microsoft Windows Server Operating System, Red Hat Enterprise Linux (RHEL), SUSE Linux Enterprise Server (SLES), VMware vSphere (ESX/ESXi), Oracle Solaris, Citrix XenServer
Microsoft Windows Server Operating System, Red Hat Enterprise Linux (RHEL), SUSE Linux Enterprise Server (SLES), VMware vSphere (ESX/ESXi), Oracle Solaris
Cisco UCS 6200 Series Fabric Interconnects (6248 & 6296)
B-Series blade servers and adapters: M1, M2 with M71KR-E, M71KRQ, M72KR-E, M72KR-Q, M81KR, & VIC1280
B-Series blade servers and adapters: M1, M2, M3 with M71KR-E, M71KRQ, M72KR-E, M72KR-Q, M81KR, VIC1240 & VIC1280
Boot From SAN (BFS)
iBGB FC storage target connectivity ONLY (FCoE and iSCSI storage target connectivity is NOT supported)
Please refer to the Switch Interoperability Matrix section in the Cisco HCLs
OS Specific Support Notes
Windows Server (x86/Hyper-V) 2008R2SP1 x64 with adapters M81KR, VIC1280 using driver 2.1.0.17 only supported on Qlogic fabric.
Windows Server (x86/Hyper-V) 2008R2SP1 x64 with adapters M81KR, VIC1240, VIC1280 using driver 2.1.0.17 only supported on Qlogic fabric.
Windows Server (x86/Hyper-V) 2008R2SP1 x64 with adapters M81KR, VIC1240, VIC1280 using driver 2.1.0.18 only supported on Qlogic fabric.
Windows Server (x86/Hyper-V) 2008SP2 x64, 2008R2SP1 x64 with UCS adapters M81KR, VIC1240 and VIC1280 using driver 2.1.0.20 only supported on Qlogic fabric.
Windows Server (x86/Hyper-V) 2012 x64 with adapters M81KR, VIC1240, VIC1280 using driver 2.2.0.9 only supported on Qlogic Fabric and Cisco Fabric where Persistent FOD is NOT enabled
Redhat compatible kernel only supported with Oracle Linux.
Refer to Cisco HCL for BFS patch requirements for SLES 11 SP1 x64
ESX 4.x only supported with adapters M81KR, VIC1240, VIC1280 using driver 1.4.0.201 on Qlogic Fabric, Brocade Fabric and Cisco Fabric where Persistent FCID is NOT enabled
ESX 4.x only supported with adapters M81KR, VIC1240, VIC1280 using driver 1.4.0.213 on Qlogic Fabric, Brocade Fabric and Cisco Fabric where Persistent FCID is NOT enabled

What are you looking for: **Systems / Servers** Compatibility Guides Help Current Results: 6

**Product Release Version:**

- All
- ESXi 6.0 U1
- ESXi 6.0
- ESXi 6.5 U3**
- ESXi 6.5 U2
- ESXi 5.5 U1

**Partner Name:**

- BYNSPAD
- Cache Technologies
- CINRA - VICTOR CH
- Cisco**
- CLARICORE
- Coastline Micro Inc
- Cofax International
- Columbus Micro Systems Inc
- Computys
- COMPUTER HAUG GmbH
- CORETO ABengesellschaft
- CPI Computer Handels GmbH

**Keyword:**

**System Type:**

- All
- Blade**
- Mother Board
- Rack or Tower
- Rackmount
- Tower

**Features:**

- All
- Fault Tolerant(FT)
- Legacy FT
- SR-IOV
- Trusted Execution Technology(TXT)
- vDGA\_Linux
- vDGA\_Win
- VM Direct Path IO
- VM DirectPath IO for General Purpose GPU

**Additional Criteria: (Collapse All)**

**Min Certified Memory:** All

**Max Certified Memory:** All

**Sockets:** All

**Max Cores per Socket:** All

**CPU Series:** All

- AMD Opteron 13xx Series
- AMD Opteron 22xx Series
- AMD Opteron 23xx Series
- AMD Opteron 24xx Series
- AMD Opteron 2xx Rev-C Series
- AMD Opteron 2xx Rev-E (Dual Core) Ser

**Posted Date Range:** All

**Enhanced vMotion Capability Modes:** All

- AMD Opteron™ Generation 1
- AMD Opteron™ Generation 2
- AMD Opteron™ Generation 3
- AMD Opteron™ Generation 3 without 3DA
- AMD Opteron™ Generation 4

**Fault Tolerant Compatible Sets:** All

- AMD Bulldozer™ Generation 1
- AMD Opteron™ Generation 3
- AMD Piledriver™ Generation 1
- Haswell
- Intel® Haswell™ Generation
- Intel® Ivy-Bridge™ Generation
- Intel® Nehalem™ Generation
- Intel® Penryn™ Generation

**Update and View Results** Reset

Search Results: Your search for "Systems / Servers" returned 6 results. [Back to Top](#) [Turn Off Auto Scroll](#) Display: 10 ▾

Partner Name	Model	CPU Series	Supported Releases
Cisco	UCS - B200-M4	Intel Xeon E5-2600-v3 Series	ESX0 <input type="checkbox"/> 6.0 U1 6.0 5.5 U3 5.5 U2
Cisco	UCS - B260-M4	Intel Xeon E7-8800/4800-v3	6.0 U1 6.0 5.5 U3 5.5 U2
Cisco	UCS - B260-M4	Intel Xeon E7-8800/4800-v2	6.0 U1 6.0 5.5 U3 5.5 U2
Cisco	UCS - B420-M4	Intel Xeon E5-4000-v3 Series	6.0 U1 6.0 5.5 U3 5.5 U2
Cisco	UCS - B460-M4	Intel Xeon E7-8800/4800-v3	6.0 U1 6.0 5.5 U3 5.5 U2
Cisco	UCS - B460-M4	Intel Xeon E7-8800/4800-v2	6.0 U1 6.0 5.5 U3 5.5 U2

What are you looking for:  Compatibility Guides - Help Current Results: 4

**Product Release Version:**

- All
- ESX0 6.0 U1
- ESX0 6.0
- ESX0 6.5 U3**
- ESX0 5.5 U2
- ESX0 5.5 U1

**Array Type:**

- All
- FC
- FCoE
- iSCSI
- NAS
- SAS

**Additional Criteria: (Collapse All)**

**Features Category:**

- All
- VAAI-Block
- VAAI-NAS

**Array Test Configuration:**

- All
- HW iSCSI
- iSCSI Metro Cluster Storage

**Partner Name:**

- Electro-Sales Corporation
- EMC**
- Emulex Technology, Inc.
- EquiLogic
- Equus Computer Systems
- evSery Tech Corp.
- Ever Corporation
- FalconStar Software
- FORMAT Sp. z o.o.
- Fujitsu
- Fujitsu Siemens Computers
- Fusion-io, Inc.
- GEMM Informatica Srl

**Storage Virtual Appliance Only:**

Yes  No

**Firmware Version:**

- All
- FLARE 02.19.800.5.1
- M10R21
- 015A
- 02-02-00-00-00 or above
- 02.01.00
- 03.00.0000.22
- 03.01.0000.21
- 03.24.0203.008
- 03.24.0405.006

**Features:**

- All
- Block Zero
- Extended Stats
- File Cloning
- Full Copy
- HW Assisted Locking

**Plugins:**

- All
- kio\_wwp
- 3PAR\_wwp\_InServ
- 3PAR\_wwp\_InServ\_plugin
- AtlantisPlugin
- ConoData-NasPlugin
- deliv\_wwp-competent

**SATP Plugin:**

- All
- Active/Passive
- Active/Active

**PSP Plugin:**

- All
- MRU
- Fixed

**MPP Plugin:**

- All
- NMP
- Powerpath/VE E-4

**Keyword:**

**Posted Date Range:**



Search Results: Your search for "Storage/SAN" returned 4 results. [Back to Top](#) [Turn Off Auto Scroll](#) Display: 10

Partner Name	Model	Array Type	Supported Releases				
EMC	VN05400	iSCSI	ESX	4.1 U3	4.1 U2	4.1 U1	4.1
			ESXi	6.0 U1	6.0	5.5 U3	5.5 U2
EMC	VN05400	FC	ESX	4.1 U3	4.1 U2	4.1 U1	4.1
			ESXi	6.0 U1	6.0	5.5 U3	5.5 U2
EMC	VN05400	NAS	ESX	4.1 U3	4.1 U2	4.1 U1	4.1
			ESXi	6.0 U1	6.0	5.5 U3	5.5 U2
EMC	VN05400	FCoE	ESX	4.1 U3	4.1 U2	4.1 U1	4.1
			ESXi	6.0 U1	6.0	5.5 U3	5.5 U2

New Search

Configuration Results= 5

SSIC Education and Help

<b>Storage Family</b> <input type="text" value="Type to filter selections"/>	<b>Storage Model</b> <input type="text" value="Type to filter selections"/>
IBM System Storage SAN Volume Controller IBM System Storage Enterprise Flash IBM System Storage Mirroring Gateway IBM System Storage Entry Class	Storage V7000 Host Attachment Storage V7000 Unified Inter Cluster SAN Router Support Storage V7000 Storage Controller Support Storage V7000 Unified Host Attachment Storage V7000 Unified Inter Cluster SAN Router Support
<b>Storage Version</b> <input type="text" value="Type to filter selections"/>	<b>Connection Protocol</b> <input type="text" value="Type to filter selections"/>
Storage V7000 7.2.x Storage V7000 7.3.x Storage V7000 7.4.x Storage V7000 7.5.x Storage V7000 7.6.x	FCoE FCP (z Systems) Fibre Channel Fibre Channel - Virtual (NPIV) iSCSI
<a href="#">Export Selected Storage Version List</a>	
<b>Host Platform</b> <input type="text" value="Type to filter selections"/>	<b>Server Model</b> <input type="text" value="Type to filter selections"/>
Cisco UCS	Cisco B-Series UCS Servers (Blade) Cisco C-Series UCS Servers
<b>Operating System</b> <input type="text" value="Type to filter selections"/>	<b>Adapter (HBA, CNA, etc)</b> <input type="text" value="Type to filter selections"/>
VMware vSphere/ESXi 5.1 U3 VMware vSphere/ESXi 5.5 VMware vSphere/ESXi 5.5 U1 VMware vSphere/ESXi 5.5 U2	Cisco UCS VIC 1227 Cisco UCS VIC 1240 Cisco UCS VIC 1280 Cisco UCS VIC 1340 Cisco UCS VIC 1380
<b>Transit Switch</b> <input type="text" value="Type to filter selections"/>	<b>Switch Module</b> <input type="text" value="Type to filter selections"/>
	Cisco Nexus 4011 Switch module for IBM BladeCenter Cisco UCS B200UP Cisco UCS B200C Cisco UCS 6324 IBM 10Gb Ethernet Pass-Thru Module (PIN 48M0181)
<b>Top of Rack Switch (TOR)</b> <input type="text" value="Type to filter selections"/>	<b>SAN or Networking</b> <input type="text" value="Type to filter selections"/>
	Brocade 200E - *EOL Brocade 300 Brocade 4100 - *EOL Brocade 48000 Brocade 4900 - *EOL
<b>Clustering</b> <input type="text" value="Type to filter selections"/>	<b>Multipathing</b> <input type="text" value="Type to filter selections"/>
<none> VMware High Availability (HA)	<none> VMware Native Multipathing Plugin (NMP)
<b>Storage Controller</b> <input type="text" value="Type to filter selections"/>	<b>Intercluster SAN Router</b> <input type="text" value="Type to filter selections"/>

## IBM System Storage Interoperation Center (SSIC)

[New Search](#)

[Export Data \(xls format\)](#)

[SSIC Education and Help](#)

**Revise Selected Criteria** (1) [Storage Family](#), (2) [Storage Model](#), (3) [Host Platform](#), (4) [Server Model](#), (5) [Operating System](#), (6) [Adapter \(HBA, CNA, etc\)](#), (7) [SAN or Networking](#), (8) [Switch Module](#)

Configuration	Name	
Storage Family:	IBM System Storage Midrange Disk	<a href="#">[Change]</a>
Storage Model:	Storwize V7000 Host Attachment	<a href="#">[Change]</a>
Host Platform:	Cisco UCS	<a href="#">[Change]</a>
Server Model:	Cisco B-Series UCS Servers (Blade)	<a href="#">[Change]</a>
Operating System:	VMware vSphere/ESXi 5.5 U2	<a href="#">[Change]</a>
Adapter (HBA, CNA, etc):	Cisco UCS VIC 1340	<a href="#">[Change]</a>
SAN or Networking:	Brocade 300	<a href="#">[Change]</a>
Switch Module:	Cisco UCS 6248UP	<a href="#">[Change]</a>
Connectivity:	Fibre Channel	

[IBM Systems > Support](#)

## IBM System Storage Interoperation Center (SSIC)

### Download Summary

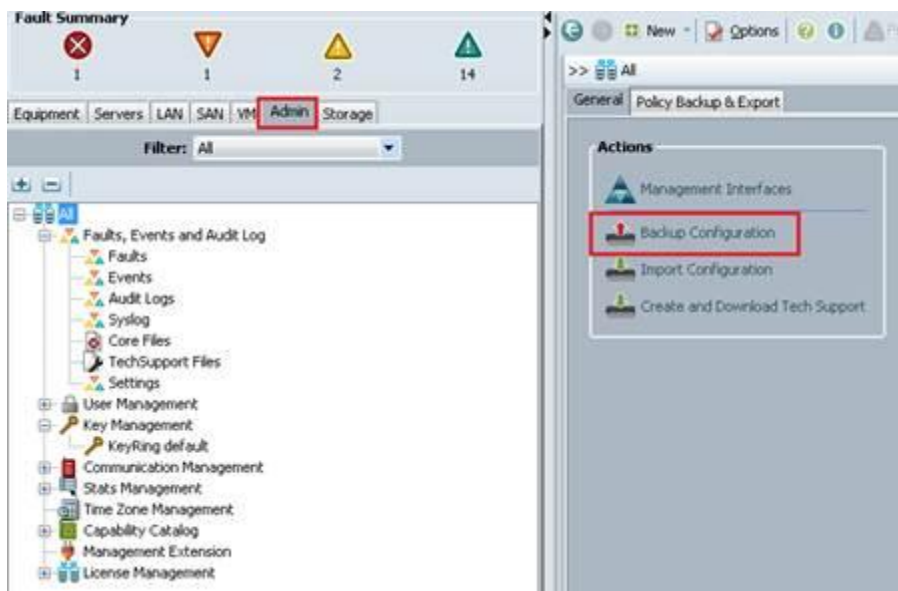
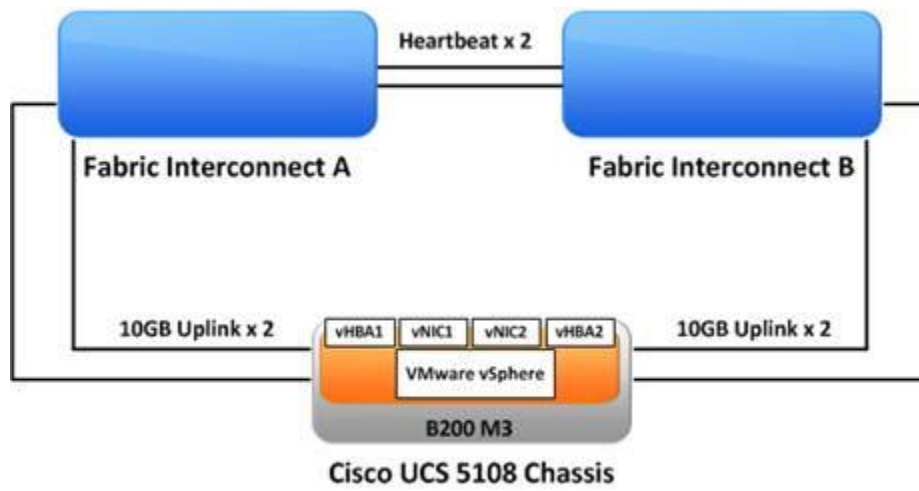
[New Search](#)

[Back to Interoperability Search Results](#)

The data has been successfully exported to IBM\_Interop\_01042016105053.xls file. Click the button below to download it.

[Download now](#)

## Chapter 7: Cisco UCS Backup Solutions





Admin State:  Enabled  Disabled

Type:  Full State  All Configuration  System Configuration  Logical Configuration

Preserve Identities:

If preserve identities is selected, vHBAs WWPNs, vNICs MACs, WWNNs and UUIDs that are derived from pools are preserved during a backup.  
If not selected, the identities will be reassigned after a restore

Location of the Backup File:  Remote File System  Local File System

Hostname	Protocol	Filename	Status
R8A26R0	HTTP	C:\Users\victor.wu\Desktop\UK5_Config	success

**Fault Summary**

1 (Critical) 1 (Major) 2 (Minor) 14 (Info)

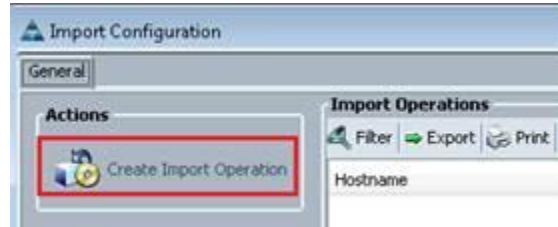
Equipment Servers LAN SAN VM Admin Storage

Filter: All

- Faults, Events and Audit Log
  - Faults
  - Events
  - Audit Logs
  - Syslog
  - Core Files
  - TechSupport Files
  - Settings

**Actions**

- Management Interfaces
- Backup Configuration
- Import Configuration**
- Create and Download Tech Support

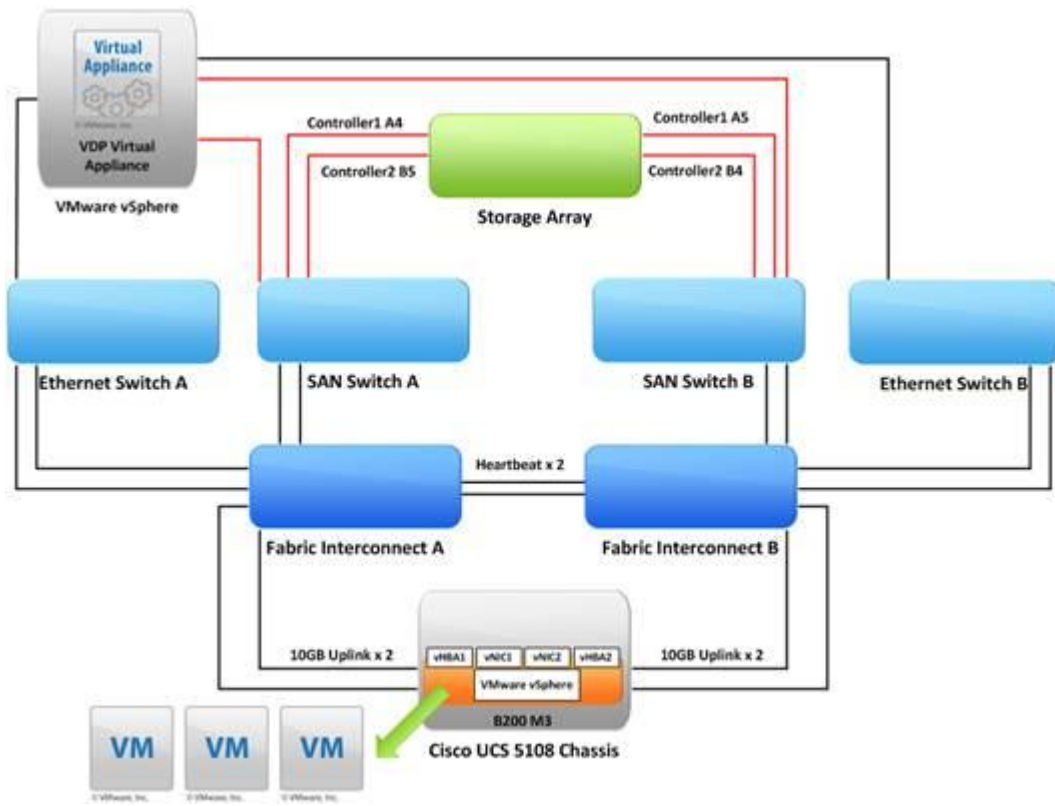


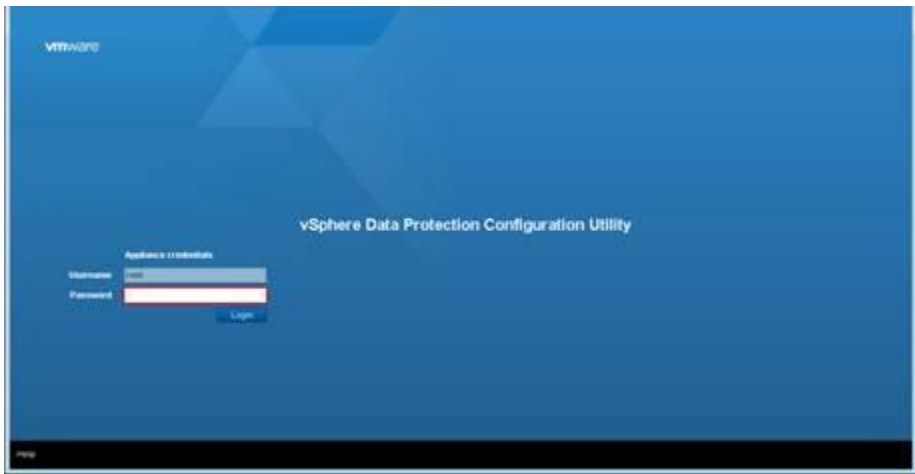
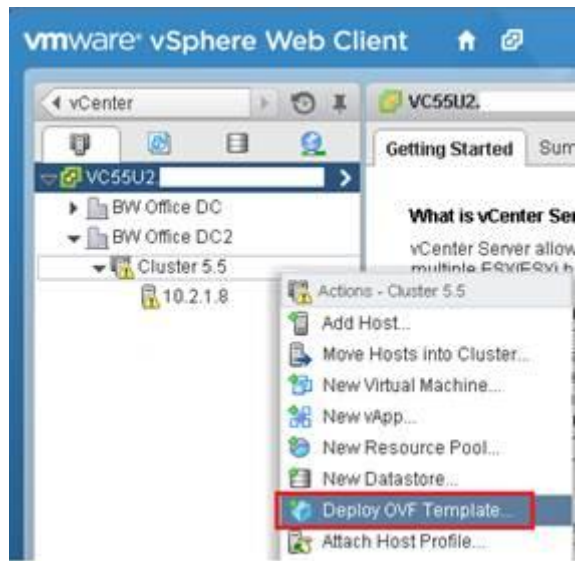
**During import, any port mode changes will cause the switch to reboot.**

Admin State:  Enabled  Disabled

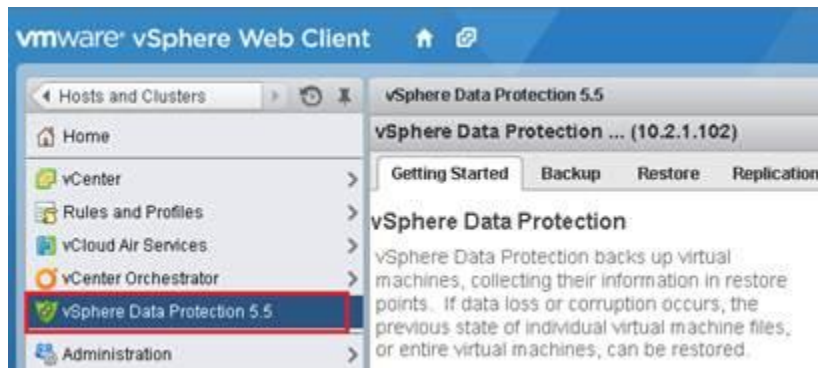
Action:  Merge  Replace

Location of the Import File:  Remote File System  Local File System









### Schedule

The schedule determines how often your selections will be backed up. Backups will occur as close to the start of the backup window as possible.

---

**Backup schedule:**  Daily  
 Weekly performed every   
 The  of every month

**Start Time on Server:**

### Retention Policy

The retention policy determines how long backups are retained. After this time period expires, they are deleted from the system.

---

**Keep:**  Forever  
 for    
 until   
 this Schedule:

Daily for:    
Weekly for:    
Monthly for:    
Yearly for:

### Job Name

Specify the backup job name.

Name:

*The backup job name is required and must be unique.*

Back

**Next**

Finish

Cancel

vSphere Data Protection ... (10.2.1.102) Switch Appliance: vSphere Da... - All Actions

Getting Started Backup Restore Replication Reports Configuration

Refresh Backup job actions Backup now

Name	State	Type	Last Start Time	Duration	Next Run Time	Success	Failure Count
backup_job1	Enabled	Image	01/10/2016 12:59 PM	0h:10m:12s	01/10/2016 08:00 PM	1	0

vSphere Data Protection ... (10.2.1.102) Switch Appliance: vSphere Da... - All Actions

Getting Started Backup Restore Replication Reports Configuration

Refresh Restore Lock/Unlock Delete Clear all selections

Filter: Show all

Windows2008

Name	Backup Types	Last Known Path	Expiration Date
<input checked="" type="checkbox"/> 01/10/2016 08:01 PM	Image		03/10/2016
<input type="checkbox"/> 01/10/2016 01:10 PM	Image		03/10/2016
<input type="checkbox"/> 01/10/2016 01:09 PM	Image		03/10/2016

#### Select Backup

Verify that the list of backups to restore is correct and remove any that you wish to exclude from the restore operation.

Selected Items

- Windows2008
  - 01/10/2016 08:01 PM

#### Set Restore Options

Set the restore options for each backup that you are restoring.

Client: Windows2008  
Backup: 01/10/2016 08:01 PM

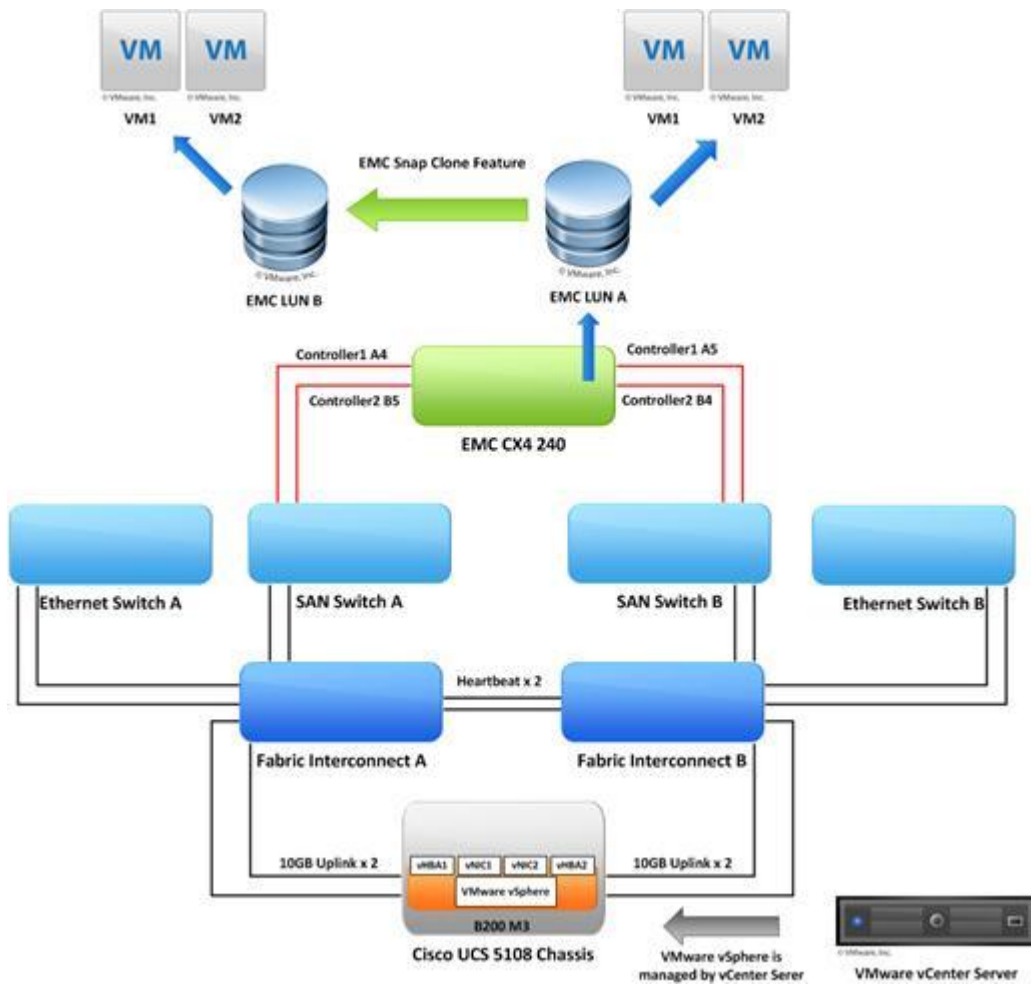
Restore to original location

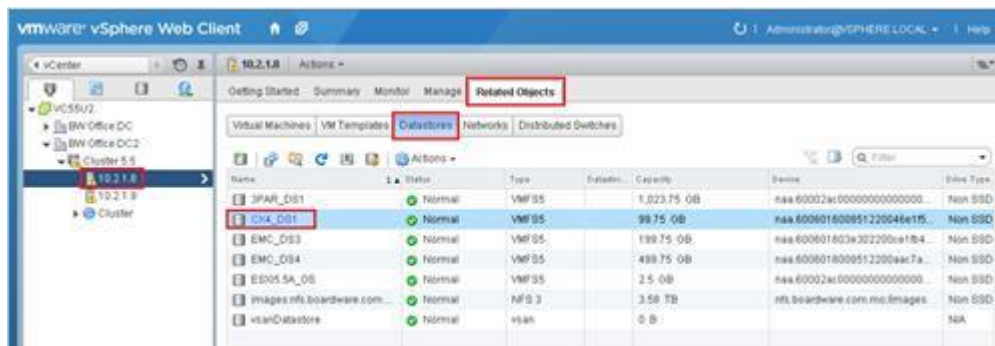
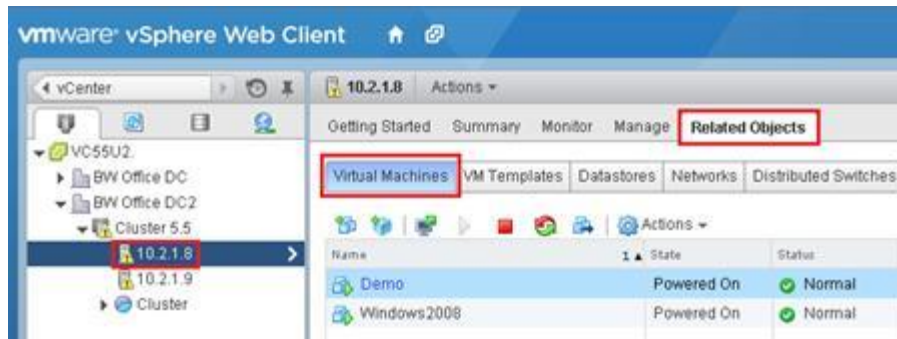
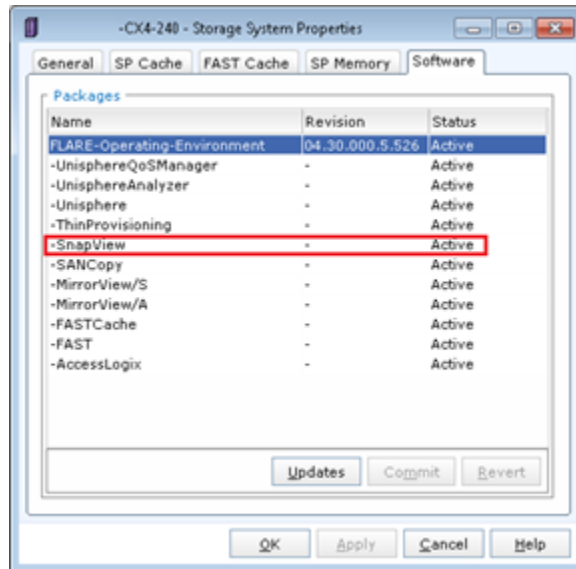
Advanced options

Datastore: SPAR\_D01 (739.9 GB free)

Power On  Reconnect NIC

Back Next Finish Cancel





EMC Unisphere

Pool LUN Search...

System Storage Hosts Replicas Monitoring Settings Support

Storage > LUNs

Storage Pools

- Create Storage Pool
- Manage Auto-Tiering

LUNs

- Create LUN
- LUN Migration Summary
- Storage Expansion Wizard

LUNs

Name	ID	User Capacity (GB)	Current Owner	Host Information	FAST Cache
CX4_DS1		100.000	SP A	esx55b.boardwar...	On
CX4_DS2		10.000	SP B	esx55b.boardwar...	On
EMC_DS3	24	200.000	SP A	esx55b.boardwar...	On
EMC_DS4	25	500.000	SP A	esx55b.boardwar...	On

Summary  
Disks  
Pooly/RAID Groups  
**LUNs**  
Storage Groups  
Folders

System Storage Hosts **Replicas** Monitoring Settings Support

Source LUNs

Source LUNs Clone LUNs

Clone Sources and Clones

Name	Type	State	Condition	Host Informat...	RAID Type	Storage Pool	User Capac...	Clone Group Name
CX4_DS1	Source			esx55b.boar...	RAID5	RAID Group 2	100.000	CX4_DS1_Clone

Snapshots

- Create Snapshot LUN
- Start Session
- Snapshot Wizard

Clones

- Create Clone Group
- Clone Wizard

Mirrors

- Create Mirror
- Create Consistency Group
- Mirror Wizard

SAN Copy Sessions

- SAN Copy Wizard

Configuration and Settings

- Configure Reserved LUN Pool
- Configure Clone Settings**
- Configure Mirror Write Intent Log
- Manage Mirror Connections
- Configure SAN Copy Settings
- Update SAN Copy Connections

Source LUNs Clone LUNs

BoardWare-CX4-240 - Clone Feature Properties

Available LUNs

Name	Capacity	Drive Type
SP A		
SP B		

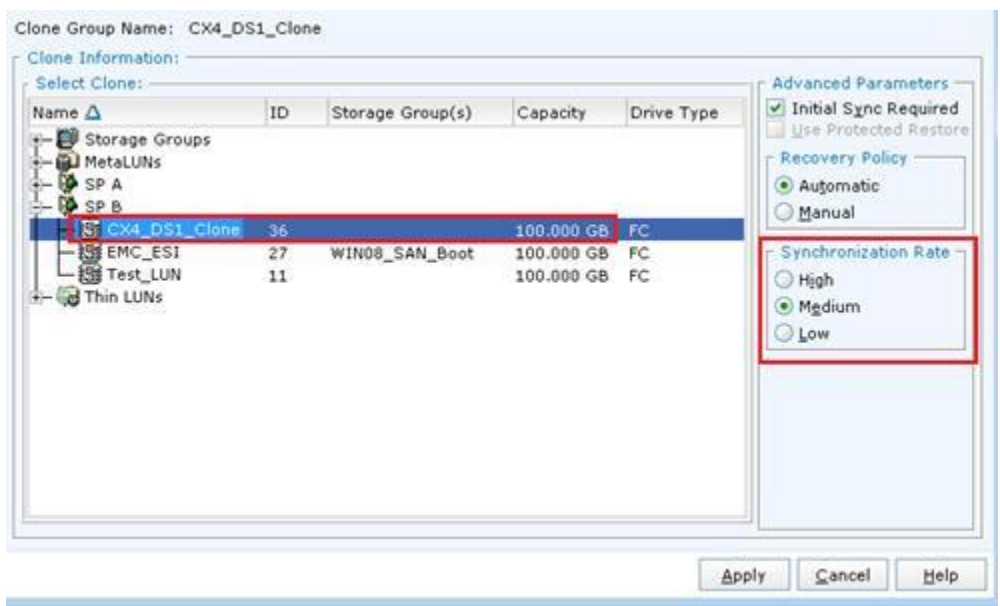
Clone Private LUNs

Name	Capacity	Drive Type
CPL_1	1,000GB	FC
CPL_2	1,000GB	FC

Protected Restore

Allow Protected Restore

OK Apply Cancel Help



Source LUNs Clone LUNs

Clone Sources and Clones

Filter for

Name	Type	State	Condition	Host Inform...	RAID Type	Storage Pool	User Capac...	Clone Group Name
CX4_DS1	Source			esxi55b.boa...	RAID5	RAID Grou...	100.000	CX4_DS1_Clone
CX4_DS1_Clone	Clone	Consistent	Normal		RAID5	RAID Grou...	100.000	

Source LUNs Clone LUNs

Clone Sources and Clones

Filter for

Name	Type	State	Condition	Host Inform...	RAID Type	Storage Pool	User Capac...	Clone Group Name
CX4_DS1	Source			esxi55b.boa...	RAID5	RAID Grou...	100.000	CX4_DS1_Clone
CX4_DS1_Clone	Clone	Consistent	Normal		RAID5	RAID Grou...	100.000	

1 Selected Delete Properties Synchronize Reverse Synchronize Fracture Add Clone 2 items

Last Refreshed: 2016-01-14 20:37:18

Source LUNs Clone LUNs

Clone Sources and Clones

Filter for

Name	Type	State	Condition	Host Inform...	RAID Type	Storage P...	User Capac...	Clone Group ...
CX4_DS1	Source			esxi55b.bo...	RAID5	RAID Gro...	100.000	CX4_DS1_Cl...
CX4_DS1_Clone	Clone	Consistent	Administratively Fractured		RAID5	RAID Gro...	100.000	

Storage Hosts Data Protection Settings

Host List

Virtualization

Storage Groups

Initiators

Common Host Tasks  
Assign LUNs to Host



General LUNs Hosts

Show LUNs: Not in other Storage Groups

Available LUNs

Name	ID	Capacity	Drive Type
Clone_LUN02	5	20,000 GB	FC
CX4_DS1	10	100,000 GB	FC
CX4_DS1_Clone	36	100,000 GB	FC

Add

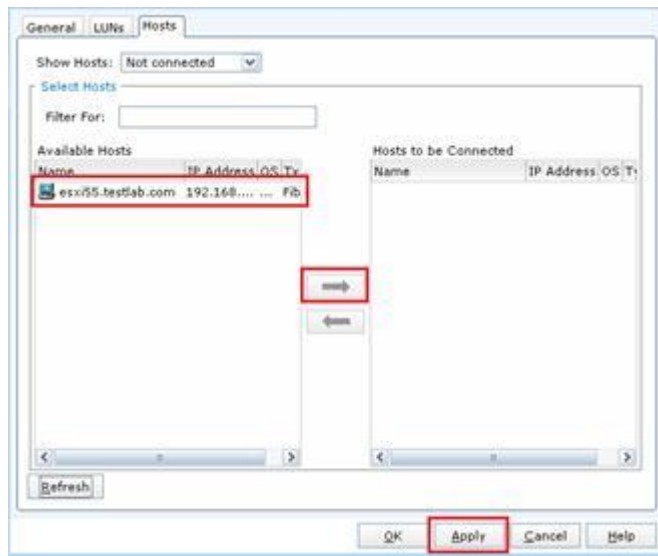
Selected LUNs

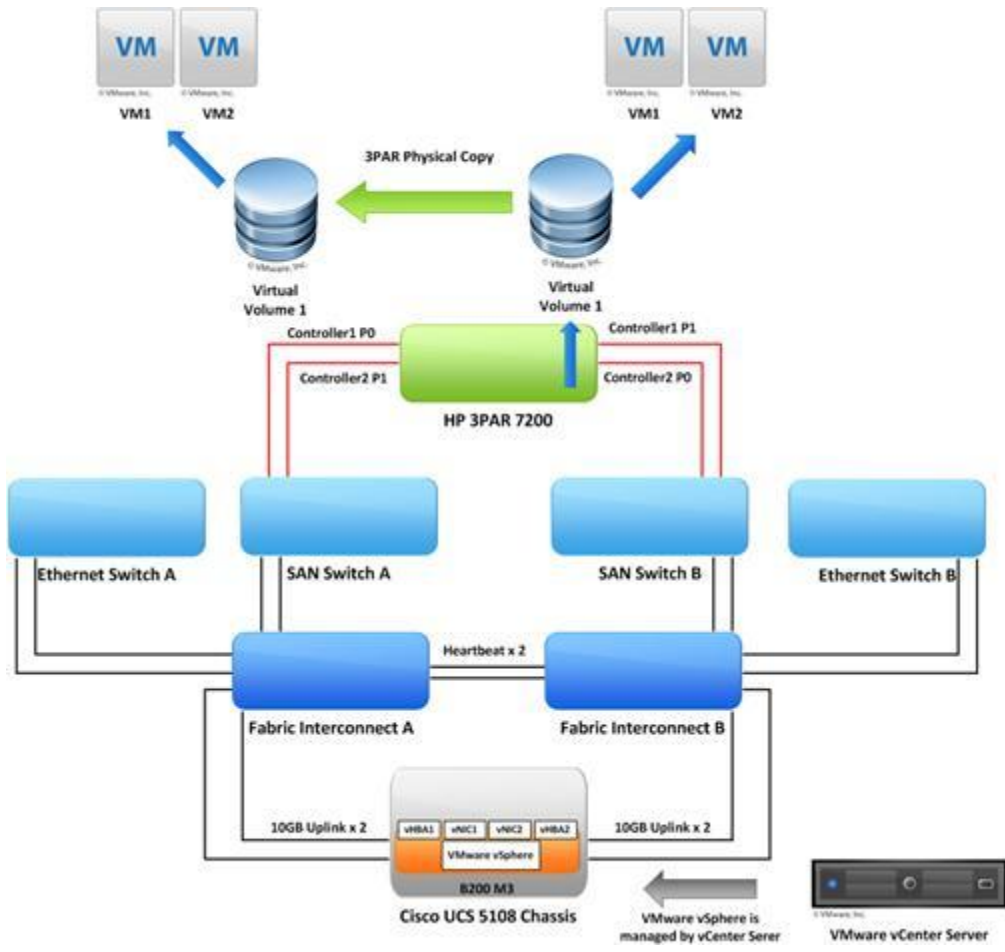
Name	ID	Capacity	Drive Type	Host ID
CX4_DS1_Clone	36	100,000 GB	FC	1

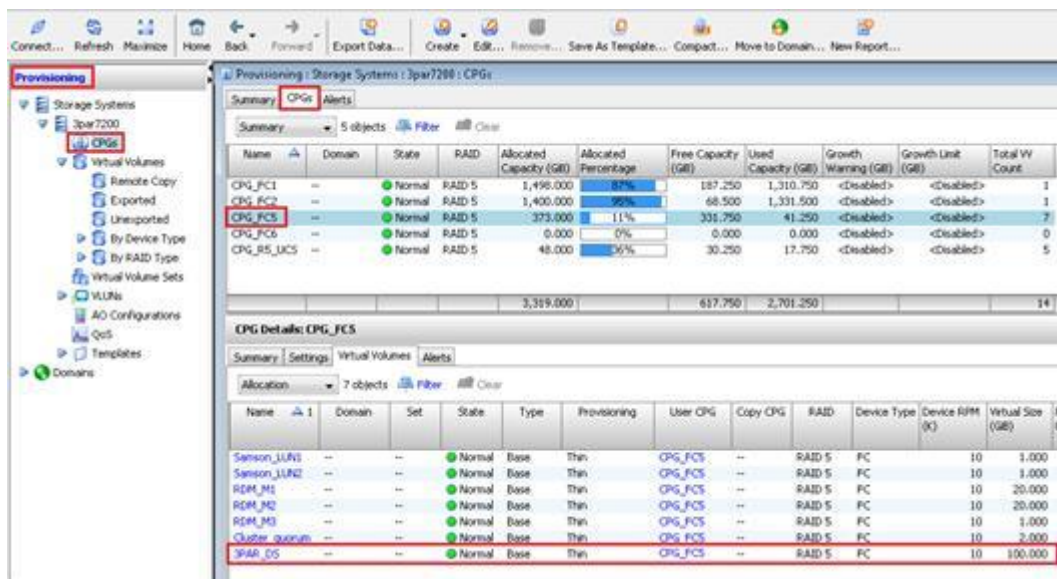
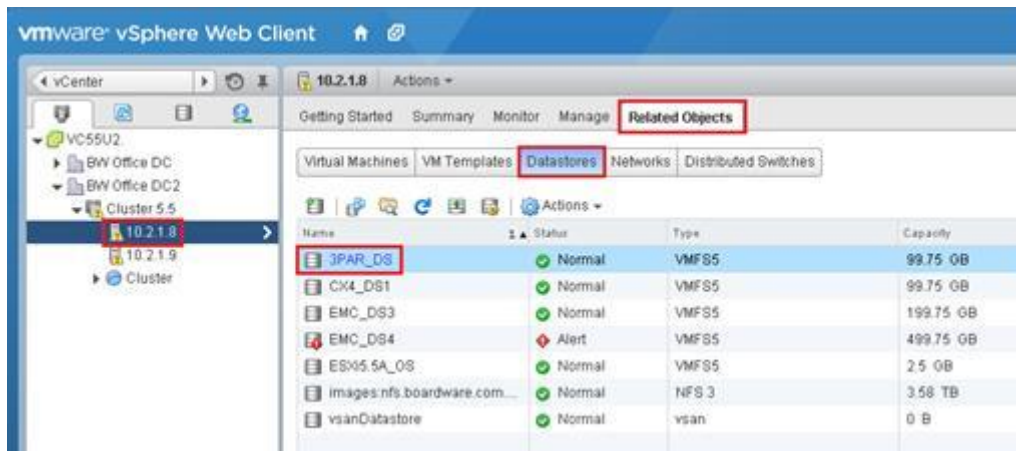
Remove

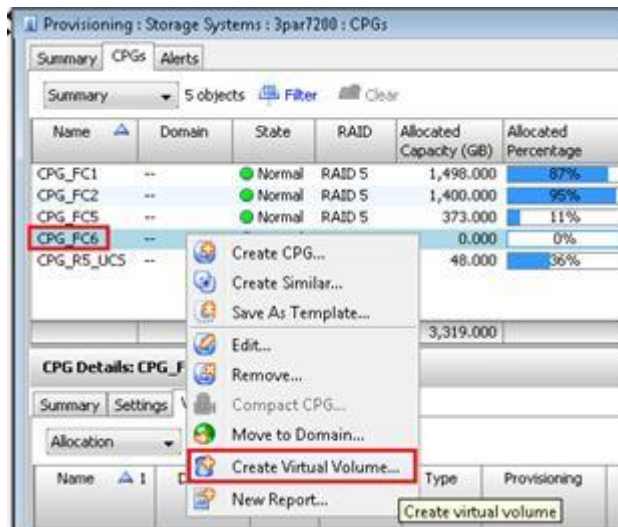
Warning: HLU numbers higher than 255 may result in application outages if not supported by the host failover software.

OK Apply Cancel Help









### Configure Virtual Volume

**General**

System: 3par7200 (1636443)

Domain: <none>

Name: 3PAR\_DS\_Copy

Export Volume(s) after creation

Use Template: <none>

Comments:

**Allocation**

Select the allocation settings for your volume.

Thinly Provisioned  Fully Provisioned

Allocate volume space on demand. Requires the Thin Provisioning License. Allocate volume space at creation time.

Size (256 MB - 16 TiB): 100 GB

User CPG: CPG\_FC6 (RAID 5, FC, 0.000 GB Used, No Limit)

Thinly Provisioned       Fully Provisioned  
 Allocate volume space on demand. Requires the Thin Provisioning License.      Allocate volume space at creation time.

Size (102,400 MB - 16 TiB)  GB

User CPG  (RAID 5, FC, 41.250 GB Used, No Limit)

Allocation Warning  Enabled  %

Copy CPG  (RAID 5, FC, 1.125 GB Used, No Limit)

Allocation Warning  Enabled  %

- Create Virtual Copy...
- Create Consistency Group Virtual Copies...
- Promote Virtual Copy...
- Create Batch Virtual Copy...
- Create Physical Copy...**
- Create Consistency Group Physical Copies...

System

Domain

Parent Volume

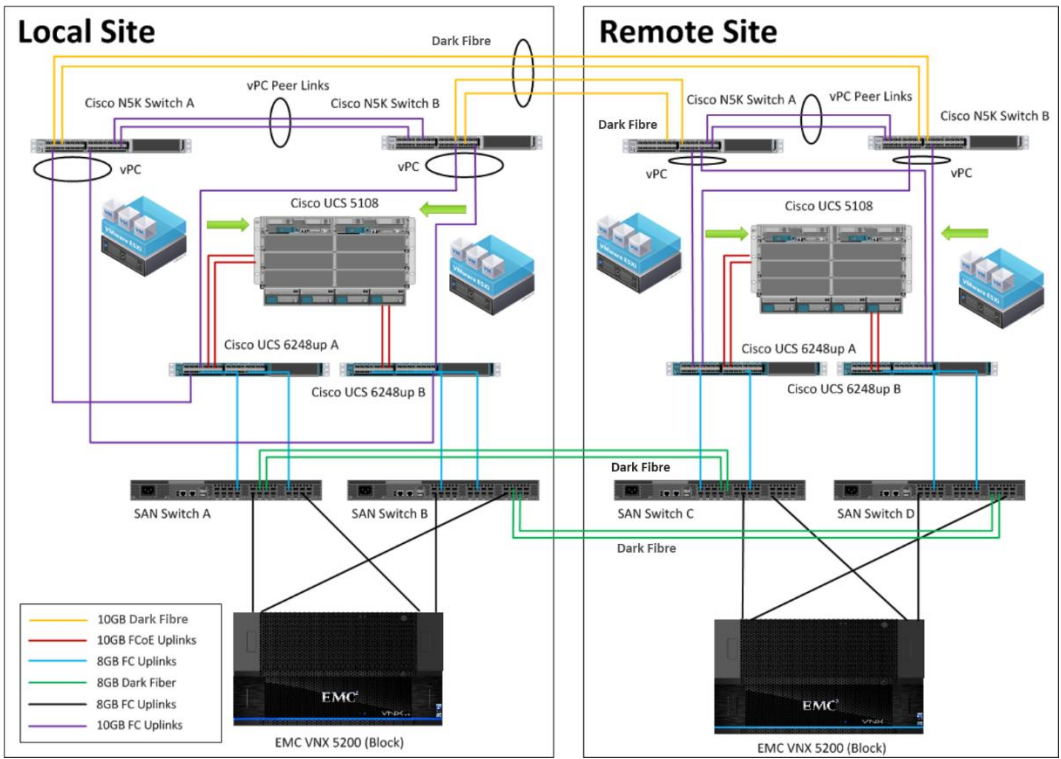
Destination Volume

Task Priority

Name	Domain	Set	State	Type	Provisioning	RAID	Virtual Size (GB)	Reserved User Size (GB)	Used User Size (% Virtual)
.srdata	--	--	Normal	Base	Full	RAID 1	60.000	60.000	100%
3PAR_DS (2)	--	--	Normal	Base	Thin	RAID 5	100.000	24.500	19%
@vcp_34_35	--	--	Normal	Virtual Copy	--	RAID 5	100.000	--	--
<b>3PAR_DS_Copy</b>	--	--	Normal	Physical Copy	Thin	RAID 5	100.000	8.500	3%
admin	--	--	Normal	Base	Full	RAID 1	10.000	10.000	100%

Name	Domain	Set	State	Type	Provisioning	RAID	Virtual Size (GB)	Reserved User Size (GB)	Used User Size (% Virtual)
.sdata	--	--	Normal	Base	Full	RAID 1	60.000	60.000	100%
3PAR_DS (2)	--	--	Normal	Base	Thin	RAID 5	100.000	24.500	19%
vvp.34.35	--	--	Normal	Virtual Copy	--	RAID 5	100.000	--	--
3PAR_DS Copy	--	--	Normal	Physical Copy	Thin	RAID 5	100.000	24.500	19%
admin	--	--	Normal	Base	Full	RAID 1	10.000	10.000	100%

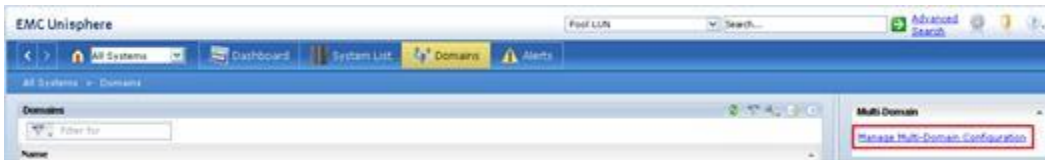
- Create Physical Copy...
- Create Consistency Group Physical Copies...
- Stop Physical Copy
- Resync Physical Copy...
- Promote Physical Copy...
- Export...**



General SP Cache FAST Cache Software Environment

**Packages**

Name ▾	Revision	Status
-vnxASAPSP1005	-	Active
-UnisphereQoSManager	-	Active
-UnisphereBlock	-	Active
-UnisphereAnalyzer	-	Active
-Unisphere	-	Active
-ThinProvisioning	-	Active
-SnapView	-	Active
-SANCopy	-	Active
-RecoverPointSplitter	-	Active
-MirrorView/S	-	Active
-MirrorView/A	-	Active
-FASTCache	-	Active



Multi-Domain Management

Select Domain Gateway System

IP Address: . . . →

Local Name:

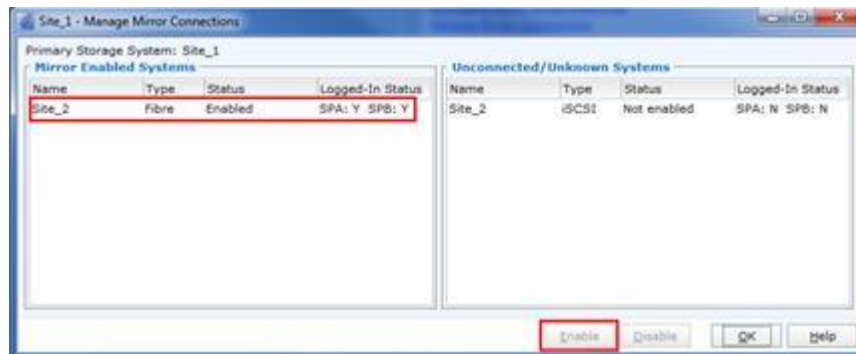
Ports: 80/443 Change...

Available Domains			Selected Domains		
Gateway	Name	Ports	Gateway	Name	Ports
			10.245.16.227	Local	80/443
			10.245.17.127	Remote	80/443

Clear

OK Apply Cancel Help





**LUNs**

Filter for:  Usage: ALL User LUNs Folder: All Status:

Name	ID	State	User Capacity
WIN08_OS2		23 Ready	
WIN08_OS		22 Ready	
VNX_DS1		11 Ready	100.000GB
UCS_RDM2		ady	100.000GB
UCS_RDM		ady	100.000GB
Test_LUN2		ady	
ST_lun_replace_2		ady	
ST_lun_replace_1		ady	
ST_lun_6		ady	
ST_lun_5		SnapView > ady	
ST_lun_4		MirrorView > Create Remote Mirror	
ST_lun_3		SAN Copy > Create Secondary Image LUN	
ST_lun_2		Analyzer >	

Primary Storage System:

Mirror Parameters

Mirror Type: Synchronous

Name:

Description:

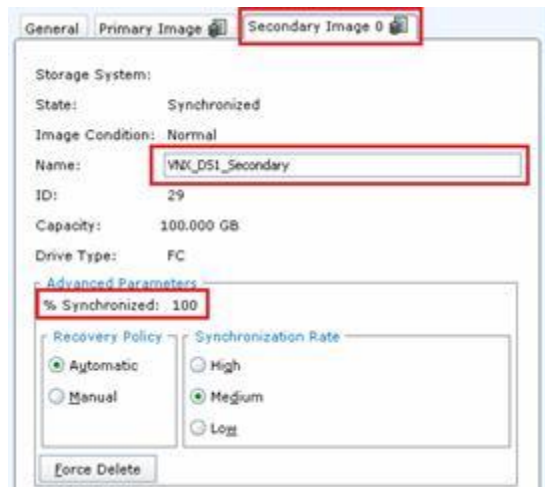
Advanced Parameters

Minimum Required Images: 0  Use Write Intent Log

Quiesce Threshold: 60

Primary Storage System LUN to be Mirrored

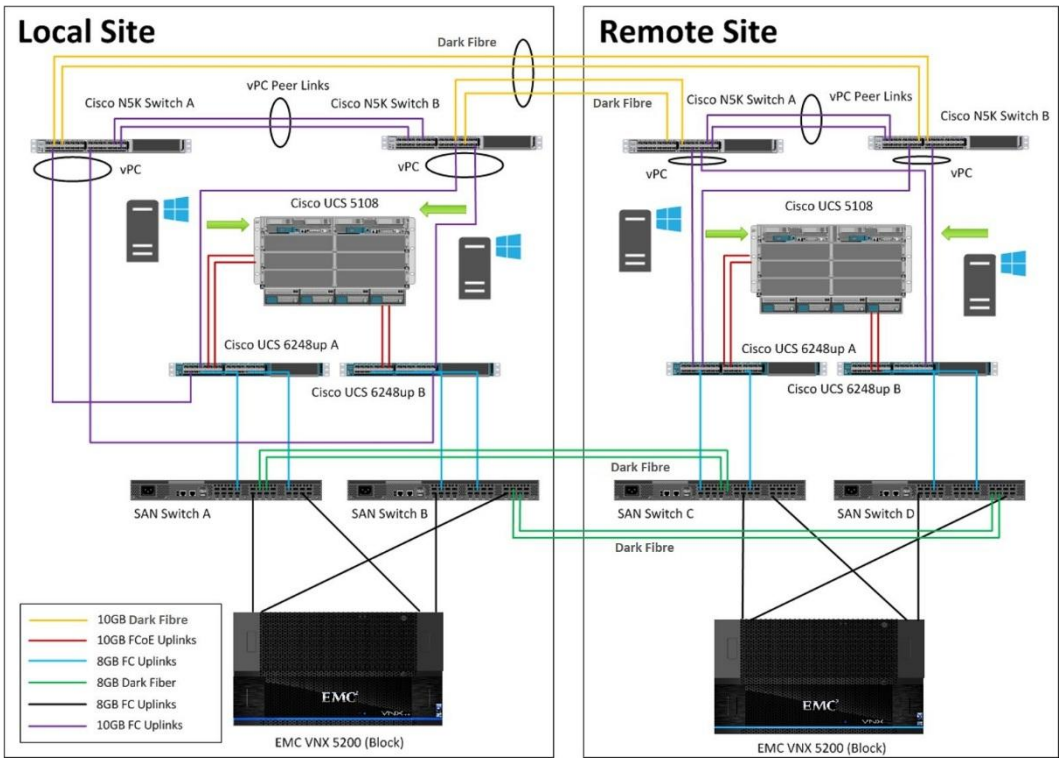
Name	ID	Capacity	Drive Type
VNX_DS1	11	100.000GB	FC



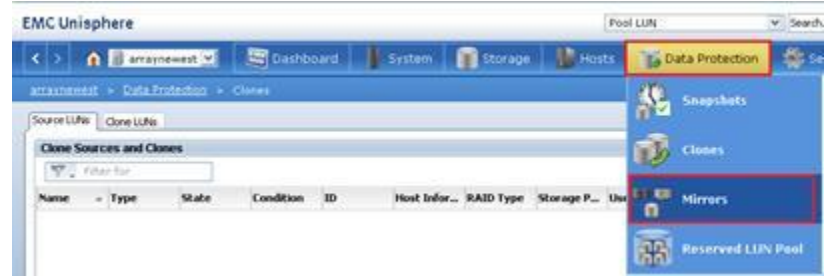
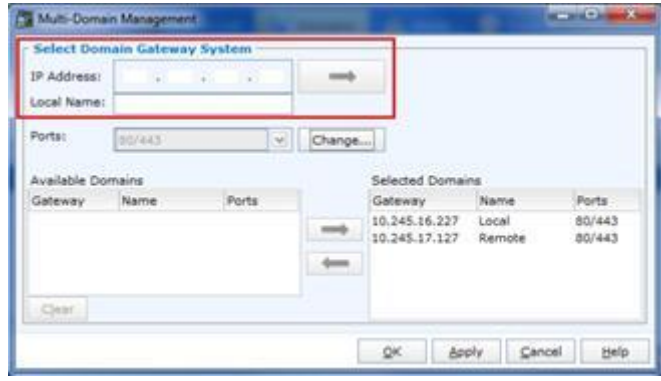
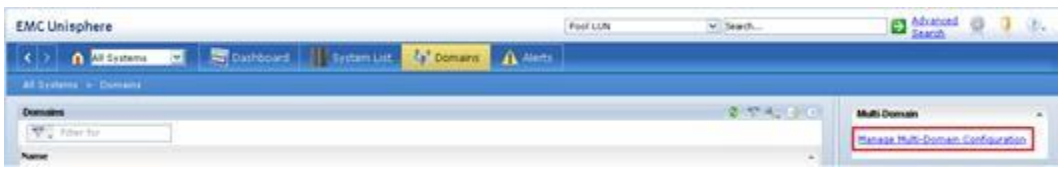
**Primary and Secondary Images**

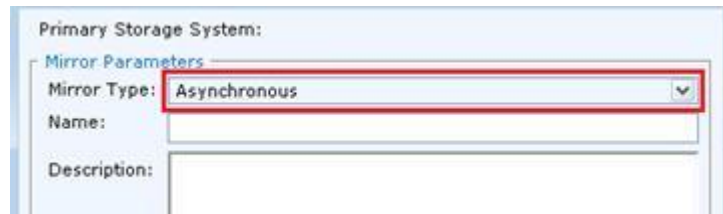
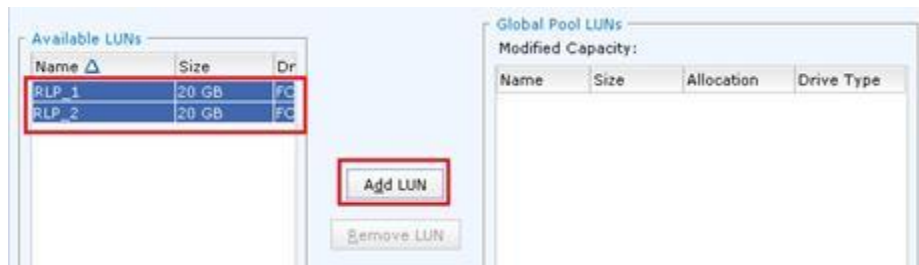
Image Name	State	Condition
50:06:01:60:C1:E0:BD:A1 Primary Image	Active	Active
[Redacted] Secondary Image	Synchronized	Normal

1 Selected    Delete    Synchronize    **Fracture**    Promote



General			SP Cache			FAST Cache			Software			Environment		
<b>Packages</b>														
Name	Revision	Status												
-vnxSnapshots	-	Active												
-UnisphereQoSManager	-	Active												
-UnisphereBlock	-	Active												
-UnisphereAnalyzer	-	Active												
-Unisphere	-	Active												
-ThinProvisioning	-	Active												
-SnapView	-	Active												
-SANCopy	-	Active												
-RecoverPointSplitter	-	Active												
-MirrorView/S	-	Active												
-MirrorView/A	-	Active												
-FASTCache	-	Active												





Name	Type	State	Condition	Remote System	Role
Mirror Group 1	Asynchronous Group	Empty	Unknown		Primary

1 Selected Delete Properties Synchronize Fracture Add Secondary Promote 1 Items

Last Refreshed: 2016-03-09 00:42:51

General Primary Image Secondary Image 0

Storage System: 50:06:01:60:C1:E0:BD:A1  
 State: Synchronized  
 Image Condition: Normal  
 Name:   
 ID:   
 Capacity:   
 Drive Type:

Advanced Parameters

Update Information  
 % Synchronized: 100 Last Started: Wed Dec 16 15:19:34 CST 2015  
 Duration: 3,387 Seconds Last Ended: Wed Dec 16 16:16:02 CST 2015

Recovery Policy Synchro... Update Type

Automatic  High  Manual Update  
 Manual  Medium  Start of Last Update 60  
 Low  End of Last Update:

EMC Unisphere

Pool LUN Search

emcnewest Dashboard System Storage Hosts Data Protection

emcnewest > Data Protection > Clones

Source LUNs Clone LUNs

Clone Sources and Clones

Filter by

Name	Type	State	Condition	ID	Host Info...	RAID Type	Storage P...	Use
------	------	-------	-----------	----	--------------	-----------	--------------	-----

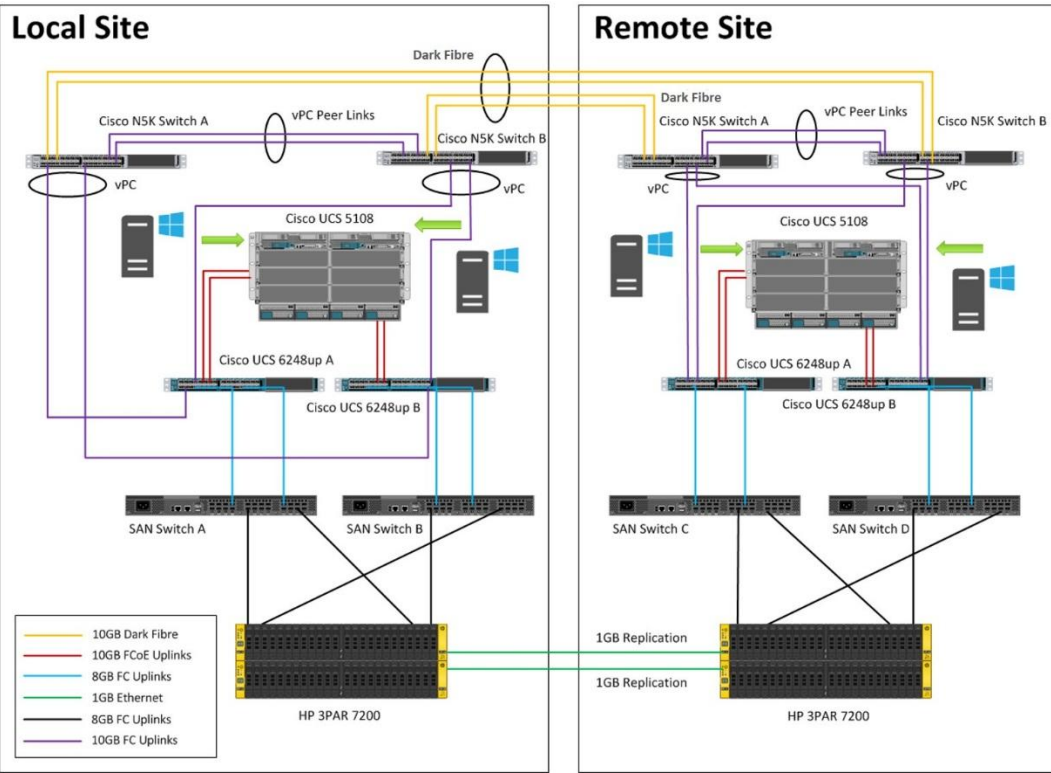
Snapshots  
 Clones  
 Mirrors  
 Reserved LUN Pool

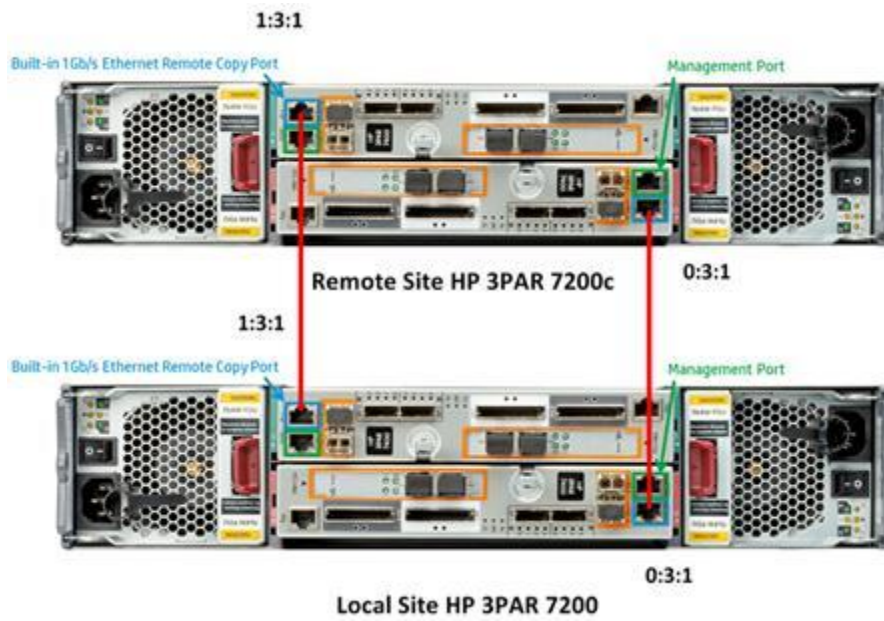
Primary and Secondary Images		
Image Name	State	Condition
50:06:01:60:C1:E0:BD:A1 Primary Image	Active	Active
Secondary Image	Synchronized	Normal

1 Selected               

Boot Order										
Name	Order	VNIC/VHBA/SCSI v...	Type	Lun ID	WWN	Slot Number	Lun ID/NAME	Boot Name	Boot Path	Description
Remote CD/DVD	1									
San	2									
SAN primary		vHBA-F1A	Primary							
SAN Target primary			Primary	0	20:11:00:02:AC:00:8E...					
SAN Target secondary			Secondary	0	21:11:00:02:AC:00:8E...					
SAN secondary		vHBA-F1B	Secondary							
SAN Target primary			Primary	0	21:12:00:02:AC:00:8E...					
SAN Target secondary			Secondary	0	20:12:00:02:AC:00:8E...					







Connect

IP Address or Name: 10.2.1.16, 10.2.1.15  
10.2.1.16  
10.2.1.15

User Name: 3paradm

Password:

Secure Connection

Password is required

Help OK Cancel Options >>



**Steps**

- Welcome
- Targets**
- Links
- Groups
- Virtual Volumes
- Summary

**Targets**

**1. Select a Configuration**  
Select the Remote Copy configuration to use.

**2. Assign a System to Each Target**  
Select a Remote Copy system icon and, from the menu, assign a storage system. Repeat for each Remote Copy system icon.

**3. Label Locations**  
If not already provided, enter or update each systems location label.

System	OS Version	Location
3par7200	3.2.1	Local
3par7200c	3.2.1	Remote

**4. Name the Target Systems**  
The HP SPAR Management Console automatically uses the system name of the Remote Copy target as the target name. If desired, enter a new target name.

Targets

System	Backup System	Target Name
3par7200	3par7200c	3par7200c
3par7200c	3par7200	3par7200

Create additional targets for simultaneous synchronous and periodic operations

### Links

**1. Create Links Between Systems**  
 Click a port on one system icon and drag the dotted line to the desired port on the target system icon. A successful link is represented by a solid line between the ports. Link at least two ports on each system to two ports on each target system.

**2. Verify the Port Parameters**  
 Select each link in the configuration diagram to view the linked ports' parameters. Verify the IP settings for each port and update parameters as necessary.

**Port Parameters**

**System** Spar7200  
**Port** 0:3:1

**IP Settings**

IP Address: 192.168.1.10  
 Subnet Mask: 255.255.255.0  
 Gateway:   
 MTU: 9000  
 Speed: Auto (Default)  
 Duplex: Full

**System** Spar7200c  
**Port** 0:3:1

**IP Settings**

IP Address: 192.168.1.12  
 Subnet Mask: 255.255.255.0  
 Gateway:   
 MTU: 9000  
 Speed: Auto (Default)  
 Duplex: Full

Nothing has been edited

**Jumbo Ping**

	System Spar7200	System Spar7200c	
1.	192.168.1.10 (Port 0:3:1)	192.168.1.12 (Port 0:3:1)	✓ OK
2.	192.168.1.10 (Port 0:3:1)	192.168.1.12 (Port 0:3:1)	✓ OK

### Groups

**Specify Group**  
 You can create and add Remote Copy volume groups now or later. To create volume groups later, click **Finish** to complete this configuration.

- Enter the primary volume group information in the **Source** pane.
- In the **Backup** pane:
  - Select the target name of the system to which to add the associated backup volume group.
  - Choose the volume group mode. If you choose periodic mode and want the groups to automatically sync, specify a sync period.
  - If you are setting up a Synchronous Long Distance configuration, select the second backup target name and volume group mode in the second **Backup** pane.
- Click **Add** to add the new volume group to the configuration.

**Source**

System: Spar7200  
 Domain: <none>  
 Group: RemoteCopy

Start group after completion

**Backup**

Target Name: Spar7200c (RCIP)  
 Mode: Synchronous  Sync Period:  minute(s)

### Virtual Volumes

**Add Virtual Volumes to Groups**  
 You can add existing virtual volumes to the Remote Copy volume groups now or later. To add virtual volume later, click **Finish** to complete this configuration.

- From the **Group** list, select the source volume group to which to add virtual volumes.
- From the **Source Volume** list, select a source virtual volume to add to the source volume group.
- From the **Backup Volume** list, either select an existing backup volume or click **Create new volume** and create a new backup volume to add to the backup volume group.
- Click **Add** to add the selected volumes to their volume group.

Group: RemoteCopy

**Source Volume on: 3par7200**

Any column contains:

Virtual Volume	Provisioning	Virtual Size (GB)
3PAR_DS	thin	100,000

**Backup Volume on: 3par7200c (3par7200c)**

Use existing volume  Create new volume

Name: 3PAR\_DS\_Secondary

Virtual Size: 100,000 GB

User CPG: FC\_y5

CPG: FC\_y5 (RAID 5, FC, 459,000 GB Used, No Limit)

Allocation Warning:  %  Enabled

Allocation Limit:  %  Enabled

Copy CPG: FC\_Backup\_y5

CPG: FC\_Backup\_y5 (RAID 5, FC, 0,000 GB Used, No Limit)

Allocation Warning:  %  Enabled

Allocation Limit:  %  Enabled

### Summary

Review the summary information. Click **Finish** to create the Remote Copy configuration and start the new volume groups, if applicable.

**Configuration Parameters**

configuration 1-1

Location	Backup System	Target
Remote	3par7200	3par7200
Local	3par7200c	3par7200c

**Groups in this Configuration**

Group: RemoteCopy Domain: chone> Volumes: 1 Mode: Synchronous

Source VV Name	Virtual Size (GB)	Target Name	Backup System	Backup VV Name
3PAR_DS	100,000	3par7200c	3par7200c	3PAR_DS_Secondary

**Connectivity**

0.3.1  
1.3.1  
3par7200 (Local)

0.3.1  
1.3.1  
3par7200c (Remote)

Remote Copy: Remote Copy Configuration : Groups

Group	Source System	Source Role	Mode	DR state	Group state	Writable LUNs	Replication	Target Name	Back Syst
RemoteCopy	3par7200	Primary	Sync	Normal	Started	3par7200	→	3par7200c	3par

Virtual Volumes

Group	Source VV Name	Source System	Sync State	Target	Backup VV Name	Backup System	Sync Percent	Last Sync
RemoteCopy	3PAR_DS	3par7200	Syncing	3par7200c	3PAR_DS_Secondary	3par7200c	100%	--

Virtual Volumes

Group	Source VV Name	Source System	Sync State	Target	Backup VV Name	Backup System	Sync Percent	Last Sync
RemoteCopy	3PAR_DS	3par7200	✓ Synced	3par7200c	3PAR_DS_Secondary	3par7200c	--	--

Remote Copy: Remote Copy Configuration : Groups

Group	Source System	Source Role	Mode	DR state	Group state	Writable LUNs	Replication	Target Name	Back Syst
RemoteCopy	3par7200	Primary	Sync	Normal	Started	3par7200	→	3par7200c	3par

- Create Remote Copy Group...
- Edit Remote Copy Group...
- Remove Remote Copy Group(s)...
- Start Remote Copy Group(s)...
- Stop Remote Copy Group(s)...
- Sync Remote Copy Group(s)...
- Failover Remote Copy Group(s)...
- Revert Failover Remote Copy Group(s)...
- Switch Failover Remote Copy Group(s) to the other Backup System...
- Switchover Remote Copy Group(s)...
- Recover Remote Copy Group(s)...
- Restore Remote Copy Group(s)...

Default 1 object Filter Clear Any column contains: Clear

Group	Source System	Source Role	Mode	DR state	Group state	Writable LUNs	Replication	Target Name	Backup System	Backup Role
RemoteCopy	3par7200	Primary	Sync	Normal	Stopped	3par7200	--	3par7200c	3par7200c	Secondary

- Start Remote Copy Group(s)...
  - Stop Remote Copy Group(s)...
  - Sync Remote Copy Group(s)...
  - Failover Remote Copy Group(s)...**
  - Revert Failover Remote Copy Group(s)...
  - Switch Failover Remote Copy Group(s) to the other Backup System...
  - Switchover Remote Copy Group(s)...
- Fail

Default 1 object Filter Clear Any column contains: Clear

Group	Source System	Source Role	Mode	DR state	Group state	Writable LUNs	Replication	Target Name	Backup System	Backup Role
RemoteCopy	3par7200	Primary	Sync	Failover	Stopped	3par7200, ...	--	3par7200c	3par7200c	<b>Primary-Rev</b>

Boot Order

Filter Export Print

Name	Order	vNIC/vHBA/iSCSI vNIC	Type	Lun ID	WWN
Remote CD/DVD	1				
San	2				
SAN primary		vHBA1	Primary		
SAN Target primary			Primary	0	20:11:00:02:AC:00:8E:5B
SAN Target secondary			Secondary	0	21:11:00:02:AC:00:8E:5B
SAN secondary		vHBA2	Secondary		
SAN Target primary			Primary	0	21:12:00:02:AC:00:8E:5B
SAN Target secondary			Secondary	0	20:12:00:02:AC:00:8E:5B