Dell Networking S4810 and Dell Force10 S4810

Switch Configuration Guide for Compellent iSCSI SANs

Dell Storage Engineering
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## Revisions

<table>
<thead>
<tr>
<th>Date</th>
<th>Description</th>
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<tbody>
<tr>
<td>July 2014</td>
<td>Initial release</td>
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</table>

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1 Introduction
This document illustrates how to configure Dell™ Networking S4810 and Dell Force10™ S4810 switches for use as a dedicated iSCSI SAN with Dell Compellent™ storage and using Dell best practices.

1.1 Audience
This switch configuration guide describes an optimal configuration following Dell best practices for a Compellent iSCSI SAN and is intended for storage or network administrators and deployment personnel.

1.2 Switch details
The table below provides an overview of the switch configuration.

Table 1 Switch specifications

<table>
<thead>
<tr>
<th>Switch vendor</th>
<th>Dell</th>
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<tr>
<td>Switch model</td>
<td>S4810</td>
</tr>
<tr>
<td>Switch firmware</td>
<td>9.3.0.0 or later</td>
</tr>
</tbody>
</table>

Note: For proper functionality, the switch must be at the switch firmware version shown in the table above before proceeding with this configuration. Using previous firmware versions may have unpredictable results.

The latest firmware updates and documentation can be found at: www.force10networks.com. This site requires a login.
1.3 **Cabling diagram**

The cabling diagram shown below represents the Dell recommend method for deploying your servers and Compellent arrays.

![Cabling Diagram]

R620 server shown as an example.

Figure 1  Cabling diagram
Dell recommended switch configuration

These steps show you how to configure two S4810 switches for use within a Compellent iSCSI SAN.

2.1 Hardware configuration

1. Power on the two switches.
2. Connect a serial cable to the serial port of the first switch.
3. Using Putty or another terminal utility, open a serial connection session to the switch.
4. Open your terminal emulator and configure it to use the serial port (usually COM1 but this may vary depending on your system). Configure serial communications for 9600,N,8,1 and no flow control.

2.2 Delete startup configuration

Note: This example assumes a switch at its default configuration settings. Using the delete startup-config command will set the startup configuration file to its default settings. You should always backup your configuration settings prior to performing any configuration changes.

```
FTOS>enable
FTOS#delete startup-config
Proceed to delete startup-config [confirm yes/no]yes
FTOS#reload
System configuration has been modified. Save? [yes/no]no
Proceed with reload [confirm yes/no]yes
```

Note: The switch will reboot.

2.3 Configure out of band (OOB) management port

```
FTOS>enable
FTOS#config
FTOS(conf)#interface ManagementEthernet 0/0
FTOS(conf-if-ma-0/0)#no shutdown
FTOS(conf-if-ma-0/0)#ip address ipaddress mask
```
2.4 Configure route for OOB management port (optional)

FTOS(conf) # management route X.Y.Z.0 /24 A.B.C.1

**Note:** X.Y.Z.0 is the network your management system is connecting from and A.B.C.1 is the gateway for the switch. If your management system is on the same subnet as the switch, the previous step may be omitted. The example above assumes a class C subnet mask.

2.5 Configure login credentials

FTOS(conf) # username admin privilege 15 password 0 yourpassword

FTOS(conf) # enable password level 15 0 yourpassword

2.6 Enable switch ports

Option 1: You can enable ports individually by entering the port number.

FTOS# configure
FTOS(conf) # interface tengigabitethernet 0/0
FTOS(conf-if-te-0/0) # switchport
FTOS(conf-if-te-0/0) # no shutdown
FTOS(conf-if-te-0/0) # exit
FTOS(conf) # exit

Option 2: You can enable multiple ports at once using the `range` parameter.

FTOS# configure
FTOS(conf) # interface range tengigabitethernet 0/0 - 47
FTOS(conf-if-range-te-0/0-47) # switchport
FTOS(conf-if-range-te-0/0-47) # no shutdown
FTOS(conf-if-range-te-0/0-47) # exit
FTOS(conf) # exit
2.7 Enable Jumbo Frames
```
FTOS#configure
FTOS(config)# interface range tengigabitethernet 0/0 - 47
FTOS(config-if-range-te-0/0-47)#mtu 12000
```

2.8 Configure flow control
```
FTOS(config-if-range-te-0/0-47)#flowcontrol rx on tx off
```

2.9 Configure spanning tree on edge ports
```
Note: Make sure that the following command is used only on Server and Storage connected edge ports.

FTOS(config-if-range-te-0/0-47)#spanning-tree rstp edge-port
FTOS(config-if-range-te-0/0-47)#exit
```

2.10 Configure VLAN
```
Dell recommends assigning a unique vlan_id (between 2-4094) for each switch fabric. For example, assign VLAN 100 on the first switch and VLAN 200 on the second switch. The following example assigns all the ports to the VLAN, however, you may also assign individual ports to the VLAN after they are enabled (Section 2.6). If you prefer to use the default VLAN, then you may skip this section entirely.

FTOS(config)#interface vlan vlan_id
FTOS(config-if-vl-###)#no shutdown
FTOS(config-if-vl-###)#untagged tengigabitethernet 0/0-47
FTOS#exit
```

2.11 Save configuration
```
FTOS#copy running-config startup-config
```

2.12 Configure additional switch
```
Repeat the commands from Section 2 to configure the second switch.
```
Additional resources

Support.dell.com is focused on meeting your needs with proven services and support.

DellTechCenter.com is an IT Community where you can connect with Dell Customers and Dell employees for the purpose of sharing knowledge, best practices, and information about Dell products and your installations.

Referenced or recommended Dell publications:

- Dell Storage Compatibility Matrix:  
  http://en.community.dell.com/dell-groups/dtcmedia/m/mediagallery/20438558/download.aspx
- For Compellent best practices white papers, reference architectures, and sizing guidelines for enterprise applications and SANs, refer to:  