



Dell Networking S3048-ON

Switch Configuration Guide for Dell SC Series iSCSI SANs

Dell Storage Engineering
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Revisions

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1 Introduction

This document illustrates how to configure the Dell Networking S3048-ON switch as a dedicated iSCSI SAN with Dell™ SC Series storage while using Dell best practices.

1.1 Document conventions

Table 1 lists the formatting conventions used in this document.

Table 1 Document conventions

Format	Description	Example
Bold	User input	Dell> enable
<i>Italic</i>	Placeholder or variable	<i>your password</i>

1.2 Audience

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

1.3 Switch details

The table below provides an overview of the switch configuration.

Table 2 Switch specifications

Dell Networking S3048-ON	
Switch vendor:	Dell
Switch model:	S3048-ON
Switch firmware:	9.8.0.0 or later

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.



1.4 Cabling diagram

The cabling diagram shown below represents the Dell recommended method for deploying your servers and SC Series arrays.

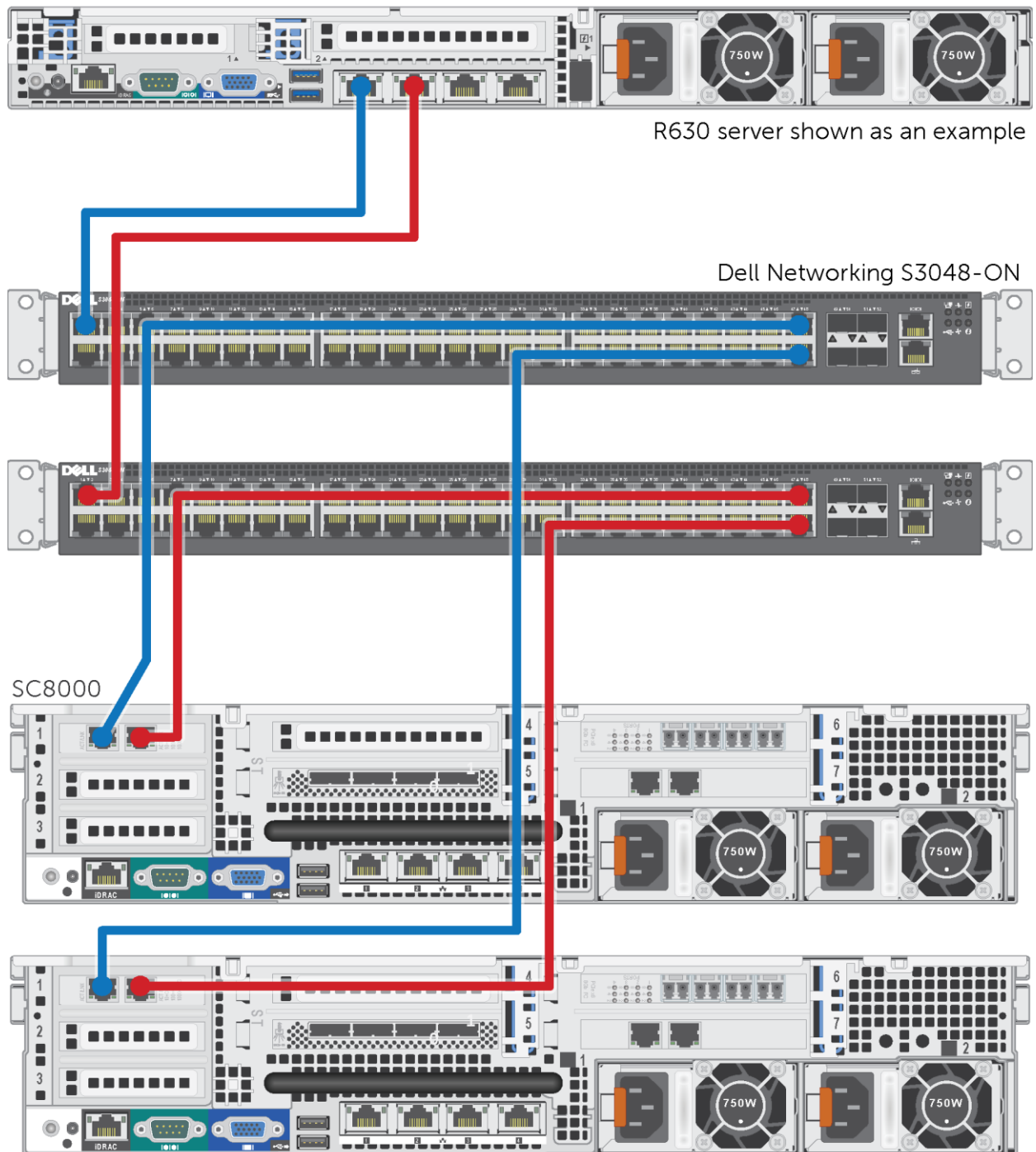


Figure 1 Cabling diagram

2 Dell recommended switch configuration

Follow the steps to configure two S3048-ON switches for use within an SC Series 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 115200,N,8,1 and no flow control.

2.2 Delete startup configuration

Note: This example assumes a switch is using the default configuration settings. Using the `delete startup-config` command will set the startup configuration file to its default settings. Always backup your configuration settings prior to performing any configuration changes.

```
Dell>enable
Dell#delete startup-config
Proceed to delete startup-config [confirm yes/no]yes
Dell#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

```
Dell>enable
```

After the startup configuration is deleted, the factory default Enable mode password is **calvin**.

```
Dell>#config
Dell(conf)#interface ManagementEthernet 1/1
Dell(conf-if-ma-1/1)#no shutdown
Dell(conf-if-ma-1/1)#ip address ipaddress mask
Dell(conf-if-ma-1/1)#exit
```

2.4 Configure route for OOB management port (optional)

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



Note: *X.Y.Z.O* 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

```
Dell(conf)#username admin privilege 15 password 0 yourpassword  
Dell(conf)#enable password level 15 0 yourpassword
```

2.6 Enable switch ports

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

```
Dell(conf)#interface gigabitethernet 1/1  
Dell(conf-if-gi-1/1)#switchport  
Dell(conf-if-gi-1/1)#no shutdown  
Dell(conf-if-gi-1/1)#no ip address  
Dell(conf-if-gi-1/1)#exit  
Dell(conf)#exit
```

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

```
Dell#configure  
Dell(conf)#interface range gigabitethernet 1/1-1/48  
Dell(conf-if-range-gi-1/1-1/48)#switchport  
Dell(conf-if-range-gi-1/1-1/48)#no shutdown  
Dell(conf-if-range-gi-1/1-1/48)#no ip address  
Dell(conf-if-range-gi-1/1-1/48)#exit  
Dell(conf)#exit
```

2.7 Configure LLDP

```
Dell#configure  
Dell(conf)#protocol lldp  
Dell(conf-lldp)#no disable  
Dell(conf-lldp)#exit
```

2.8 Enable Jumbo Frames

```
Dell(conf)# interface range gigabitethernet 1/1-1/48  
Dell(conf-if-range-gi-1/1-1/48)#mtu 12000
```



2.9 Configure flow control

```
Dell (conf-if-range-gi-1/1-1/48) #flowcontrol rx on tx off
```

2.10 Configure spanning tree on edge ports

Note: Make sure that the following command is used only on server- and storage-connected edge ports.

```
Dell (conf-if-range-gi-1/1-1/48) #spanning-tree rstp edge-port
Dell (conf-if-range-gi-1/1-1/48) #exit
Dell (conf) # protocol spanning-tree rstp
Dell (conf-rstp) #no disable
Dell (conf-rstp) #exit
```

2.11 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.

In addition, edge devices (server NIC ports and the storage NIC ports) need to be configured with the corresponding VLAN tag.

```
Dell (config) #interface vlan vlan_id
Dell# (config-if-vl-###) #no shutdown
Dell# (config-if-vl-###) #tagged gigabitethernet 1/1-1/48
Dell# (config-if-vl-###) #exit
```

2.12 Save configuration

```
Dell#copy running-config startup-config
```

2.13 Configure additional switch

Repeat the commands from sections 2.2–2.12 to configure the second switch. Be sure to use a different VLAN number for the second switch.



Additional resources

[Support.dell.com](http://support.dell.com) is focused on meeting your needs with proven services and support.

[DellTechCenter.com](http://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 SC Series best practices white papers, reference architectures, and sizing guidelines for enterprise applications and SANs, refer to:
<http://en.community.dell.com/techcenter/storage/w/wiki/5018.compellent-technical-content.aspx>

