



Configuring Hosts

To continue configuring the using the SVC application for a Cisco MDS 9216 switch or for any switch in the Cisco MDS 9500 Family, you must determine the number of hosts, isolate host traffic to VSAN 1, and map VDisks to hosts.

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About Hosts

Hosts are identified to the cluster through user configuration. The LUN mapping feature controls which VDisks are accessible by which hosts. A host may contain multiple ports that connect to the SAN. To ease the configuration process, all host ports can be configured in a group. Host ports are referred to by their pWWNs. The specific LUN number is optionally specified when the LUN map is configured. Otherwise, the cluster chooses a LUN number automatically.

Isolating Host Traffic

The SVC target N-ports are in VSAN 1 along with the two hosts. To isolate hosts and targets, this example uses the SAN-OS zoning feature.

To isolate hosts using the zoning feature, follow these steps.

Step 1 Issue the **show fcns database vsan 1** command to view the hosts and targets in VSAN 1.

```
switch# show fcns database vsan 1
VSAN 1:
-----
FCID          TYPE  PWWN                                (VENDOR)          FC4-TYPE:FEATURE
-----
0x6a0200      N     21:00:00:e0:8b:09:e7:04 (QLogic)          scsi-fcp:init
0x6a0300      N     21:00:00:e0:8b:09:f0:04 (QLogic)          scsi-fcp:init
0x6a0003      N     22:20:00:05:30:00:11:69 (Cisco)           scsi-fcp:target svc
0x6a0006      N     21:23:00:05:30:00:11:69 (Cisco)           scsi-fcp:target svc
```

```
0x6a0009 N 22:23:00:05:30:00:11:69 (Cisco) scsi-fcp:target svc
0x6a000c N 21:20:00:05:30:00:11:69 (Cisco) scsi-fcp:target svc
Total number of entries = 6
```

Step 2 Enter the MDS configuration mode and create a zone called host-finance in VSAN 1.

```
switch# config t
switch(config)# zone name host-finance vsan 1
switch(config-zone)#
```

Step 3 Assign members to the host-finance zone.

```
switch(config-zone)# member pwwn 21:00:00:e0:8b:09:e7:04 --> Host finance
switch(config-zone)# member pwwn 22:20:00:05:30:00:11:69 --> SVC target N-port
switch(config-zone)# member pwwn 21:23:00:05:30:00:11:69 --> SVC target N-port
switch(config-zone)# member pwwn 22:23:00:05:30:00:11:69 --> SVC target N-port
switch(config-zone)# member pwwn 21:20:00:05:30:00:11:69 --> SVC target N-port
```

Step 4 Create a zone called host-marketing in VSAN 1.

```
switch(config)# zone name host-marketing vsan 1
switch(config-zone)#
```

Step 5 Assign members to the host-marketing zone.

```
switch(config-zone)# member pwwn 21:00:00:e0:8b:09:f0:04 --> Host marketing
switch(config-zone)# member pwwn 22:20:00:05:30:00:11:69 --> SVC target N-port
switch(config-zone)# member pwwn 21:23:00:05:30:00:11:69 --> SVC target N-port
switch(config-zone)# member pwwn 22:23:00:05:30:00:11:69 --> SVC target N-port
switch(config-zone)# member pwwn 21:20:00:05:30:00:11:69 --> SVC target N-port
```

Step 6 Exit to the MDS configuration mode and create a zone set called *main-zset* in VSAN 1

```
switch(config-zone)# exit
switch(config)# zoneset name main-zset vsan 1
switch(config-zoneset)#
```

Step 7 Assign the host-finance zone and the host-marketing zone as members of the main-zset zone set.

```
switch(config-zoneset)# member host-finance
switch(config-zoneset)# member host-marketing
```

Step 8 Exit to the MDS configuration mode.

```
switch(config-zoneset)# exit
switch(config-zone)# exit
switch(config)#
```

Step 9 Activate the main-zset zoneset in VSAN 1.

```
switch(config)# zoneset activate name main-zset vsan 1
Zoneset activation initiated. check zone status
```

Step 10 Exit to the MDS EXEC mode and verify the active zoneset in VSAN 1.

```
switch(config)# exit
switch# show zoneset active vsan 1
zoneset name main-zset vsan 1
  zone name host-finance vsan 1
    * fcid 0x6a0200 [pwwn 21:00:00:e0:8b:09:e7:04]
    * fcid 0x6a0003 [pwwn 22:20:00:05:30:00:11:69]
    * fcid 0x6a0006 [pwwn 21:23:00:05:30:00:11:69]
    * fcid 0x6a0009 [pwwn 22:23:00:05:30:00:11:69]
    * fcid 0x6a000c [pwwn 21:20:00:05:30:00:11:69]

  zone name host-marketing vsan 1
```

```

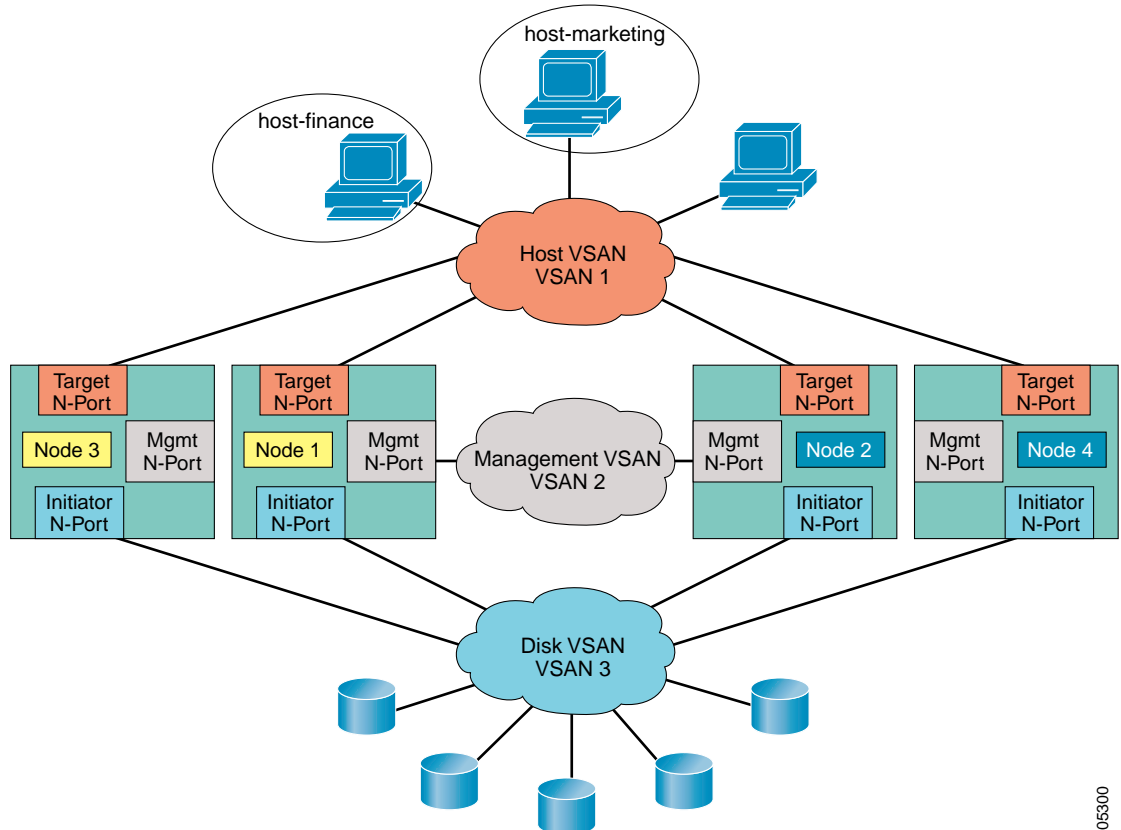
* fcid 0x6a0300 [pwwn 21:00:00:e0:8b:09:f0:04]
* fcid 0x6a0003 [pwwn 22:20:00:05:30:00:11:69]
* fcid 0x6a0006 [pwwn 21:23:00:05:30:00:11:69]
* fcid 0x6a0009 [pwwn 22:23:00:05:30:00:11:69]
* fcid 0x6a000c [pwwn 21:20:00:05:30:00:11:69]

```

```
zone name $default_zone$vsan 1
```

You have now created the host VSAN and two zones—host-finance and host-marketing (see [Figure 6-1](#)).

Figure 6-1 Identifying the Target N-Ports



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Creating Hosts

To create a host, follow these steps.

- Step 1** Use the **show cluster *cluster-name* host candidate** command to obtain a list of candidate hosts.

```
switch# svc-config
switch(svc)# show cluster SampleCluster host candidate
-----
id          pwwn
-----
1          21:00:00:e0:8b:09:e7:04
```

Use the host candidate's pWWN to identify the host to be mapped.

- Step 2** Enter the cluster configuration submode.

```
switch(svc)# cluster config SampleCluster
switch(svc-cluster)#
```

- Step 3** Create a host called *Finance1* with the pWWN identified in [Step 1](#).

```
switch(svc-cluster)# host add Finance1 hostport 21:00:00:e0:8b:09:e7:04
```

- Step 4** Exit to the SVC configuration mode.

```
switch(svc-cluster)# exit
switch(svc)#
```

- Step 5** Use the **show cluster *cluster-name* host** command to verify that the newly added host displays the number of configured ports.

```
switch(svc)# show cluster SampleCluster host
-----
name          number of ports
-----
Finance1          1
```

Mapping VDisks to Hosts

To map VDisks to hosts, follow these steps.

- Step 1** Enter the cluster configuration submode.

```
switch(svc)# cluster config SampleCluster
switch(svc-cluster)#
```

- Step 2** Enter the host configuration submode for *Finance1*.

```
switch(svc-cluster)# host name Finance1
switch(svc-cluster-host)#
```

- Step 3** Map the three VDisks to *Finance1*

```
switch(svc-cluster-host)# map vdisk crm-data SCSI-lun 10
switch(svc-cluster-host)# map vdisk crm-idx
switch(svc-cluster-host)# map vdisk crm-log
```



Note The optional SCSI-lun 10 option allows the customer to specify the LUN value that is mapped to this VDisk, otherwise the cluster automatically picks the lowest available value.

Step 4 Exit to the SVC configuration mode.

```
switch(svc-cluster-host)# exit
switch(svc-cluster)# exit
switch(svc)#
```

Step 5 Verify that Finance1 has one port with the configured pWWN

```
switch(svc)# show cluster SampleCluster host Finance1
host Finance1:
  Number of port is 1
  Port WWN is 21:00:00:e0:8b:09:e7:04
  LUN0: vdik crm-idx
  LUN1: vdisk crm-log
  LUN10: vdisk crm-data
```

Configuring iSCSI Hosts in SVC

This section provides the configuration procedure to allow an iSCSI host to access VDisks exported by an SVC cluster.



Tip Linux users should configure the `/etc/iscsi.conf` file using the following parameters:

```
Multipath=no
HostIPsforMP=<ip address of NIC1>,<ip address of NIC2>
ConnFailTimeout=50
```

Refer to the *Cisco MDS 9000 Family Configuration Guide* for further details on iSCSI concepts and configuration options.



Note Before configuring the iSCSI Hosts, be sure to configure the required level of iSCSI authentication. Refer to the *Cisco MDS 9000 Family Configuration Guide* for further information on the available iSCSI authentication option.

The following example uses the null authentication option. It also displays the configuration for two iSCSI hosts.

To configure two iSCSI hosts to access VDisks exported by an SVC cluster, follow these steps.

Step 1 Configure iSCSI to dynamically import all Fibre Channel targets into the iSCSI SAN using auto-generated iSCSI target names.

```
switch# conf t
switch(config)# iscsi import target fc
```

Step 2 Configure the Gigabit Ethernet interface in slot 4 port 1 with an IP address and enable the interface.

```
switch(config)# int gigabitethernet 4/1
```

```
switch(config-if)# ip address 10.11.1.1 255.255.255.0
switch(config-if)# no shut
switch(config-if)# exit
switch(config)#
```

- Step 3** Configure the iSCSI interface in slot 4 port 1 and enable the interface.

```
switch(config)# int iscsi 4/1
switch(config-if)# no shut
switch(config-if)# exit
switch(config)#
```

- Step 4** Configure static pWWNs for each iSCSI initiator.

The first iSCSI initiator is identified using the IQN name—one nWWN and one pWWNs from the switch's Fibre Channel WWN pool are allocated in the SVC target N-port VSAN (in this example, VSAN 1—See [Figure 6-1](#)) keep the mapping permanent:

```
switch(config)# iscsi initiator name iqn.1987-05.com.cisco:01.e41695d16b1a
switch(config-(iscsi-init))# vsan 1
switch(config-(iscsi-init))# static pwwn system-assign 1
switch(config-(iscsi-init))# static nwwn system-assign
switch(config-(iscsi-init))# exit
switch(config)#
```

The second iSCSI initiator is identified using the IP address—one pWWN from the switch's Fibre Channel WWN pool is assigned in the SVC target N-port VSAN (in this example, VSAN 1—See [Figure 6-1](#)):

```
switch(config)# iscsi initiator ip address 10.15.1.11
switch(config-(iscsi-init))# vsan 1
switch(config-(iscsi-init))# static pwwn system-assigned 1
switch(config-(iscsi-init))# end
switch#
```

- Step 5** View the configured initiators. The WWNs are automatically assigned by the system.

```
switch# show iscsi initiator configured
iSCSI Node name is iqn.1987-05.com.cisco:01.e41695d16b1a
  Member of vsans: 1
  Node WWN is 20:03:00:0b:fd:44:68:c2
  No. of PWWN: 1
  Port WWN is 21:00:00:e1:8b:09:e7:04

iSCSI Node name is 10.15.1.11
  Member of vsans: 1
  No. of PWWN: 1
  Port WWN is 20:06:00:0b:fd:44:68:c2
```

- Step 6** Add the host to the same zone as the SVC target N-Ports.

Zone membership for the iSCSI initiator can either be the iSCSI symbolic node name or the pWWN. In this case, the pWWN can be used since it is statically created.

```
switch# conf t
switch(config)# zone name host-finance vsan 1
switch(config-zone)#
```

- Step 7** Assign the membership.

The following example is based on the symbolic node name.

```
switch(config-zone)# member symbolic-nodename iqn.1987-05.com.cisco:01.e41695d16b1a
```

The following example is based on the persistent pWWN assigned to the initiator. You can obtain the pWWN from the output of the **show iscsi initiator** command.

```
switch(config-zone)# member pwnn 20:06:00:0b:fd:44:68:c2
switch(config-zone)# end
switch#
```

Step 8 Create a SVC host using this pWWN

```
switch# svc-config
switch(svc)# show cluster SampleCluster host candidate
-----
id          pwnn
-----
1          21:00:00:e1:8b:09:e7:04
2          20:06:00:0b:fd:44:68:c2

switch(svc)# cluster config SampleCluster
switch(svc-cluster)# host add iscsi1 hostport 21:00:00:e1:8b:09:e7:04
switch(svc-cluster)# host add iscsi2 hostport 20:06:00:0b:fd:44:68:c2
```

Step 9 Map VDisks to both hosts.

```
switch(svc-cluster)# host name iscsi1
switch(svc-cluster-host)# map vdisk crm-data
switch(svc-cluster-host)# exit
switch(svc-cluster)# host name iscsi2
switch(svc-cluster-host)# map vdisk crm-data
switch(svc-cluster-host)# end
switch#
```

Step 10 Start the iSCSI clients on both hosts and verify that the sessions come up using the **show iscsi session** command.
