Dell Networking S5000

Converged network and infrastructure with Dell S5000

- Converge LAN/SAN traffic
- Optimize & simplify the network
- Consolidate to decrease cost

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February 2014

Dell Networking S5000

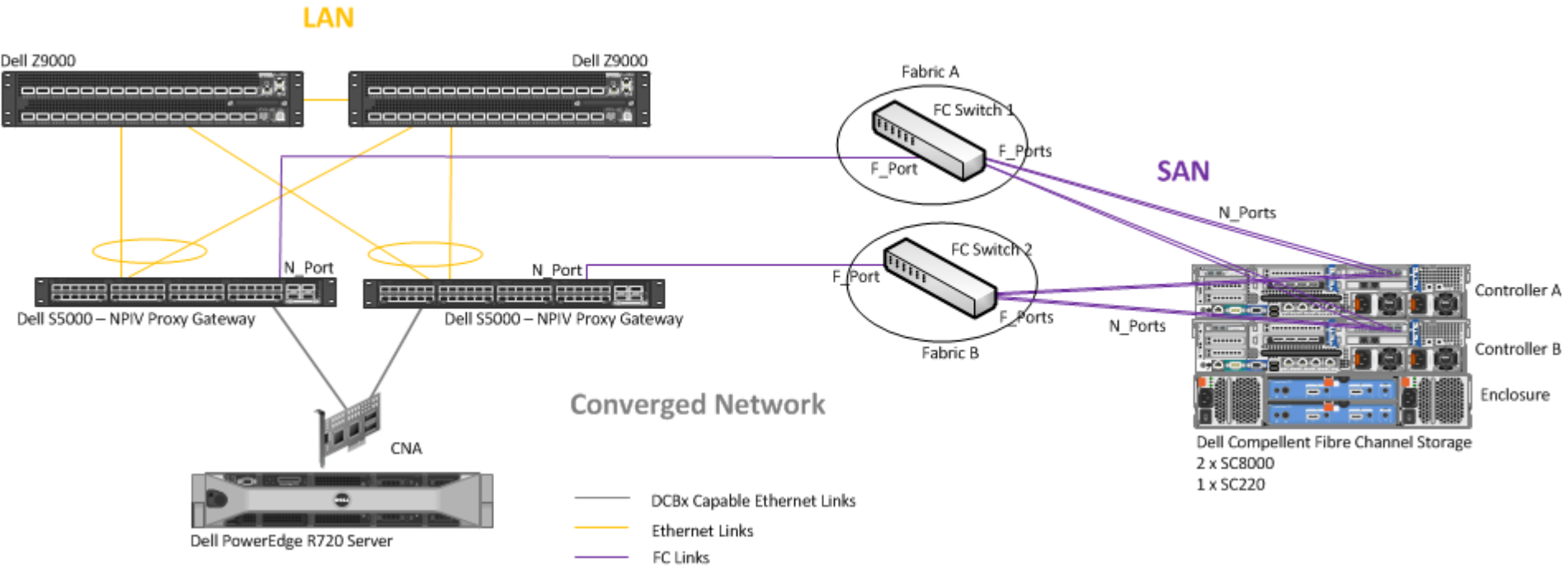
Converged network and infrastructure with Dell S5000 using rack and blade servers

- Understand the converged topology and benefits
- 3-step deployment process
- Deployment Validation

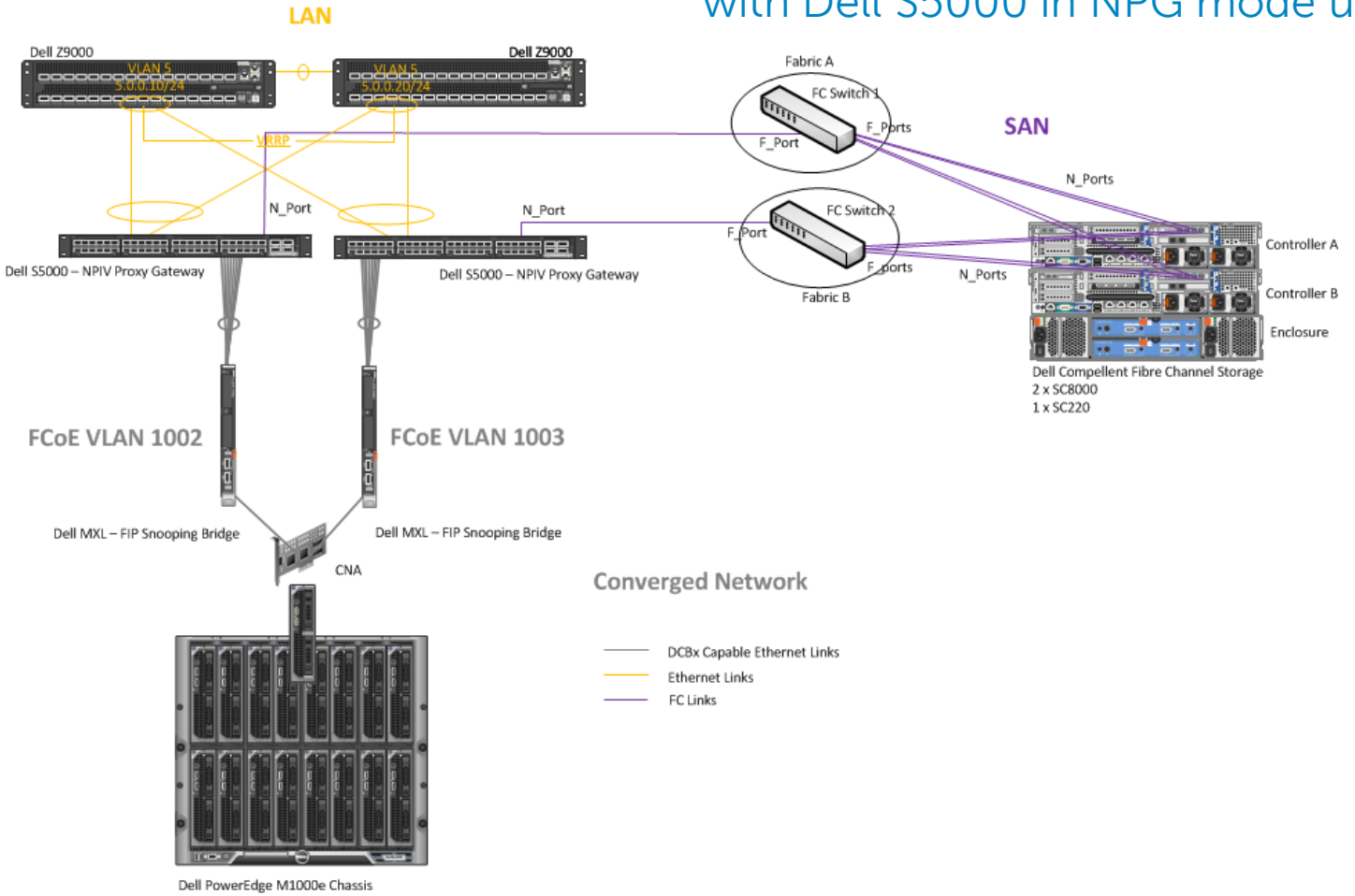
Converged network topology

NPIV Proxy Gateway (NPG) Mode

Moving to a converged network/infrastructure with Dell S5000 in NPG mode using rack servers



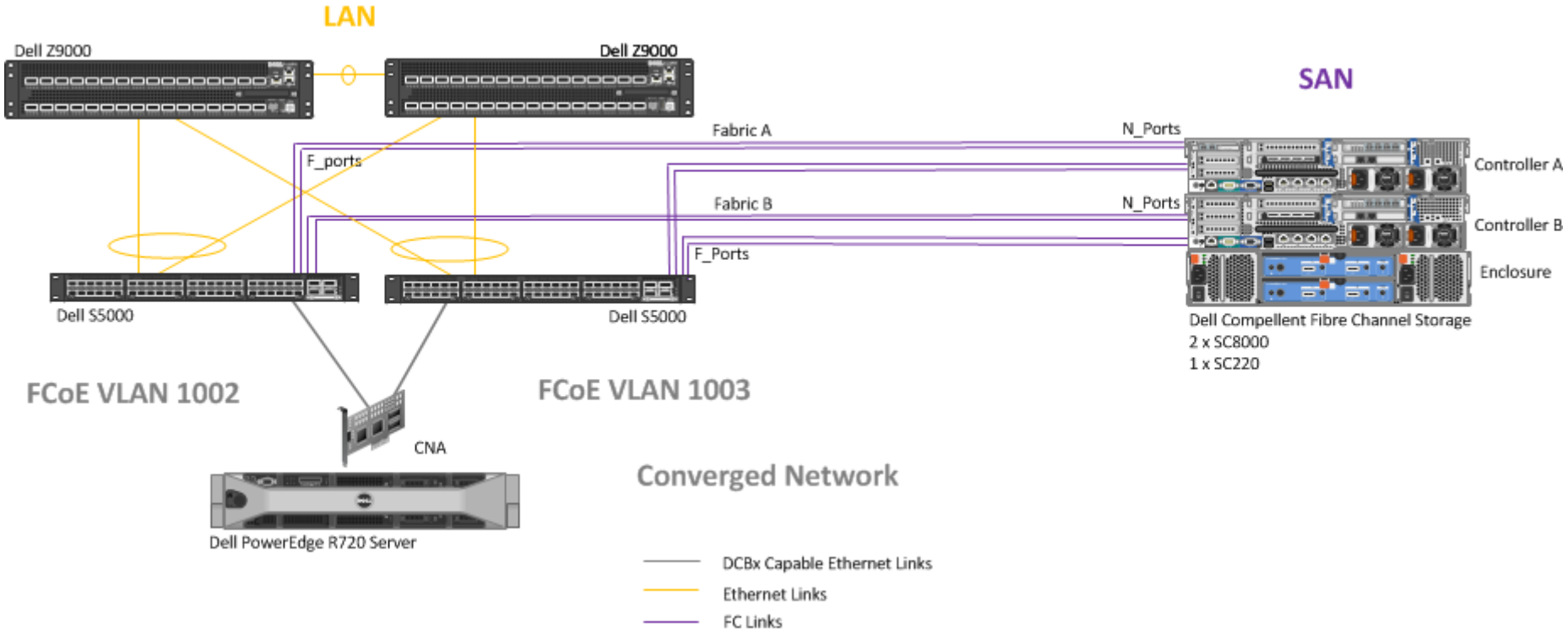
Moving to a converged network/infrastructure with Dell S5000 in NPG mode using blade servers



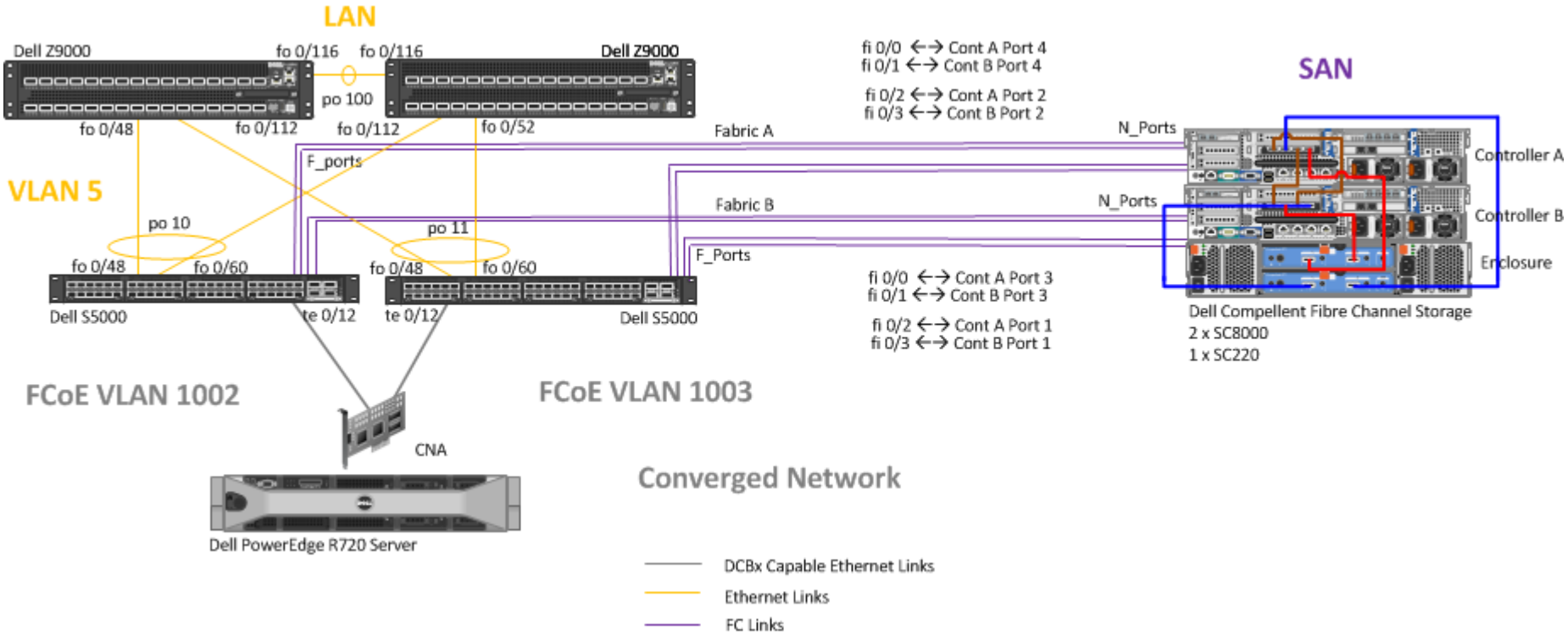
Converged network topology

Full Fabric (FCF) Mode

Moving to a converged network/infrastructure with Dell S5000 in Full Fabric mode



Lab Topology



3-step Deployment Process

Converged Network with Dell S5000 (FCF mode)

1. Configure CNA

a. Install CNA Drivers
b. Enable FCoE on CNA
c. Select multipathing policy
d. Configure LAN settings (VLAN, IP Address, Gateway, etc)

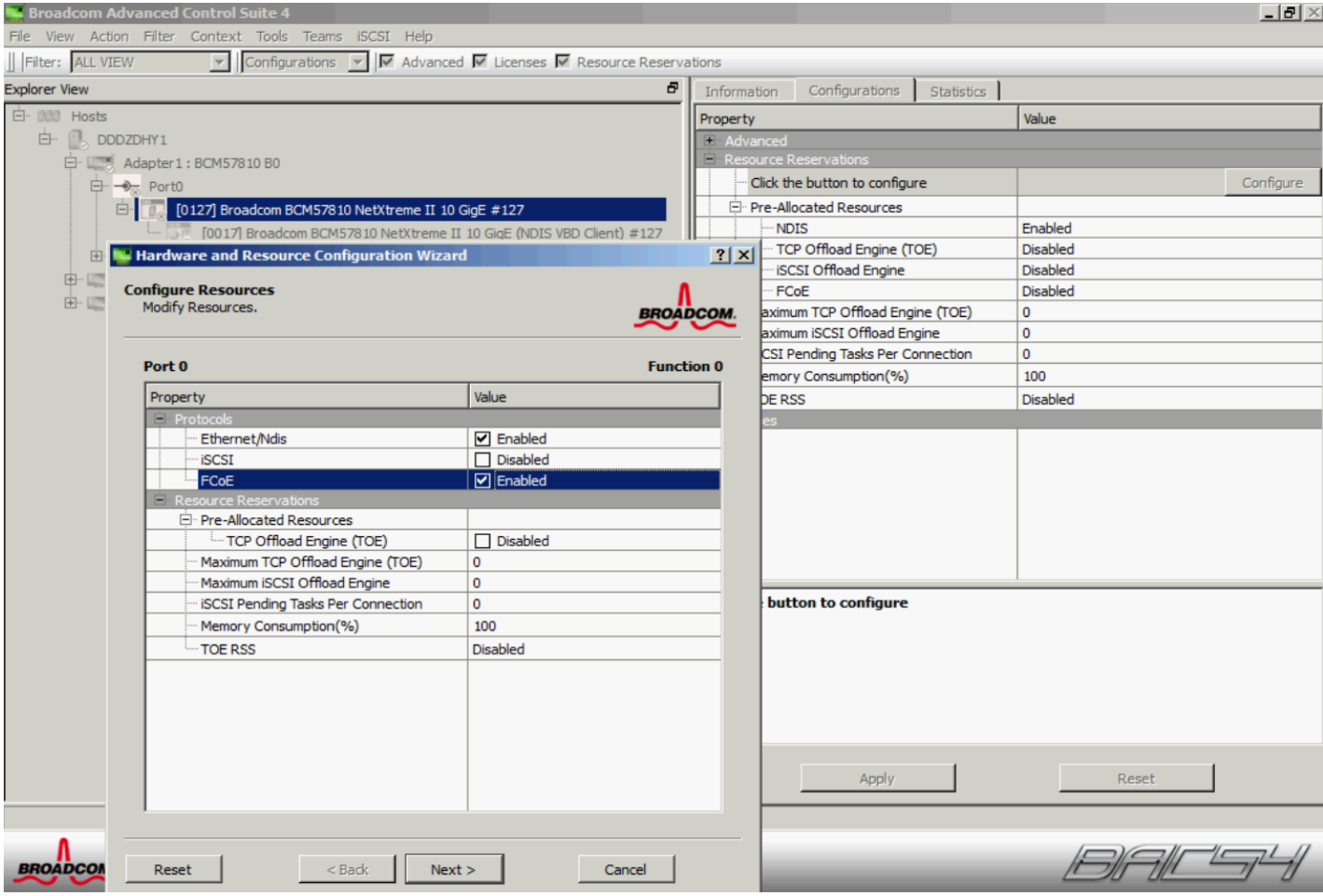
2. Configure S5000 (and MXL/IOA as FCoE Transit if using blade servers)

3. Update/Create appropriate S5000 FC zoning and storage information

- by default all devices cannot see and talk to each other
- NPIV enabled by default
- create zone
- activate zone

Broadcom 57810 CNA Configuration

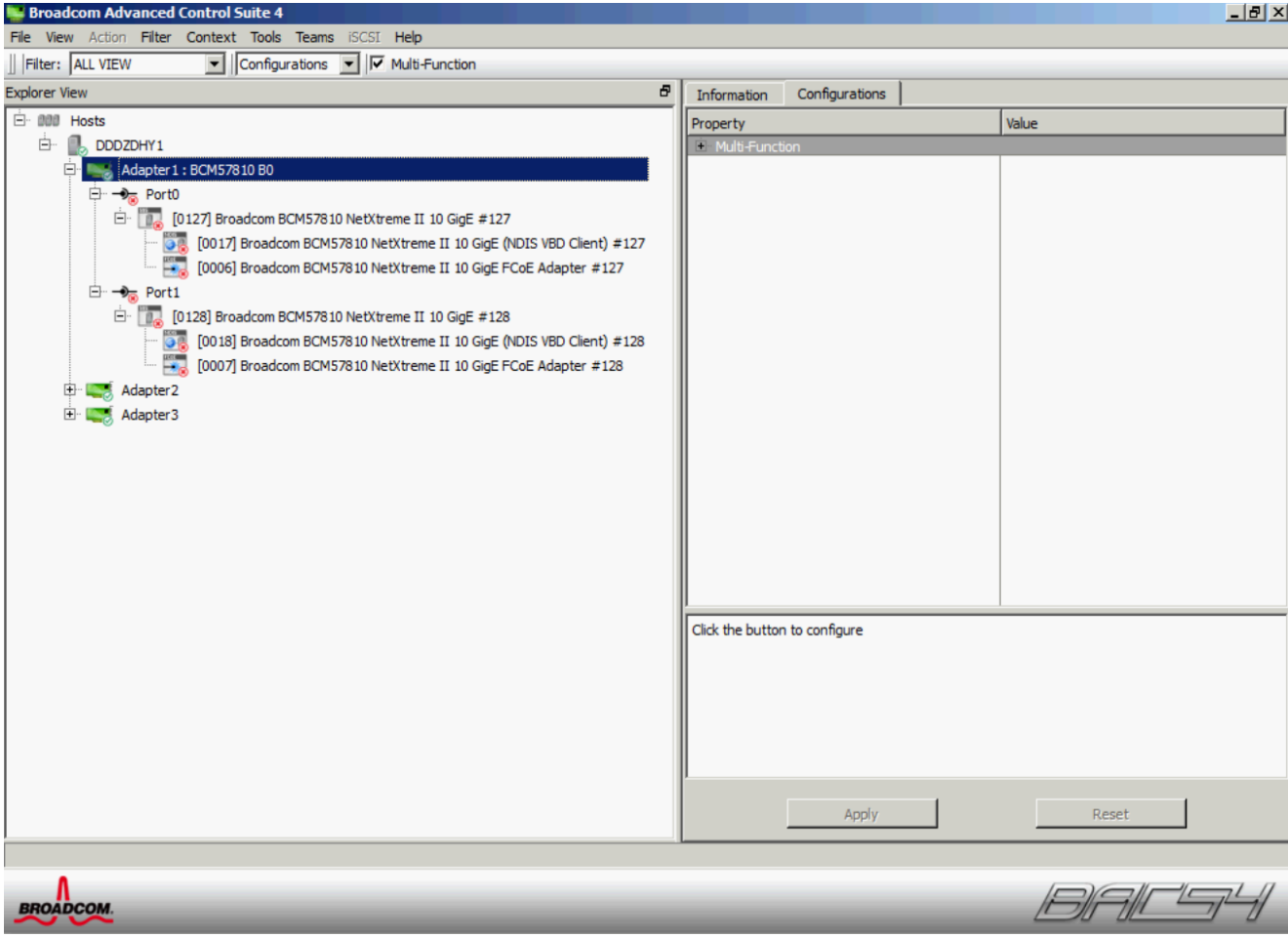
- Enable FCoE



Broadcom 57810 CNA Configuration

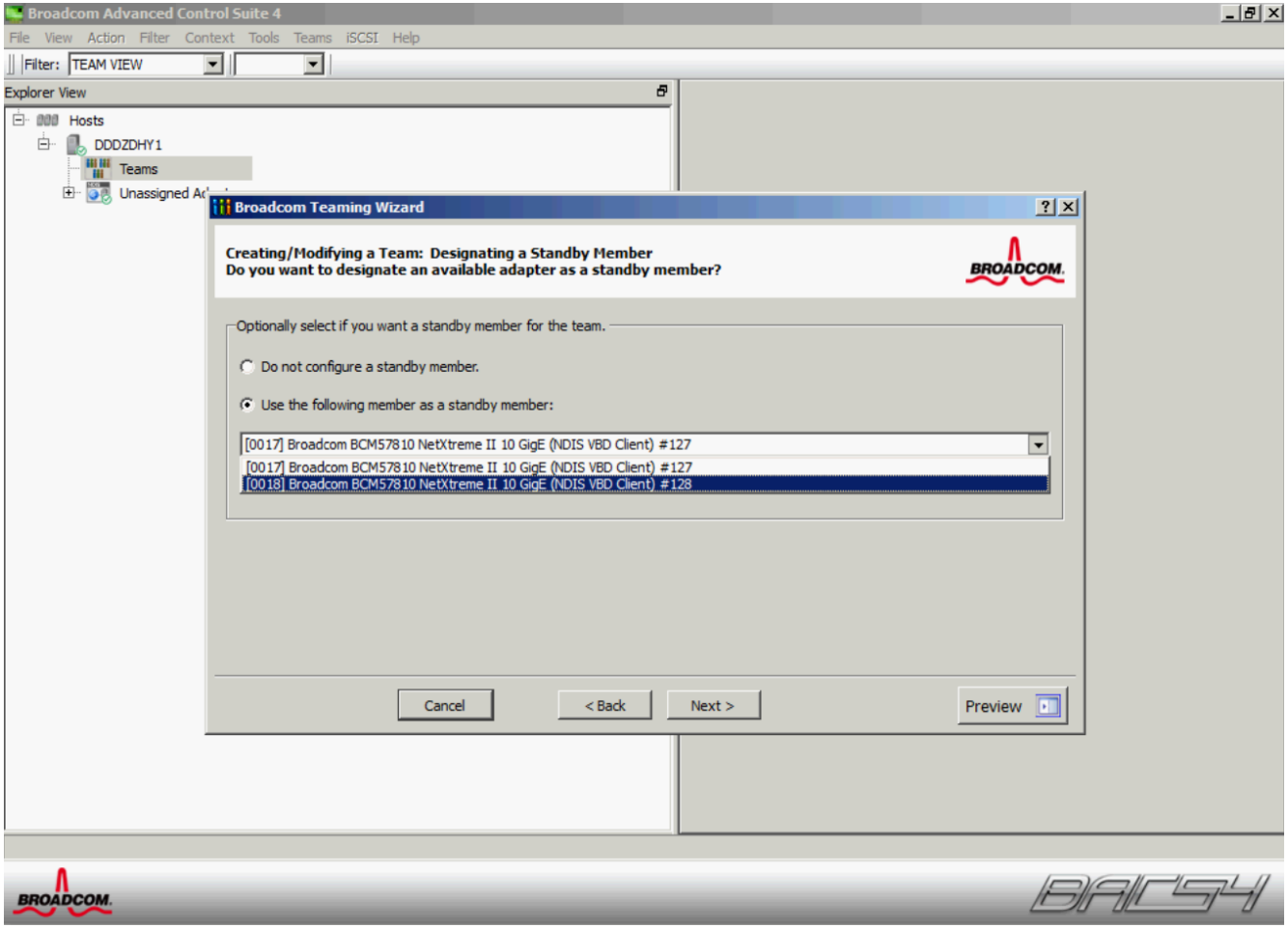
- No NPAR with FCoE Enabled

  (NPAR is optional)



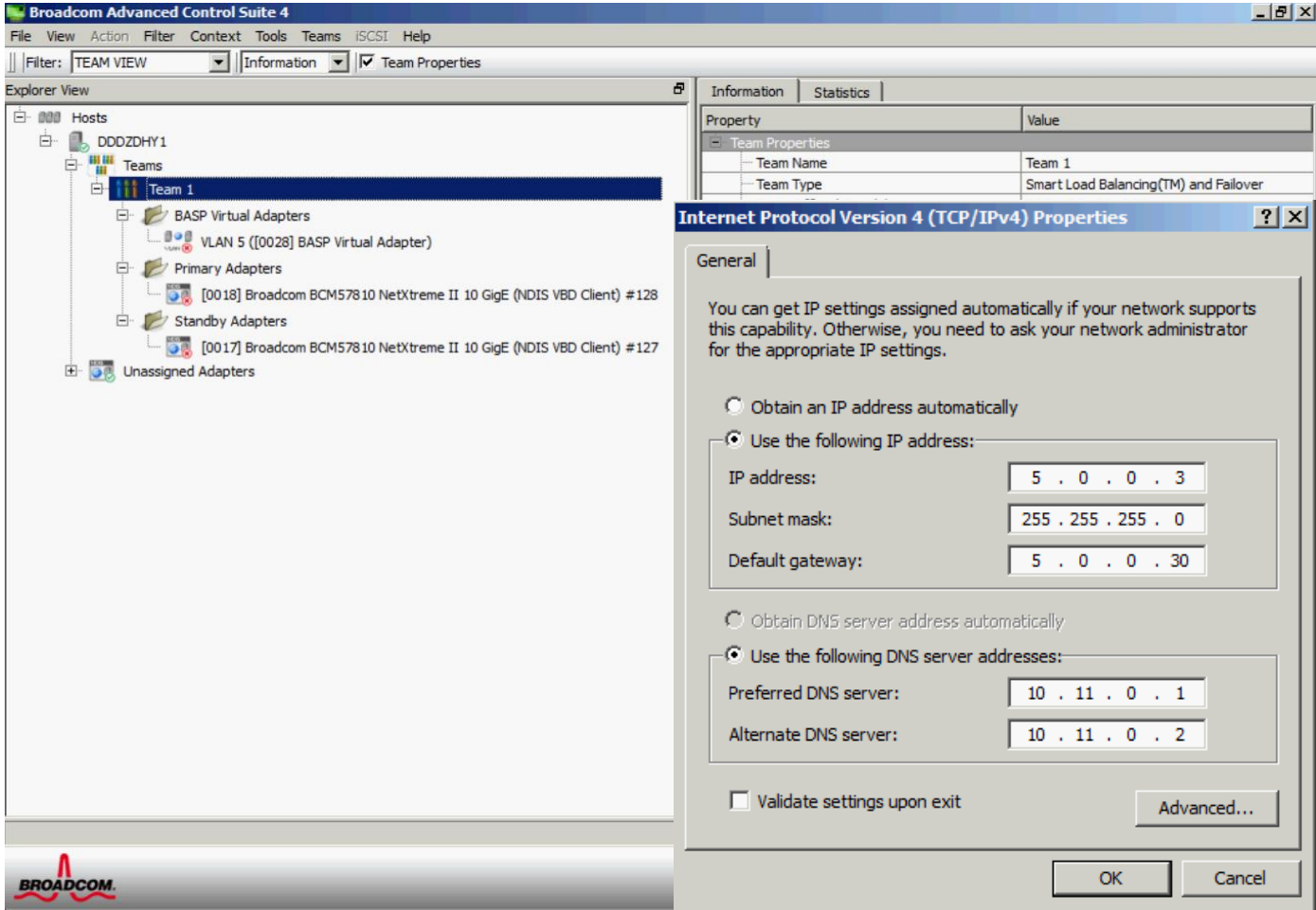
Broadcom 57810 CNA Configuration

- Configure LAN Settings



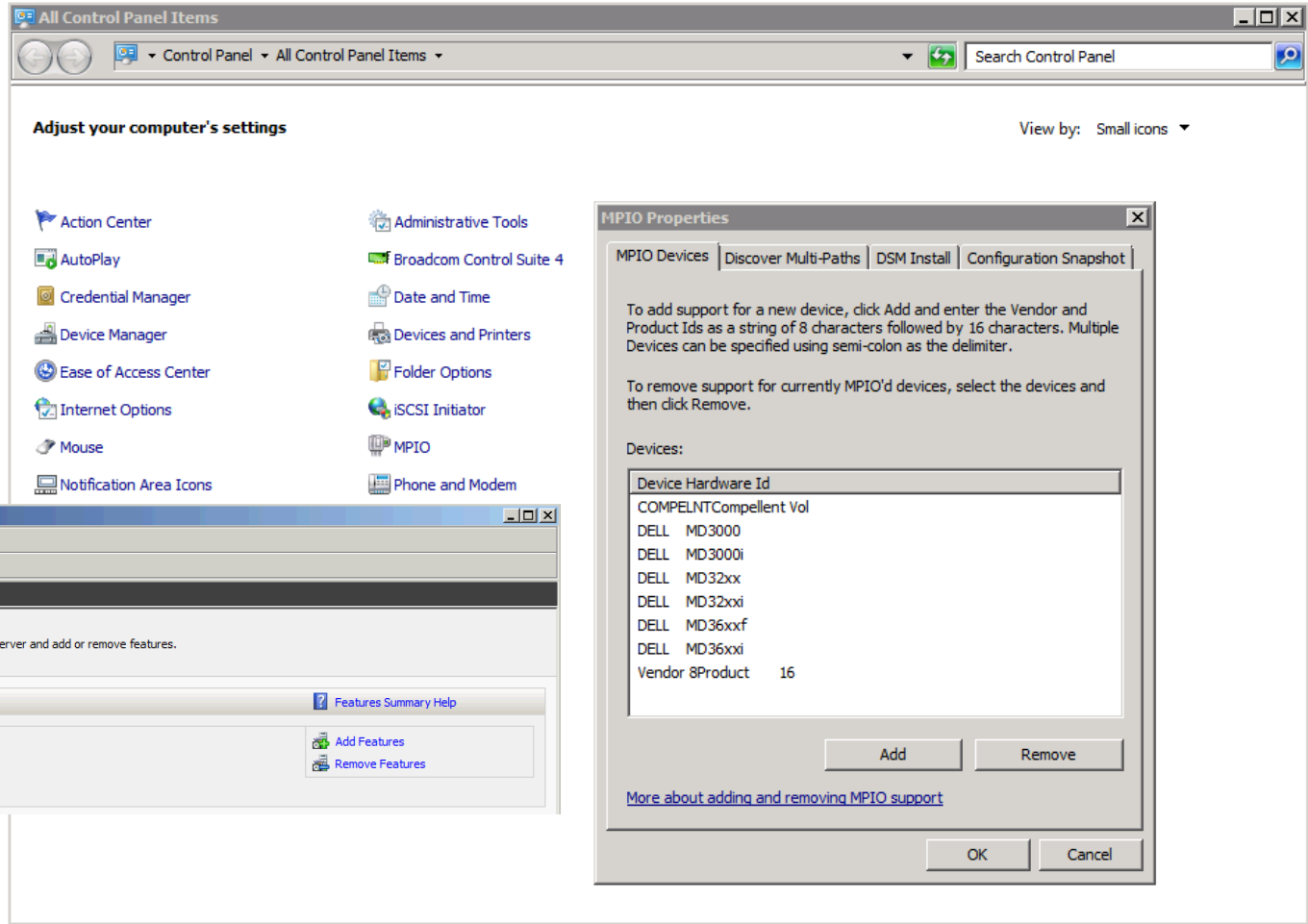
Broadcom 57810 CNA Configuration

- Configure LAN Settings



Broadcom 57810 CNA Configuration

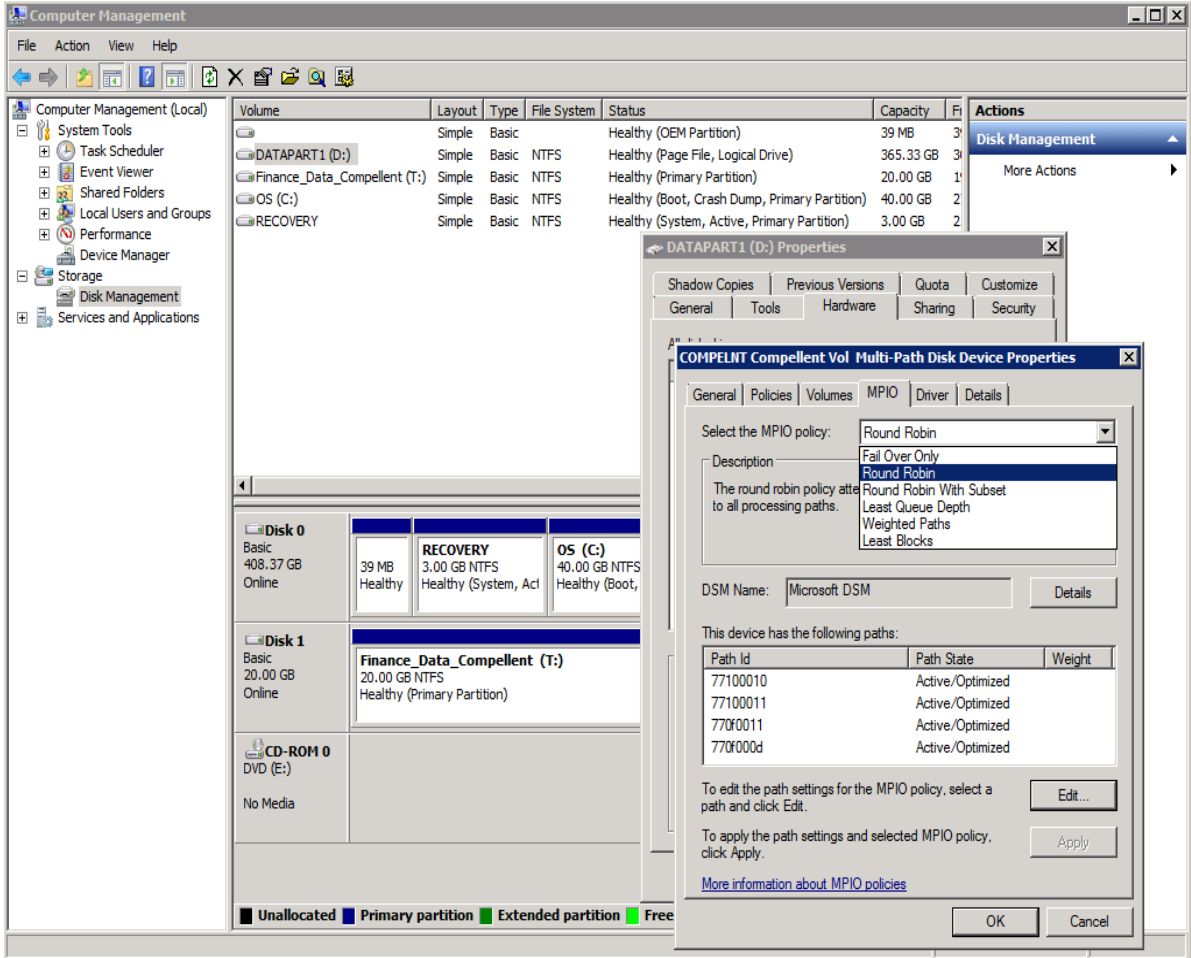
- Enable MPIO Feature



Broadcom 57810 CNA Configuration

- Set MPIO Policy

On Microsoft Windows 2008 R2 Enterprise the Compellent SC8000 controller uses Microsoft Multipath I/O (MPIO) for load balancing over ports.



Configure Dell S5000

1. Configure your typical LAN settings for the connections going upstream from the MXLs to the S6000s

2. Configure the interface connected to the CNA as portmode hybrid as it will carry both tagged and untagged traffic. Tag it in the respective VLAN for LAN traffic. It should be untagged on the default VLAN for FCoE control or FIP traffic.

3. Enable Full fabric Fibre Channel capabilities
   > feature fc
   > fc switch-mode fabric-services

4. Create the FCoE VLAN
   > interface vlan 1002

Configure Dell S5000

5. Create your DCB and FCoE Maps and apply them to the respective interfaces
   - DCB-MAP applied to interface going to CNA
   - FCOE-MAP applied to interface going to CNA FC interfaces (default FCoE Map created)

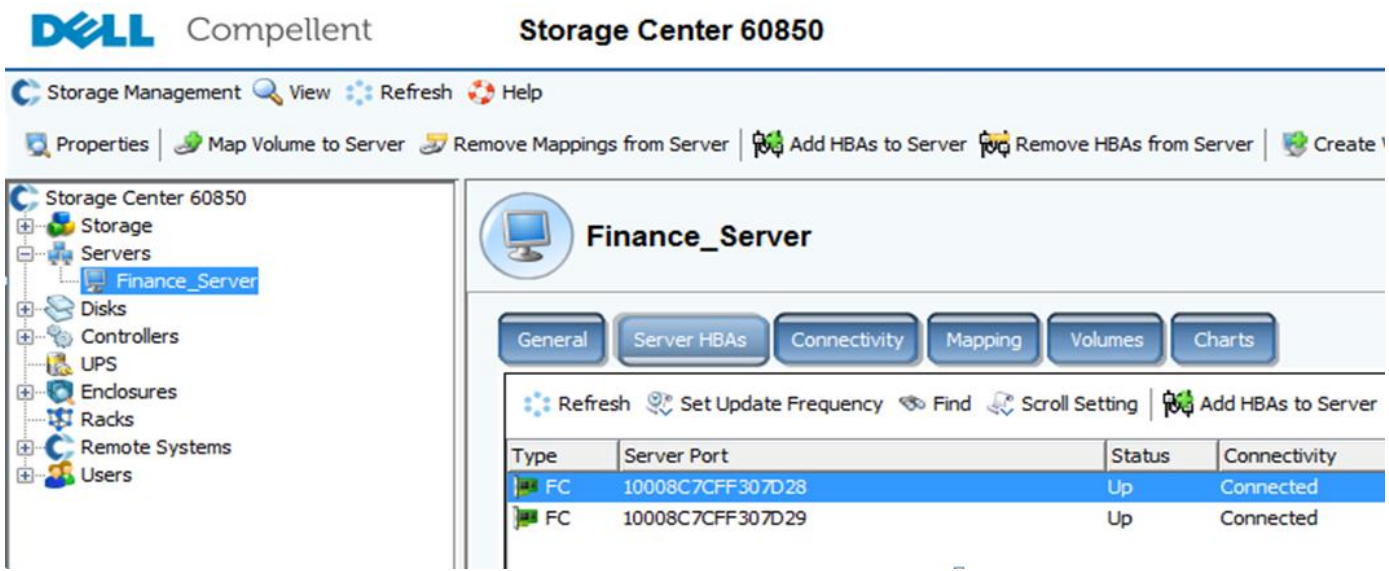
```
> dcb-map SAN_DCB_MAP
> priority-group 0 bandwidth 60 pfc off
> priority-group 1 bandwidth 40 pfc on
> priority-pgid 0 0 0 1 0 0 0 0
> exit

> fcoe-map default_full_fabric
> fabric-id 1002 vlan 1002
> fc-map 0efc02
> exit

> interface range fibreChannel 0/0 – 11
> no shut

> interface tengigabitethernet 0/12
> dcb-map SAN_DCB_MAP
> fcoe-map default_full_fabric
> no shutdown
> exit
```

Dell S5000 Zoning Configuration

```
> fc zone Finance_Server
> member 20:01:00:0a:f7:06:90:61
> member 50:00:d3:10:00:ed:b2:3d
> member 50:00:d3:10:00:ed:b2:43
> member 50:00:d3:10:00:ed:b2:3b
> member 50:00:d3:10:00:ed:b2:41
> exit

> fc zoneset Compellent_Access
> member Finance_Server
> exit

> fcoe-map default_full_fabric
> fc-fabric
> activate-zoneset Compellent_Access
> exit
```

```
Dell_S5000_1#show fc zoneset active


Active Zoneset: Compellent_Access


ZoneName                                ZoneMember
=========================================================
Finance_Server
                                        *20:01:00:0a:f7:06:90:61
                                        *50:00:d3:10:00:ed:b2:3d
                                        *50:00:d3:10:00:ed:b2:43
                                        *50:00:d3:10:00:ed:b2:3b
                                        *50:00:d3:10:00:ed:b2:41
Dell_S5000_1#
```

Allow server access to storage volume



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