Cisco MDS 9148S configuration

FlexPod

NetApp
June 04, 2021

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The Cisco MDS 9100 Series FC switches provide redundant 16Gb FC connectivity between the NetApp AFF A700 controllers and the Cisco UCS compute fabric. The cables should be connected as described in the section “Cabling Diagram.”

1. From the switch consoles on each MDS switch, run the following commands to enable the required features for the solution:

```
configure terminal
feature npiv
feature fport-channel-trunk
```

2. Configure individual ports, port channels, and descriptions according to the FlexPod Cisco MDS switch configuration section in FlexPod Datacenter with FC Cisco Validated Design.
3. To create the necessary VSANs for the Epic solution, complete the following steps while in global configuration mode:
   a. For the fabric A MDS switch:

```
vsan database
vsan <vsan-a-id>
vsan <vsan-a-id> name Fabric-A
exit
zone smart-zoning enable vsan <vsan-a-id>
vsan database
vsan <vsan-a-id> interface fc1/1
vsan <vsan-a-id> interface fc1/2
vsan <vsan-a-id> interface port-channel110
vsan <vsan-a-id> interface port-channel112
```

   The port channel numbers in the last two lines of the command were created when the individual ports, port channels, and descriptions were provisioned using the reference document.

   b. For the fabric B MDS switch:

```
vsan database
vsan <vsan-b-id>
vsan <vsan-b-id> name Fabric-B
exit
zone smart-zoning enable vsan <vsan-b-id>
vsan database
vsan <vsan-b-id> interface fc1/1
vsan <vsan-b-id> interface fc1/2
vsan <vsan-b-id> interface port-channel111
vsan <vsan-b-id> interface port-channel113
```

The port channel numbers in the last two lines of the command were created when the individual ports, port channels, and descriptions were provisioned using the reference document.

4. For each FC switch, create device alias names that make identifying each device intuitive for ongoing operations using the details in the reference document.
5. Finally, create the FC zones using the device alias names created in the previous step for each MDS switch as follows:
   a. For the fabric A MDS switch:

```
configure terminal
zone name VM-Host-Infra-01-A vsan <vsan-a-id>
member device-alias VM-Host-Infra-01-A init
member device-alias Infra-SVM-fcp_lif01a target
member device-alias Infra-SVM-fcp_lif02a target
exit
zone name VM-Host-Infra-02-A vsan <vsan-a-id>
member device-alias VM-Host-Infra-02-A init
member device-alias Infra-SVM-fcp_lif01a target
member device-alias Infra-SVM-fcp_lif02a target
exit
zoneset name Fabric-A vsan <vsan-a-id>
member VM-Host-Infra-01-A
member VM-Host-Infra-02-A
exit
zoneset activate name Fabric-A vsan <vsan-a-id>
exit
show zoneset active vsan <vsan-a-id>
```

   b. For the fabric B MDS switch:

```
configure terminal
zone name VM-Host-Infra-01-B vsan <vsan-b-id>
member device-alias VM-Host-Infra-01-B init
member device-alias Infra-SVM-fcp_lif01b target
member device-alias Infra-SVM-fcp_lif02b target
exit
zone name VM-Host-Infra-02-B vsan <vsan-b-id>
member device-alias VM-Host-Infra-02-B init
member device-alias Infra-SVM-fcp_lif01b target
member device-alias Infra-SVM-fcp_lif02b target
exit
zoneset name Fabric-B vsan <vsan-b-id>
member VM-Host-Infra-01-B
member VM-Host-Infra-02-B
exit
zoneset activate name Fabric-B vsan <vsan-b-id>
exit
show zoneset active vsan <vsan-b-id>
```

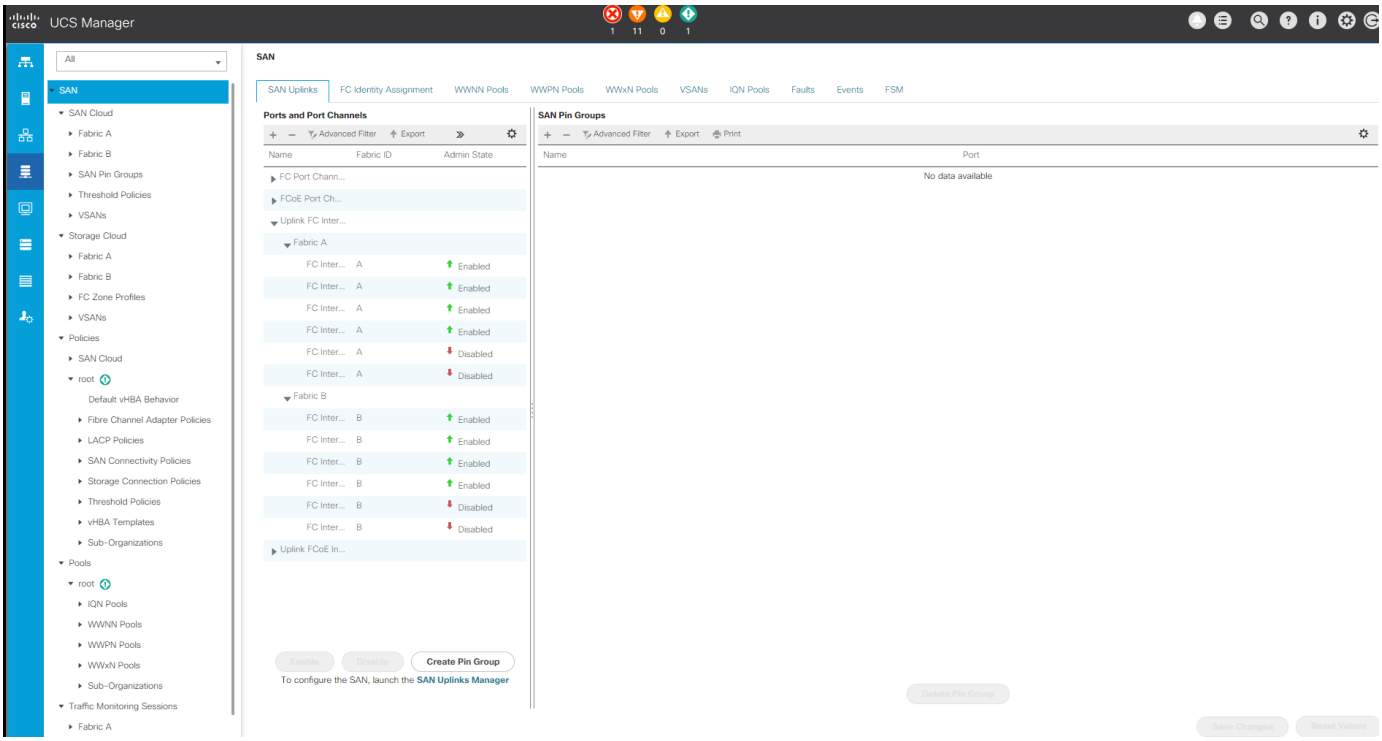
Cisco UCS configuration guidance

Cisco UCS allows Epic customers to use their subject matter experts in network, storage, and compute to create policies and templates that tailor the environment to their specific needs. After being created, these policies and templates can be combined into service profiles that deliver consistent, repeatable, reliable, and fast deployments of Cisco blade and rack servers.

Cisco UCS provides three methods for managing a Cisco UCS system (called a domain):

- Cisco UCS Manager HTML 5 GUI
- Cisco UCS CLI
- Cisco UCS Central for multidomain environments

The following figure shows a sample screenshot of the SAN node in Cisco UCS Manager.



In larger deployments, independent Cisco UCS domains can be built for additional fault tolerance at the major Epic functional component level.

In highly fault-tolerant designs with two or more data centers, Cisco UCS Manager plays a key role in setting global policy and global service profiles for consistency between hosts throughout the enterprise.

Complete the following procedures to set up the Cisco UCS compute platform. Perform these procedures after the Cisco UCS B200 M5 blade servers are installed in the Cisco UCS 5108AC blade chassis. Also, the cabling requirements must be completed as described in the section "Cabling Diagram."

1. Upgrade the Cisco UCS Manager firmware to version 3.2(2f) or later.
2. Configure the reporting, call home features, and NTP settings for the domain.
3. Configure the server and uplink ports on each fabric interconnect.
4. Edit the chassis discovery policy.
5. Create the address pools for out-of-band management, UUIDs, MAC address, servers, WWNN, and WWPN.
6. Create the Ethernet and FC uplink port channels and VSANs.
7. Create policies for SAN connectivity, network control, server pool qualification, power control, server BIOS, and default maintenance.
8. Create vNIC and vHBA templates.
9. Create vMedia and FC boot policies.
10. Create service profile templates and service profiles for each Epic platform element.
11. Associate the service profiles with the appropriate blade servers.

For the detailed steps to configure each key element of the Cisco UCS service profiles for FlexPod, see the FlexPod Datacenter with FC Cisco Validated Design document.

For Epic deployments, Cisco recommends a range of service profile types, based on the Epic elements being

deployed. By using server pools and server pool qualification, customers can identify and automate the deployment of service profiles to particular host roles. A sample list of service profiles are as follows:

- For the Epic Chronicle Caché database hosts:
  - Production host service profile
  - Reporting service host profile
  - Disaster recovery host service profile
  - Hot spare host service profile
- For Epic Hyperspace hosts:
  - VDI host service profile
  - Citrix XenApp host service profile
  - Disaster recovery host service profile
  - Hot spare host service profile
- For the Epic Cogito and Clarity database hosts:
  - Database host service profile (Clarity RDBMS and business objects)
- For the Epic Services hosts:
  - Application host profile (print format and relay, communications, web BLOB, and so on)