# Planning and Preparation Guide

Rapid EqualLogic Configuration Series
Switch: Dell Networking S4048-ON
Array: PS4110, PS6110, PS6210, or PS6510
Host: VMware vSphere, Windows, Red Hat Enterprise Linux, or FS7610

September 2015

# Revisions

| Date | Status |
|---|---|
| September 2015 | Initial release |

# 1      Introduction

This document is one part of a complete installation guide series from the Rapid EqualLogic Configuration Portal. Please make sure that you have the complete set for your configuration before proceeding.
Full link to document site:
http://en.community.dell.com/techcenter/storage/w/wiki/3615.rapid-equallogic-configuration-portal-by-sis.aspx

## 1.1     Document use

Keyboard keys are shown in brackets with the actual key bolded.
Example: [**Enter**]

Commands that are to be typed are bolded and shown after the appropriate prompt.
Example:

```
console>enable
```

## 1.2     Intended audience

This implementation guide for new systems is intended for System or Storage Administrators with experience deploying Windows®, VMware vSphere®, or Red Hat Enterprise Linux® (RHEL) servers; storage systems; and Ethernet networking. If you are unsure about completing the installation, Dell support is available and ready to assist you.

## 1.3     List of references

- TR1050 – Monitoring Your PS Series SAN with SAN HeadQuarters
  http://en.community.dell.com/dell-groups/dtcmedia/m/mediagallery/19861450

**Note**: A login is required to access the EqualLogic support site.

- *SAN HQ User Guide,* available for download at eqlsupport.dell.com

- *Dell EqualLogic Compatibility Matrix*, available for download at
  *http://en.community.dell.com/techcenter/storage/w/wiki/2661.equallogic-compatibility-matrix-07262013.aspx*

- *Dell Storage Compatibility Matrix*, available for download at:
    http://en.community.dell.com/dell-groups/dtcmedia/m/mediagallery/20438558

# 2 Prerequisites

## 2.1 Equipment

- A null-modem DB9 serial cable (included with the array)
- A switch serial console management cable (included with the switch)

## 2.2 Software

> **Note**: A login is required to access the EqualLogic support site. If you do not have a login, go to eqlsupport.dell.com and register.

### 2.2.1 VMware host operating system

- Latest EqualLogic Multipathing Extension Module for VMware vSphere installation package (eqlsupport.dell.com)
- Latest SAN Headquarters installation package (eqlsupport.dell.com)
- The VMware vSphere Command-Line Interface (vCLI) environment must be installed on the management server (vmware.com/downloads)
- Latest network device driver update (vmware.com/downloads)

> **Note:** Before proceeding, you may need to download a driver update package for your network adapter. Refer to the readme.txt contained in the update file for instructions on updating from the ESXi command line or using VMware Update Manager (VUM).

### 2.2.2 Windows host operating system

- Latest network adapter device driver update (Dell.com/support)
- Latest Host Integration Tools (HIT) kit installation package (eqlsupport.dell.com)
- Latest SAN Headquarters installation package (eqlsupport.dell.com)

### 2.2.3 Red Hat Enterprise Linux operating system

- Latest network adapter device driver update (Dell.com/support)
- Latest Host Integration Tools (HIT) kit installation package (eqlsupport.dell.com/)

### 2.2.4 FS7610 — Fluid File System

- Fluid File System (or FluidFS) version 3.0 or later (eqlsupport.dell.com)
- Refer to the *Dell EqualLogic FS7610 Installation and Setup Guide* (eqlsupport.dell.com) for information on installing and configuring the FS7610 NAS appliance

## 2.3 Configuration settings

### 2.3.1 VMware host operating system

This document assumes that you have already installed VMware ESXi and have applied the latest critical patches available through VMware Update Manager.

To properly configure your vSphere ESXi system, you must also have a management system available. This system must be running a Windows OS such as Windows Server® 2008 or Windows 7.

### 2.3.2 Windows host operating system

This document assumes that you have already installed Windows 2008 Server R2 with Service Pack 1 or later and have applied the latest critical security updates available through Windows Update.

### 2.3.3 Red Hat Enterprise Linux operating system

This document assumes that you have already installed RHEL 6.5 or later and have applied the latest critical security updates available through Linux.

### 2.3.4 FS7610 NAS with Fluid File System

If you have an FS7610 appliance, you must be running FluidFS version 3 or later and PS Series Storage firmware version 6.0 or later. This document assumes that all BIOS and firmware are up to date as required and that the FS7610 appliance is not configured (or has been re-initialized if previously configured).

### 2.3.5 Switch

Reference the *Dell Storage Compatibility Matrix* to determine the recommended switch firmware version. To get the latest update, visit Dell.com/support. Installation instructions are provided as part of the download. The switch user manual is also available to download for reference.

### 2.3.6 Array

Reference the *Dell Storage Compatibility Matrix* to determine the recommended array firmware version. To get the latest update, visit eqlsupport.dell.com. Update instructions and release notes are available with the latest downloads.

## 2.4     Configuration information

Your iSCSI SAN configuration requires several static IP addresses. Complete this form and have it available for reference during the configuration.

Table 1     IP addresses needed for SAN configuration

| Host iSCSI Initiator | Host #1 or NAS controller #1 | Additional host or NAS controller | ... |
|---|---|---|---|
| Port 1 | | | |
| Port 2 | | | |
| **Array Target** | **Array #1** | **Additional array** | ... |
| Port 1 (eth0) | | | |
| Port 2 (eth1) (PS6510/PS6210 only) | | | |
| Management (Out-of-Band/eth1 or eth2) | | | |
| Array Group Management IP (Out-of-Band) | | | |
| Array Group Management IP (In-Band) | | | |
| Out-of-Band Switch Management Port | | | |
| FS7610 NAS Cluster IP | | **Hint:** Use the autofill feature to complete the IP addresses for the NAS controllers. | |
| FS7610 NAS Cluster Management IP | | | |
| Internal Network initial IP address | | **Hint:** A private subnet such as 172.16.1.0 can be used. | |

Switch Admin password: _____

Array Group Admin password: _____*

Array Membership password: _____*

*These may be the same password. See the PS Series Group Administration guide for more information.

# 3 Connectivity diagrams

Use the appropriate diagram and point-to-point table when cabling the SAN.

Figure 1　Dell Networking S4048-ON with EqualLogic PS4110 or PS6110 (see Table 2)



PowerEdge R630 server shown as an example
(a minimum of 2 iSCSI initiator ports required)

Dell Networking S4048-ON

QSFP+
LAG

Connections for the
management network.
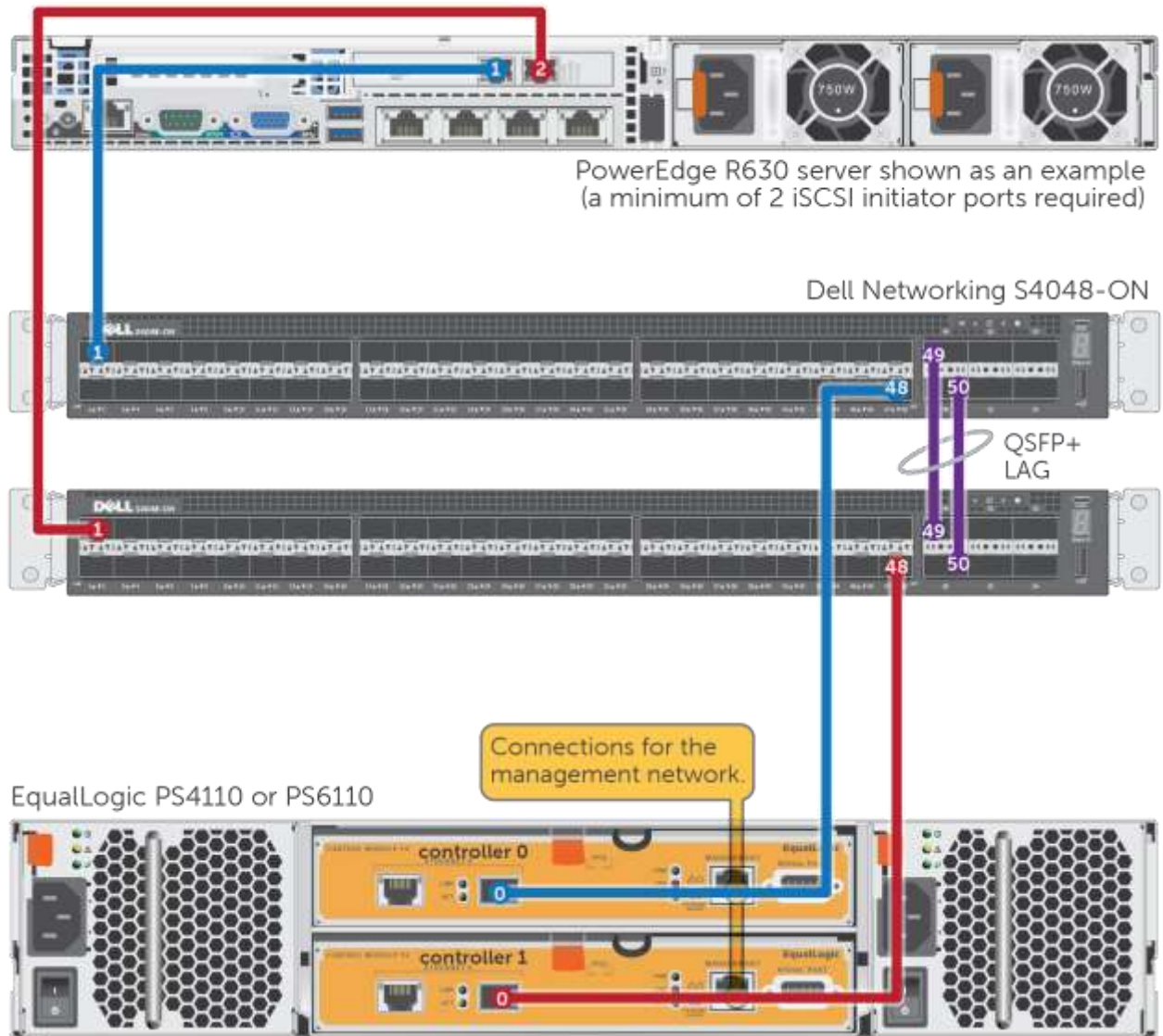
EqualLogic PS4110 or PS6110

Figure 2    Dell Networking S4048-ON with EqualLogic PS7610 NAS and PS4110 or PS6110 (see Table 3)

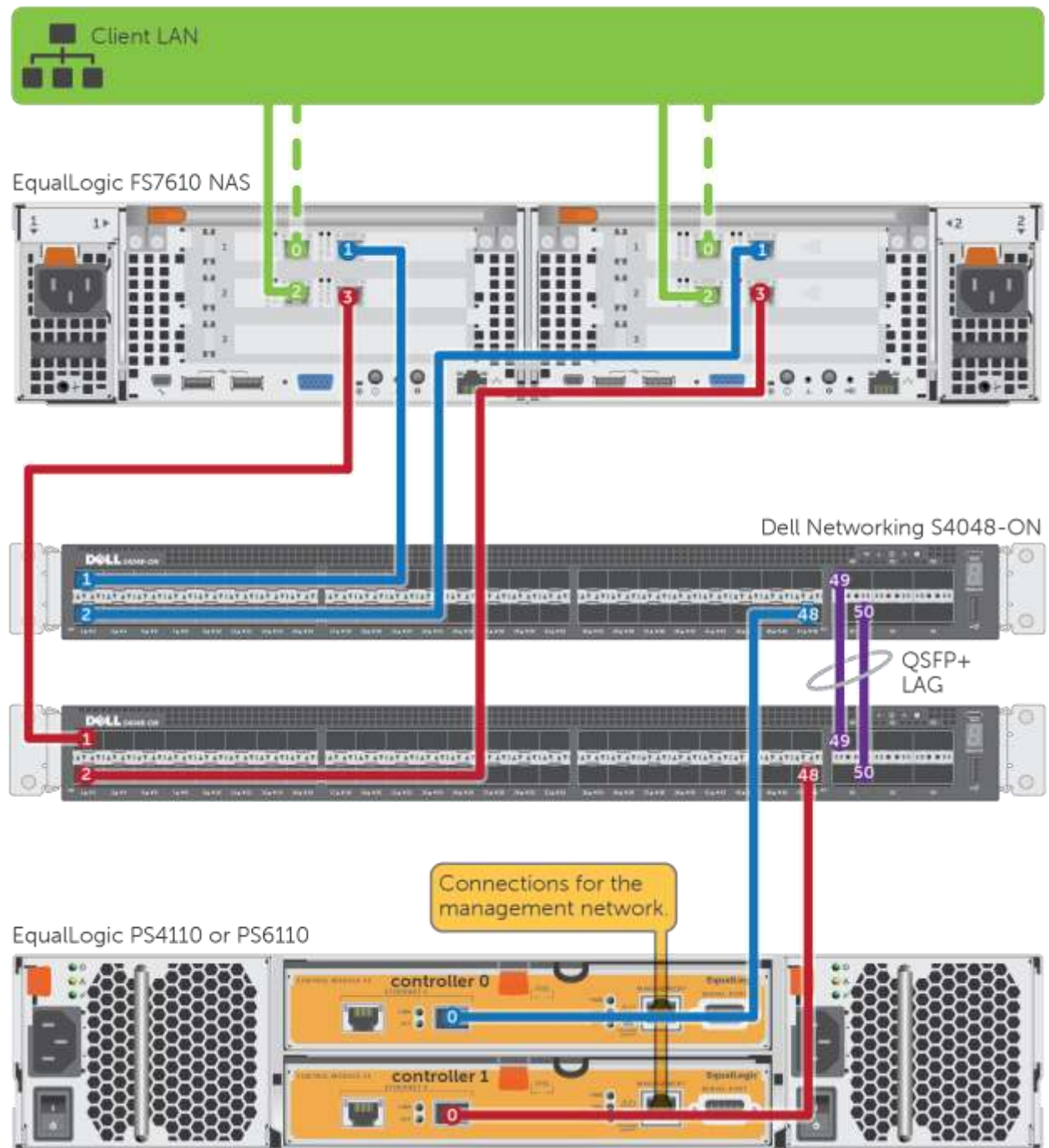Figure 3    Dell Networking S4048-ON with EqualLogic PS6210 (see Table 4)



PowerEdge R630 server shown as an example
(a minimum of 2 iSCSI initiator ports required)

Dell Networking S4048-ON

QSFP+
LAG

EqualLogic PS6210

controller 0

controller 1

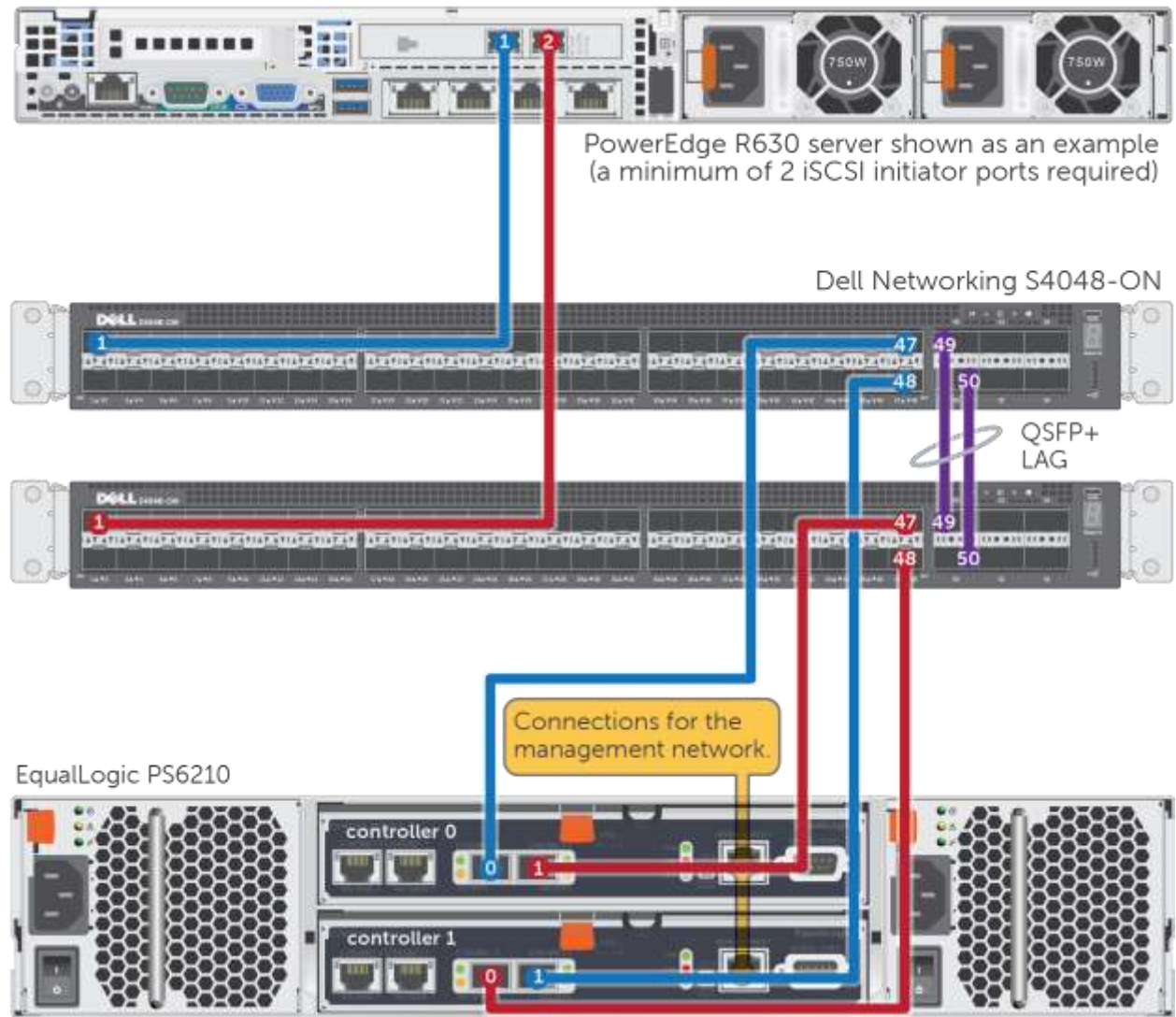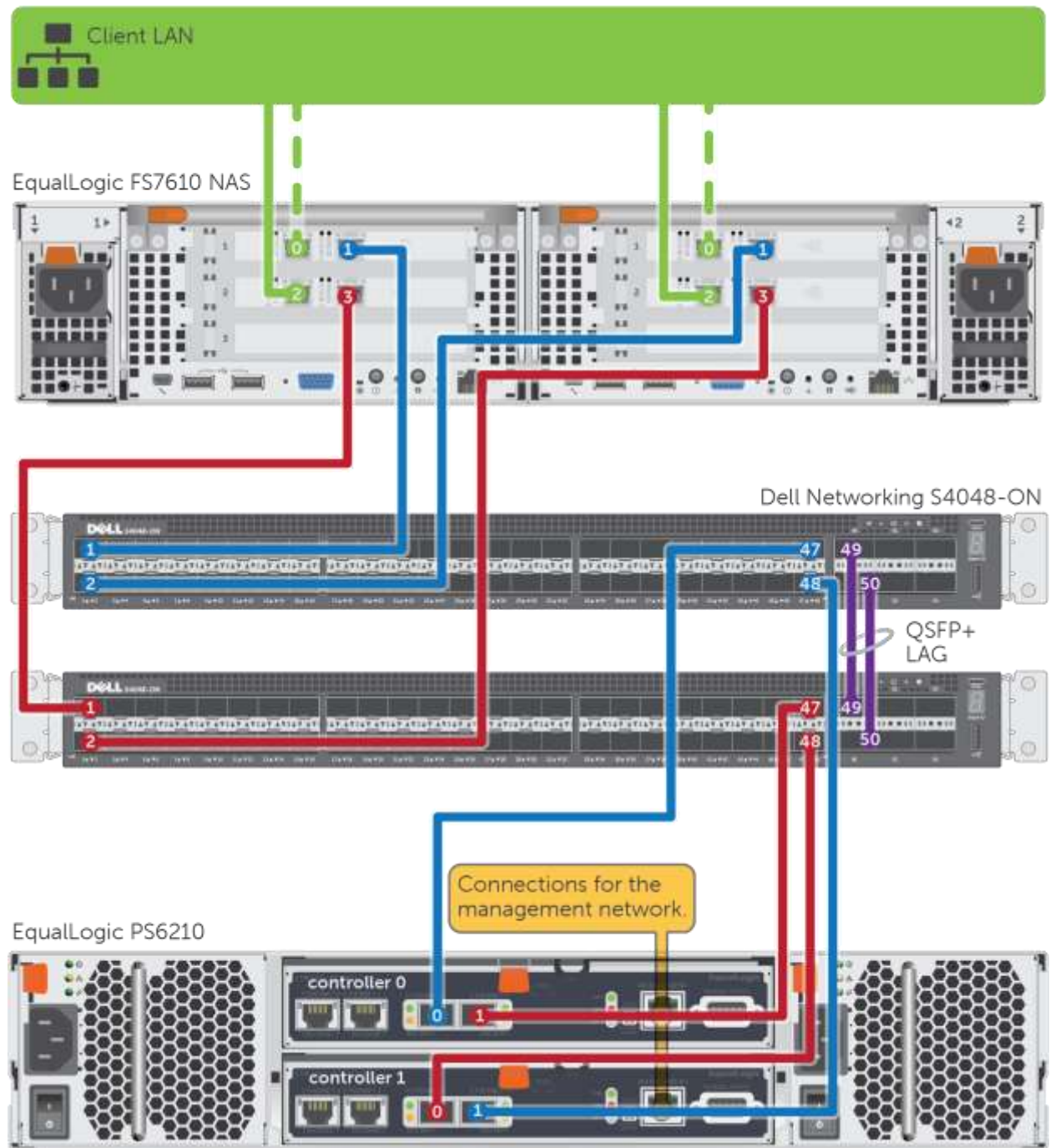Connections for the
management network.

Figure 4    Dell Networking S4048-ON with EqualLogic PS7610 and PS6210 (see Table 5)

Figure 5    Dell Networking S4048-ON with EqualLogic PS6510 (see Table 4)



PowerEdge R630 server shown as an example
(a minimum of 2 iSCSI initiator ports required)

Dell Networking S4048-ON

QSFP+
LAG

EqualLogic PS6510
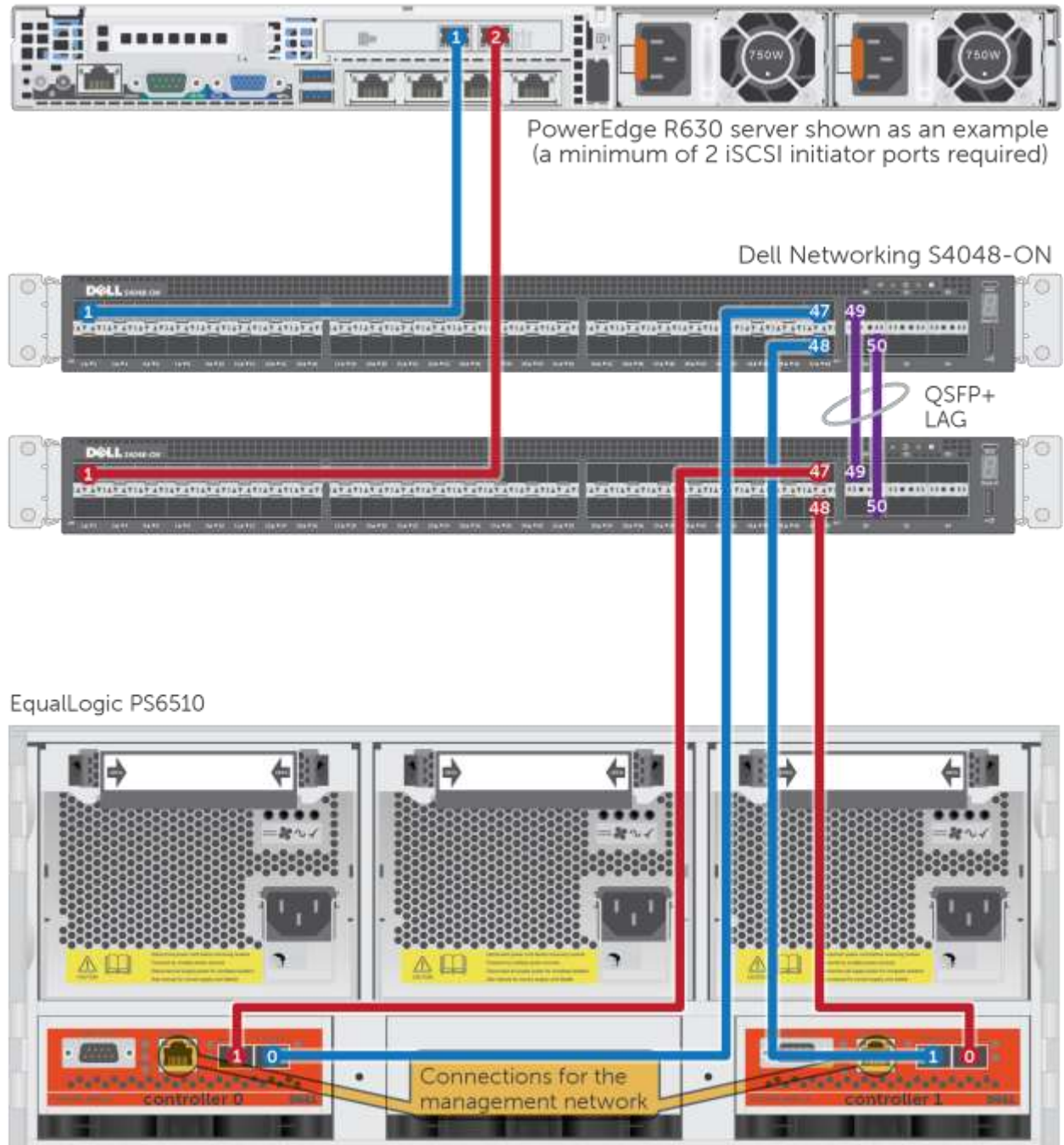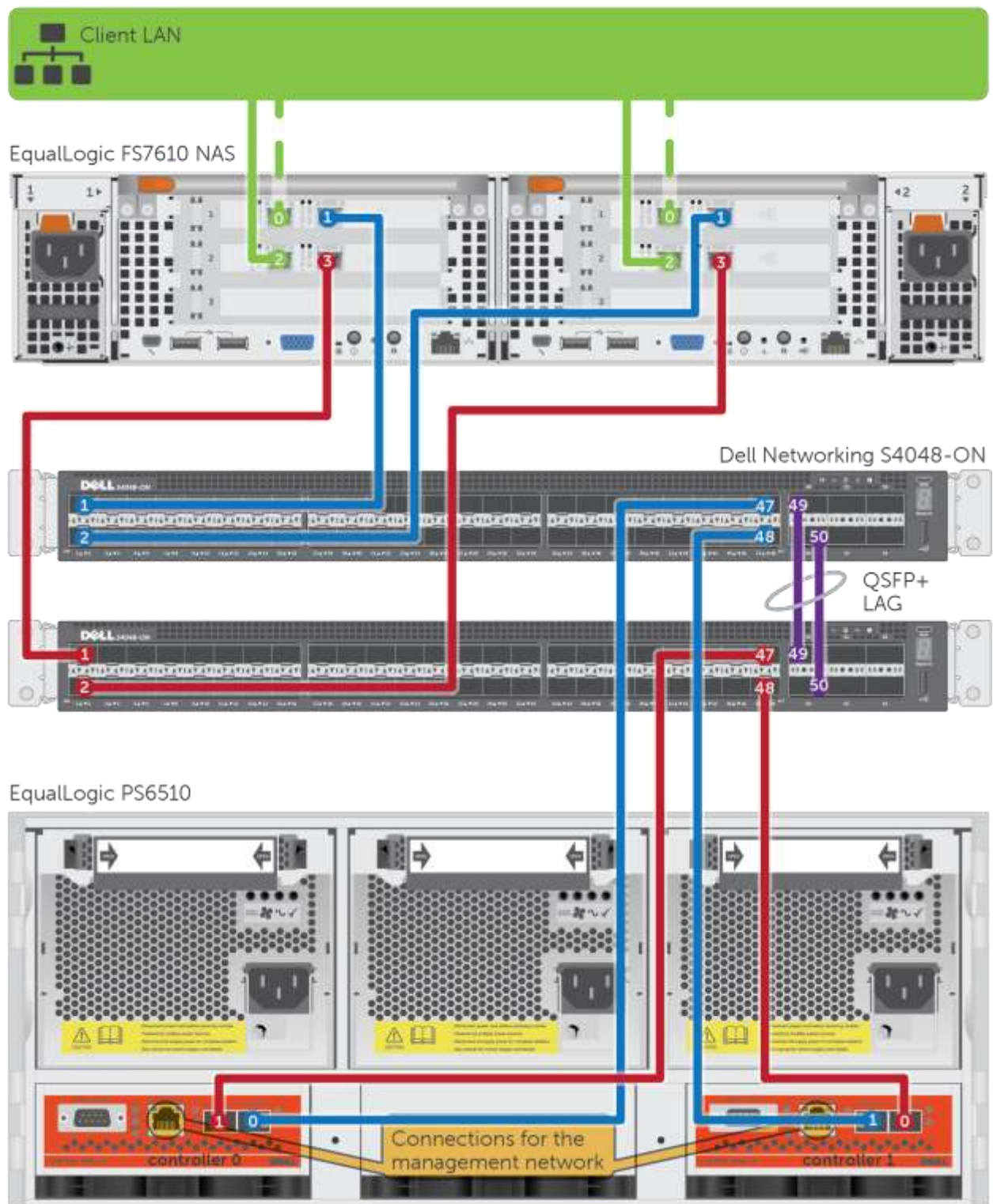
Connections for the
management network

Figure 6    Dell Networking S4048-ON with EqualLogic FS7610 and PS6510 (see Table 5)

## 3.1　Point-to-point connection tables

> **Note**: Add servers and arrays to the configurations as needed using the same connection patterns.

Table 2　Dell Networking S4048-ON with EqualLogic PS4110 or PS6110 (see Figure 1)

| Switch 1 port | To | | Switch 2 port | To |
|---|---|---|---|---|
| 1 | Server 1, port 1 | | 1 | Server 1, port 2 |
| | | | | |
| **Array 1** 48 | Controller 0, port 0 | | 48 | Controller 1, port 0 |

Table 3　Dell Networking S4048-ON with EqualLogic FS7610 and PS4110 or PS6110 (see Figure 2)

| | Switch 1 port | To | | Switch 2 port | To |
|---|---|---|---|---|---|
| **FS7610 NAS** | 1 | Controller 1, port 1 | | 1 | Controller 1, port 3 |
| | 2 | Controller 2, port 1 | | 2 | Controller 2, port 3 |
| | | | | | |
| **Array 1** | 48 | Controller 0, port 0 | | 48 | Controller 1, port 0 |

Table 4　Dell Networking S4048-ON with EqualLogic PS6210 or PS6510 (see Figure 3 or Figure 5)

| | Switch 1 Port | To | | Switch 2 Port | To |
|---|---|---|---|---|---|
| | 1 | Server 1, port 1 | | 1 | Server 1, port 2 |
| | | | | | |
| **Array 1** | 47 | Controller 0, port 0 | | 47 | Controller 0, port 1 |
| | 48 | Controller 1, port 1 | | 48 | Controller 1, port 0 |

Table 5    Dell Networking S4048-ON with EqualLogic FS7610 NAS and PS6210 or PS6510 (see Figure 4 and Figure 6)

| | Switch 1 port | To | | Switch 2 port | To |
|---|---|---|---|---|---|
| **FS7610 NAS** | 1 | Controller 1, port 1 | | 1 | Controller 1, port 3 |
| | 2 | Controller 2, port 1 | | 2 | Controller 2, port 3 |
| | | | | | |
| **Array 1** | 47 | Controller 0, port 0 | | 47 | Controller 0, port 1 |
| | 48 | Controller 1, port 1 | | 48 | Controller 1, port 0 |