



Cisco Catalyst 3850

Switch Configuration Guide for Dell SC Series SANs

Dell Storage Engineering
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Revisions

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Introduction

This document illustrates how to configure Cisco® Catalyst 3850 switches for use with Dell™ SC Series storage using Dell best practices. The recommended configuration uses a link aggregation group (LAG) for inter-switch connections.

1.1 Audience

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

1.2 Switch details

Table 1 provides an overview of the switch configuration. This switch configuration guide covers setup instructions for all Catalyst 3850 switch models.

Table 1 Switch specifications

Cisco Catalyst 3850	
Switch vendor	Cisco
Switch model	Catalyst 3850
Switch firmware	03.07.04E or later 16.3.1 or later

Note: For proper functionality, the switch must be at the firmware version shown in Table 1 before proceeding with configuration. Using previous firmware versions may have unpredictable results.

The latest firmware updates and documentation can be found at: www.cisco.com. This site requires a login.

1.3 Cabling diagram

The cabling diagram shown in Figure 1 represents the Dell recommend method for deploying your servers and Dell SC Series storage arrays.

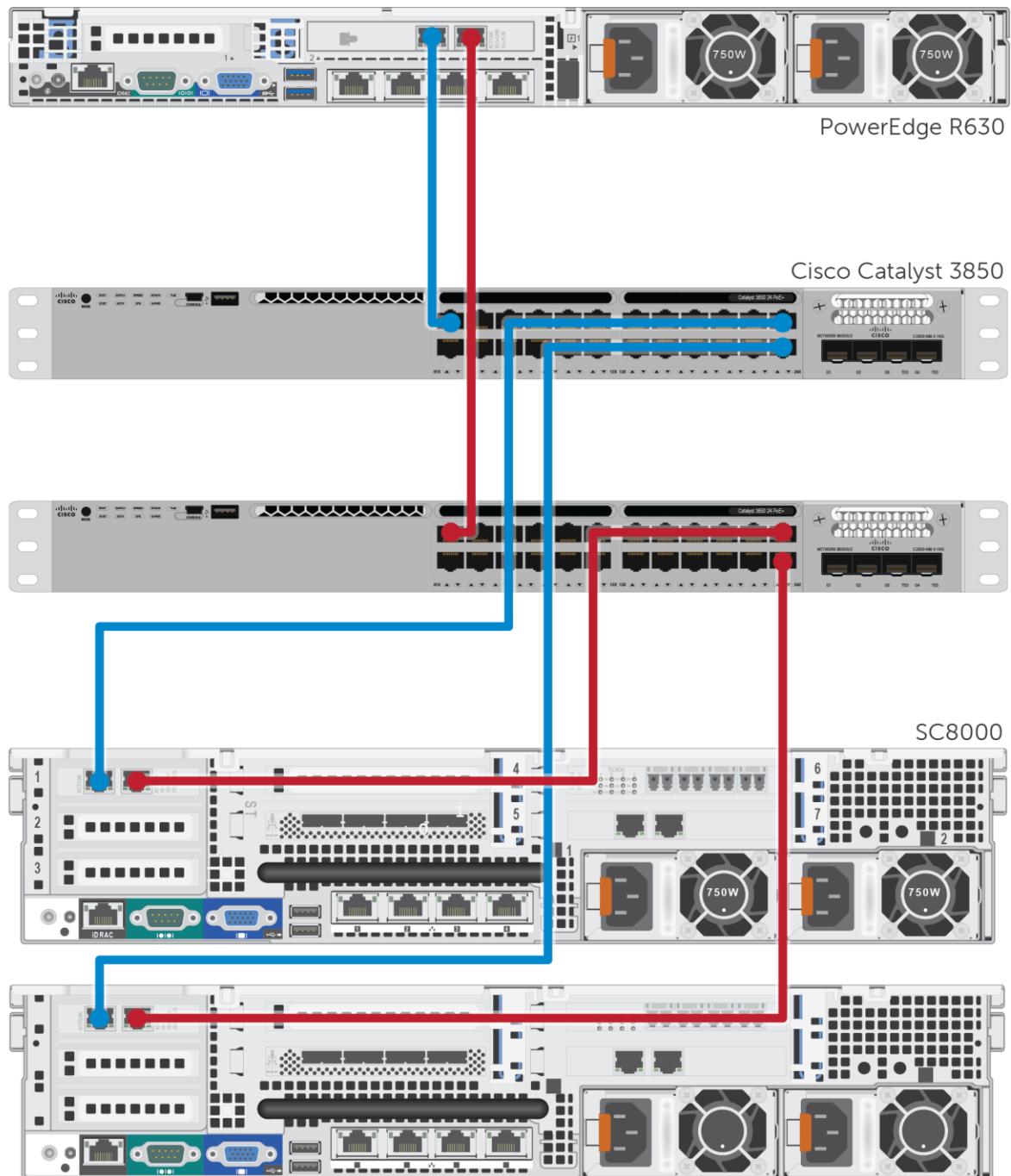


Figure 1 Cabling diagram

Note: Figure 1 shows the Catalyst 3850 with 1 GbE Dell SC Series storage.

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Dell recommended switch configuration

These steps show you how to configure two Cisco Catalyst 3850 switches.

Note: The configuration steps in this section are only recommended when the switch is used as a dedicated SAN for iSCSI traffic.

2.1

Hardware configuration

1. Power on both switches.
2. Connect a serial cable to the management port.
3. Using any 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

Startup configuration file

Note: This example assumes a switch at its default configuration settings. Always back up your configuration settings prior to performing any configuration changes.

```
Switch>enable  
Switch#erase startup-config  
Erasing the nvram filesystem will remove all configuration files! Continue?  
[confirm]  
Switch#reload
```

2.3

Basic system configuration

The following steps will setup the initial configuration for the Cisco switch.

```
Would you like to enter the initial configuration dialog? [yes/no]: yes
```

```
Would you like to enter basic management setup? [yes/no]: yes
```

```
Enter host name [Switch]: Switch
```

The enable secret is a password used to protect access to privileged EXEC and configuration modes. This password, after entered, becomes encrypted in the configuration.

```
Enter enable secret: <password>
```

The enable password is used when you do not specify an enable secret password, with some older software versions, and some boot images.

```
Enter enable password: <password>
```

The virtual terminal password is used to protect access to the router over a network interface.

```
Enter virtual terminal password: <password>
```

```
Setup account for accessing HTTP server? [yes]: no
```

```
Configure SNMP Network Management? [no]:<Enter your choice>
```

Note: The current interface summary is displayed here.

Enter interface name used to connect to the management network from the above interface summary: **GigabitEthernet0/0**

Configuring interface GigabitEthernet0/0:

```
Configure IP on this interface? [no]: yes
```

```
IP address for this interface: <management ip address>
```

```
Subnet mask for this interface [255.0.0.0]: <subnet mask>
```

Note: The configuration command script is displayed here.

[0] Go to the IOS command prompt without saving this config.

[1] Return back to the setup without saving this config.

[2] Save this configuration to nvram and exit.

```
Enter your selection [2]: 2
```

2.4 Configure Jumbo Frames, LLDP, and Spanning Tree

```
Switch(config) #system mtu 9198
Switch(config) #lldp run
Switch(config) #spanning-tree mode pvst
```

2.5 Configure policy-map and increase queue multiplier

```
Switch(config) #policy-map single-queue-buffer
Switch(config-pmap) #class class-default
Switch(config-pmap-c) #bandwidth percent 100
Switch(config-pmap-c) #queue-buffers ratio 100
Switch(config-pmap-c) #exit
```

```
Switch(config-pmap) #exit
```

Note: Cisco issue CSCuu14019 and other related issue require the following buffer multiplier command to prevent output queue drops.

```
Switch(config) #qos queue-softmax-multiplier 1200
```

2.6 Configuring edge-ports

Perform this step for each individual port that is connected to a storage controller or a host interface port, or specify a range of ports to configure. This section enables link-level flow control (802.3x), portfast, and service policy.

```
Switch(config) #interface range gigabitEthernet 1/0/1 - 24
Switch(config-if-range) #flowcontrol receive on
Switch(config-if-range) #spanning-tree portfast
Switch(config-if-range) #service-policy output single-queue-buffer
Switch(config-if-range) #switchport
Switch(config-if-range) #no shutdown
Switch(config-if-range) #exit
Switch(config) #exit
```

2.7 Save configuration

```
Switch#copy running-config startup-config
```

2.8 Configure additional switch

Repeat the commands from sections 2.1 through 2.7 to configure the second switch.

A Additional resources

[Dell.com/support](#) is focused on meeting customer needs with proven services and support.

[Dell TechCenter](#) is an online technical community where IT professionals have access to numerous resources for Dell software, hardware and services.

[Storage Solutions Technical Documents](#) on Dell TechCenter provide expertise that helps to ensure customer success on Dell Storage platforms.

See the following additional referenced or recommended Dell publications:

- [Dell Storage Compatibility Matrix](#)
- [SC Series Technical Documents](#)