



Planning and Preparation Guide

Rapid EqualLogic Configuration Series

Switch: PowerConnect 7024 or 7048

Array: PS4100, PS6100 or PS6500

Host: VMware ESXi, Windows, Red Hat Enterprise Linux or FS7600 NAS

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Revisions

Date	Description
April 2012	Initial release
April 2013	Combined all PC7024 and PC7048 introductions into one document
December 2013	Added FS7600 NAS
April 2014	Added RHEL configuration information
August 2014	Minor edits

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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 document series has been written for system or storage administrators with experience deploying Windows® or VMware vSphere ESXi™ or Red Hat Enterprise Linux® 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
<https://support.equallogic.com/WorkArea/DownloadAsset.aspx?id=8749>

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

- *SAN HQ User Guide*, available for download on www.equallogic.com
- *Dell EqualLogic Configuration Guide*, available for download at:
<http://en.community.dell.com/dell-groups/dtcmmedia/m/mediagallery/19852516/download.aspx>
- *Dell EqualLogic Compatibility Matrix*, available for download at:
<http://en.community.dell.com/techcenter/storage/w/wiki/2661.equallogic-compatibility-matrix-07262013.aspx>



2 Prerequisites

2.1 Serial cable

- 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 <https://eqsupport.dell.com/> and register.

2.2.1 VMware host operating system

- Latest EqualLogic Multipathing Extension Module for VMware® vSphere installation package (<https://eqsupport.dell.com/>).
- Latest SAN HeadQuarters installation package (equallogic.com/support).
- 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).

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 (support.dell.com)
- Latest Host Integration Tools (HIT) kit installation package (<https://eqsupport.dell.com/>)
- Latest SAN HeadQuarters installation package (<https://eqsupport.dell.com/>)

2.2.3 Red Hat Enterprise Linux operating system

- Latest network adapter device driver update (support.dell.com)
- Latest Host Integration Tools (HIT) kit installation package (<https://eqsupport.dell.com/>)

2.2.4 FS7600 – Fluid File System

- Fluid File System (or FluidFS) version 3.0 or later (<https://eqsupport.dell.com/>)
- Refer to the *Dell EqualLogic FS7600 Installation and Setup Guide* (on <https://eqsupport.dell.com/>) for information on installing and configuring the FS7600 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 Windows (2008, Windows 7, etc.)

2.3.2 Windows host operating system

This document assumes that you have already installed Windows 2008 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 Enterprise 6.5 or later and have applied the latest critical security updates available through Linux.

2.3.4 FS7600 NAS with Fluid File System

If you have a FS7600 appliance, you must be running FluidFS version 3.0 or later. This document assumes that all BIOS and firmware are up to date as required and that the FS7600 appliance is unconfigured (or has been re-initialized if previously configured).

2.3.5 Switch

Reference the *EqualLogic Compatibility Matrix* at <http://en.community.dell.com/dell-groups/dtcmmedia/m/mediagallery/19856862/download.aspx> to determine the recommended switch firmware version. To get the latest update, visit <http://support.dell.com>. 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 *EqualLogic Compatibility Matrix* at <http://en.community.dell.com/dell-groups/dtcmmedia/m/mediagallery/19856862/download.aspx> to determine the recommended array firmware version. To get the latest update, visit <https://eqsupport.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 configuration:

Host iSCSI Initiator	Host #1 or NAS controller #1	Additional host or NAS controller	...
Port 1			
Port 2			
Port 3			
Port 4			
Array Target	Array #1	Additional array	...
Port 1 (eth0)			
Port 2 (eth1)			
Port 3 (eth2)			
Port 4 (eth3)			
Management (Out-of-Band)			
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 "Autofill" to complete the IP addresses for the NAS controllers.
FS7610 NAS Cluster Management IP			Hint: use "Autofill" to complete the IP addresses for the NAS controllers.
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.
<http://psonlinehelp.equallogic.com/v5.1/groupmanager.htm>



3 Connectivity Diagrams

Use the following diagrams and point-to-point tables when cabling the SAN.

Note: The connections in this document are illustrated with the Dell Networking 7048 switch. To obtain specific port numbers for 7024 switches, see the point-to-point tables in Section 3.1.

Figure 1 PowerConnect 7024 or 7048 with EqualLogic PS4100 (see Table 2 or Table 3).

PowerEdge R710 server shown as an example

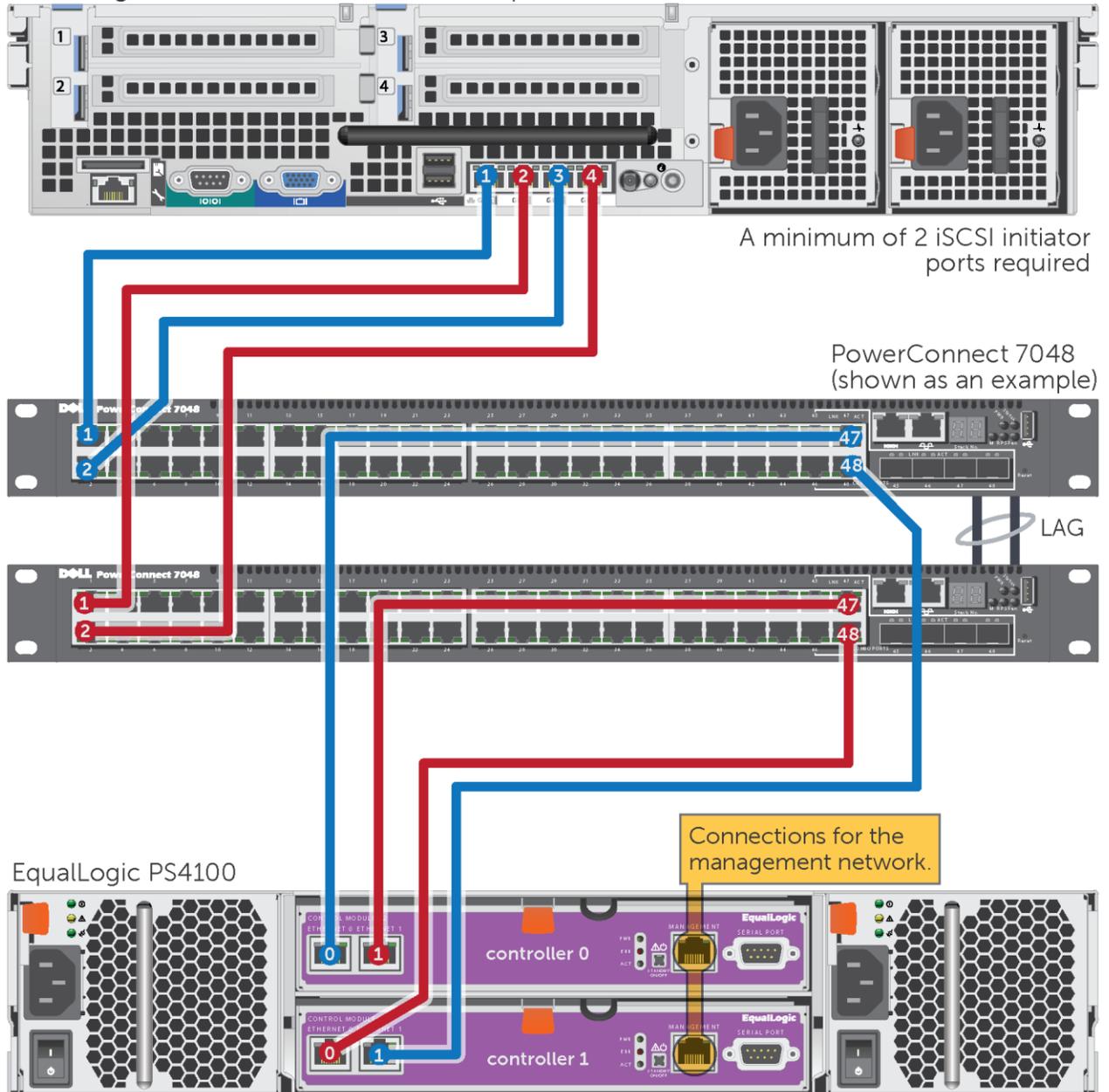


Figure 2 PowerConnect 7024 or 7048 with EqualLogic FS7600 and PS4100 (see Table 4 or Table 5).

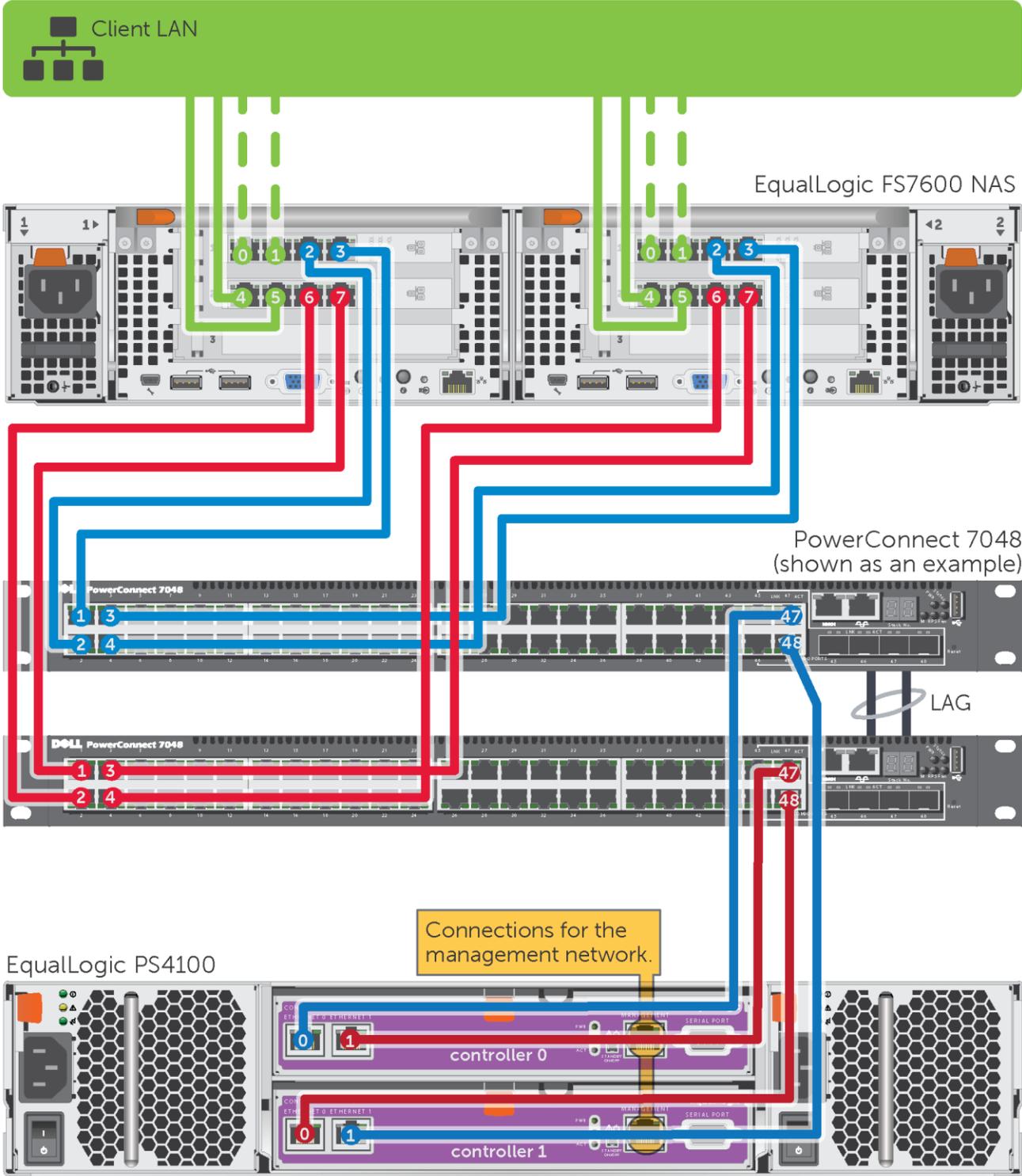


Figure 3 PowerConnect 7024 or 7048 with EqualLogic PS6100 (see Table 6 or Table 8).

PowerEdge R710 server shown as an example

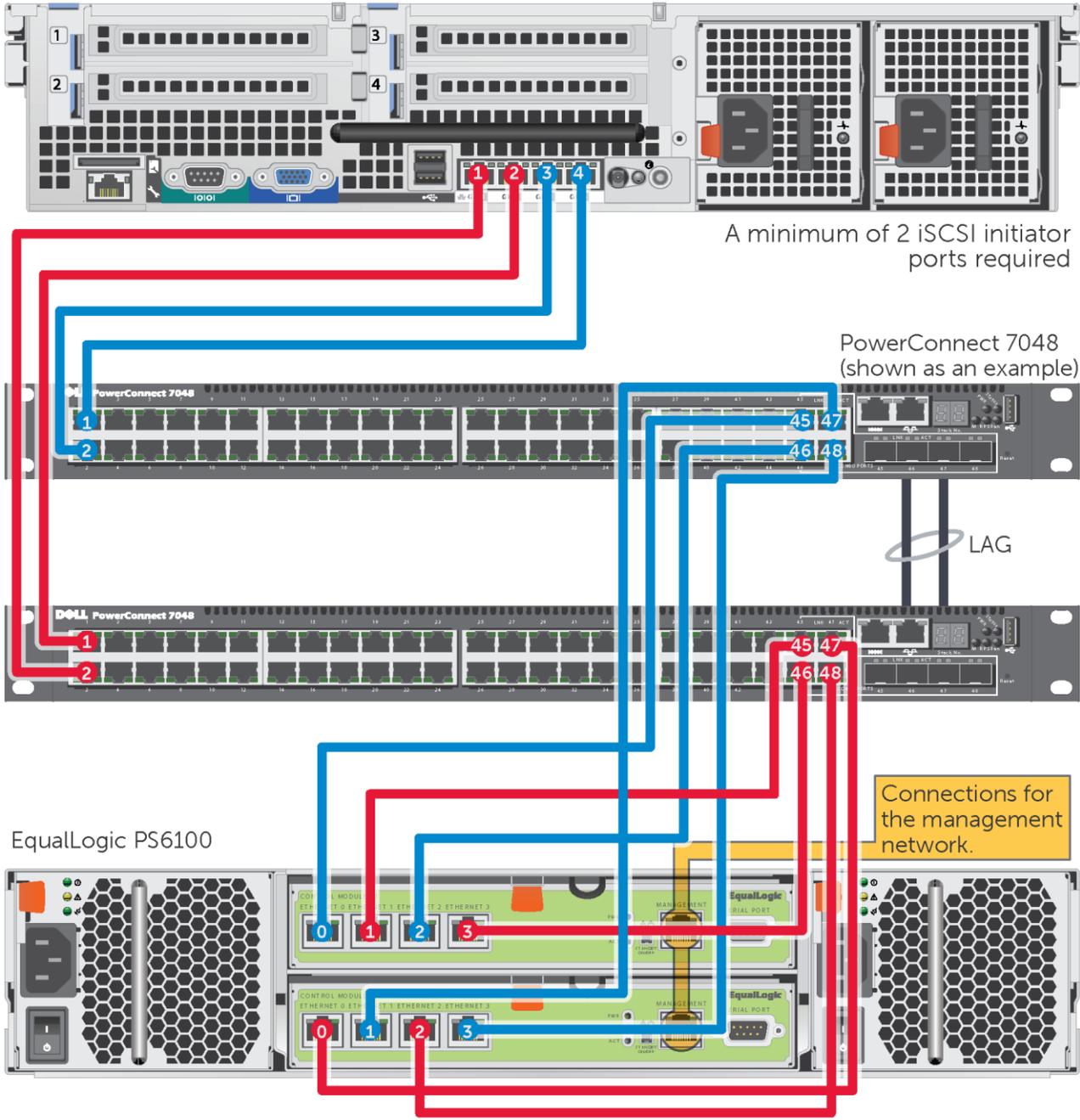


Figure 4 PowerConnect 7024 or 7048 with EqualLogic FS7600 and PS6100 (see Table 7 or Table 9).

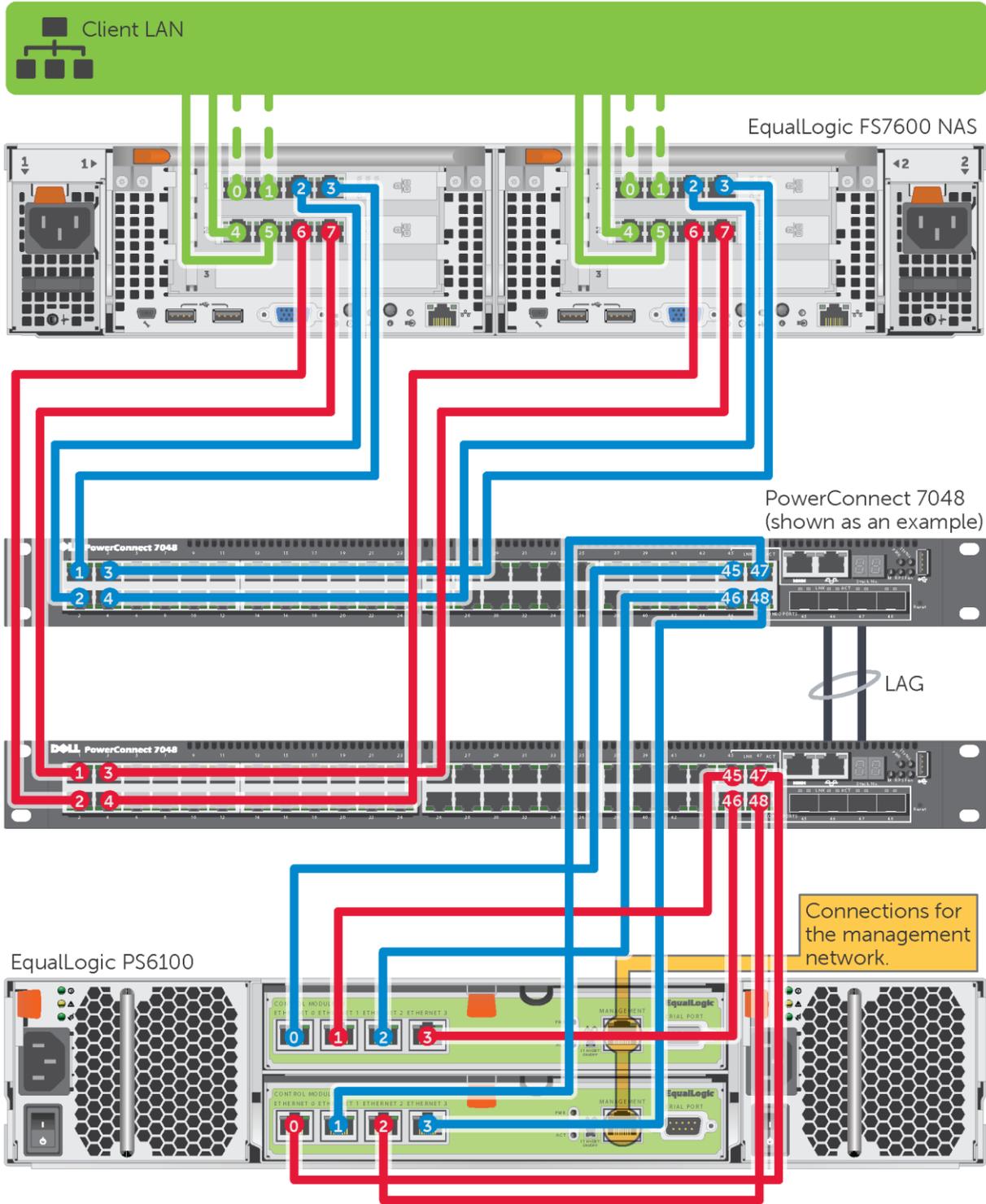


Figure 5 PowerConnect 7024 or 7048 with EqualLogic PS6500 (see Table 6 or Table 8).

PowerEdge R710 server shown as an example

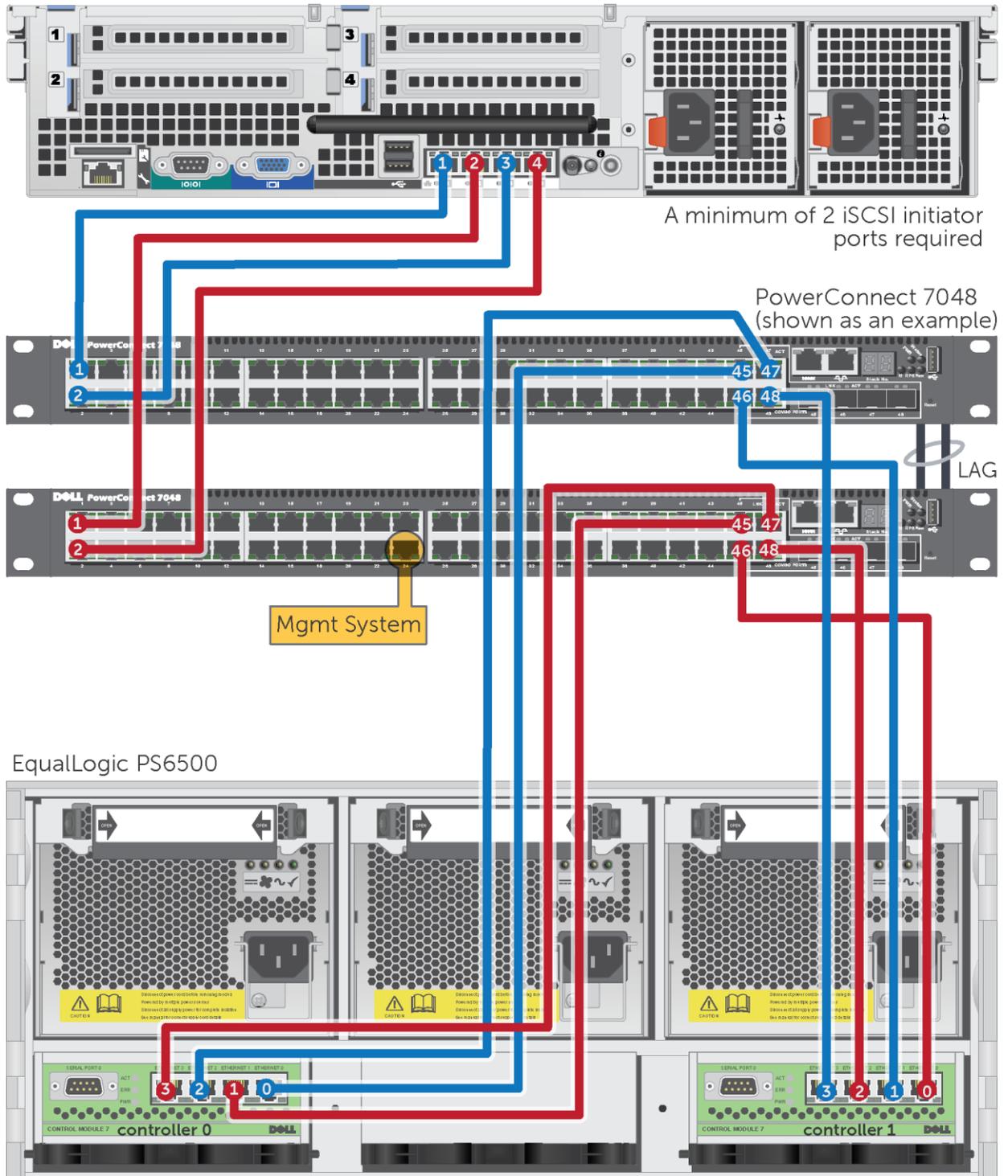
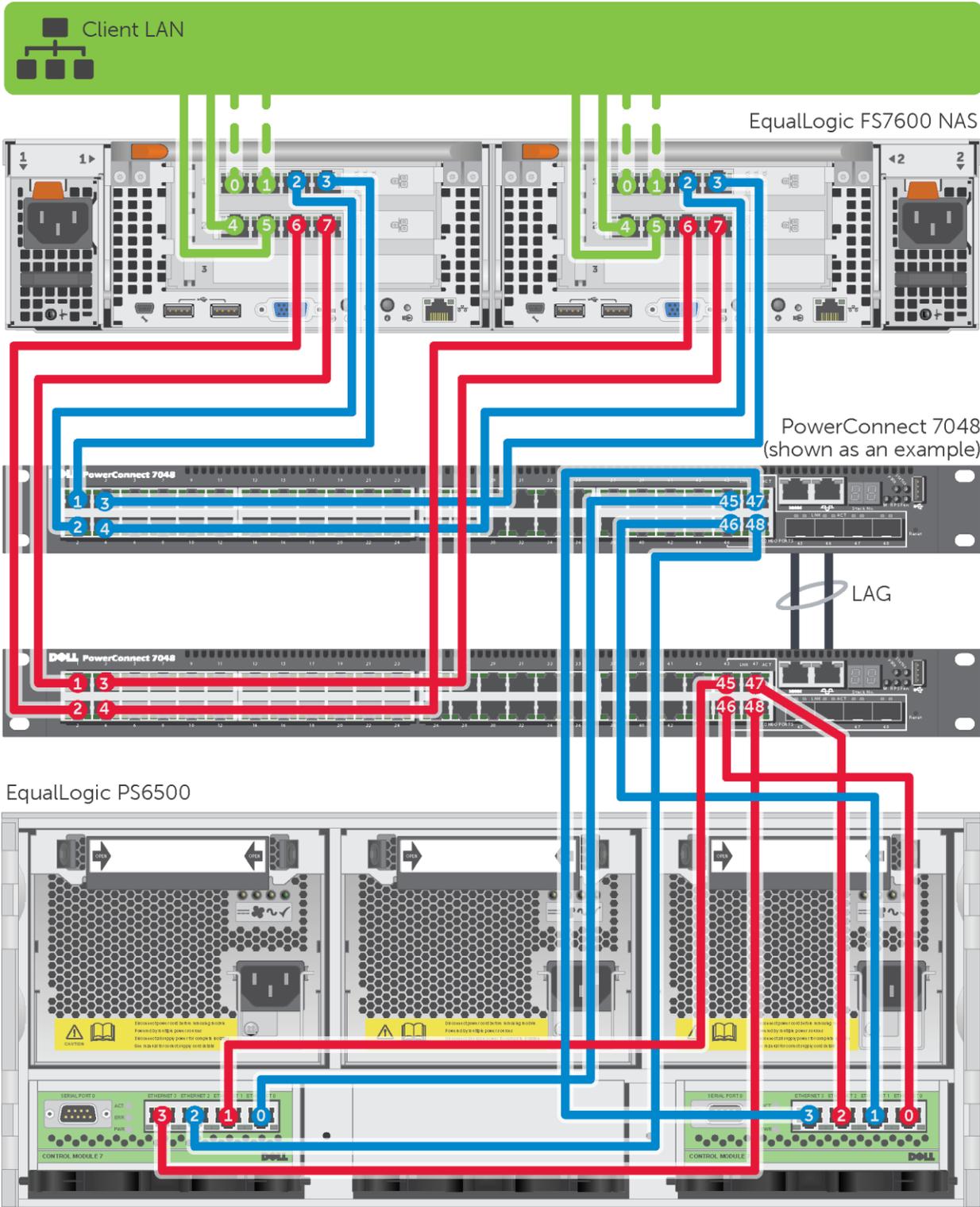


Figure 6 PowerConnect 7024 or 7048 with EqualLogic FS7600 and PS6500 (see Table 7 or Table 9).



3.1 Point-to-point tables

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

Table 2 PowerConnect 7024 with EqualLogic PS4100 (see Figure 1)

	Switch 1 Port	To		Switch 2 Port	To
	1	Server 1, port 1		1	Server 1, port 2
	2	Server 1, port 3*		2	Server 1, port 4*
Array 1	23	Controller 0, port 0		23	Controller 0, port 1
	24	Controller 1, port 1		24	Controller 1, port 0

* Use of the 3rd and 4th host ports is optional. At least two ports are required.

Table 3 PowerConnect 7048 and EqualLogic PS4100 (see Figure 1)

	Switch 1 Port	To		Switch 2 Port	To
	1	Server 1, port 1		1	Server 1, port 2
	2	Server 1, port 3*		2	Server 1, port 4*
Array 1	47	Controller 0, port 0		47	Controller 0, port 1
	48	Controller 1, port 1		48	Controller 1, port 0

* Use of the 3rd and 4th host ports is optional. At least two ports are required.



Table 4 PowerConnect 7024 with EqualLogic FS7600 NAS and PS4100 (see Figure 2)

	Switch 1 Port	To		Switch 2 Port	To
FS7600 NAS	1	Controller 1, port 3		1	Controller 1, port 7
	2	Controller 1, port 2		2	Controller 1, port 6
	3	Controller 2, port 3		3	Controller 2, port 7
	4	Controller 2, port 2		4	Controller 2, port 6
Array 1	23	Controller 0, port 0		23	Controller 0, port 1
	24	Controller 1, port 1		24	Controller 1, port 0

Table 5 PowerConnect 7048 with EqualLogic FS7600 NAS and PS4100 (see Figure 2)

	Switch 1 Port	To		Switch 2 Port	To
FS7600 NAS	1	Controller 1, port 3		1	Controller 1, port 7
	2	Controller 1, port 2		2	Controller 1, port 6
	3	Controller 2, port 3		3	Controller 2, port 7
	4	Controller 2, port 2		4	Controller 2, port 6
Array 1	47	Controller 0, port 0		47	Controller 0, port 1
	48	Controller 1, port 1		48	Controller 1, port 0



Table 6 PowerConnect 7024 and EqualLogic PS6100 or PS6500 (see Figure 3 or Figure 5)

	Switch 1 Port	To		Switch 2 Port	To
	1	Server 1, port 1		1	Server 1, port 2
	2	Server 1, port 3*		2	Server 1, port 4*
Array 1	21	Controller 0, port 0		21	Controller 0, port 1
	22	Controller 1, port 1		22	Controller 1, port 0
	23	Controller 0, port 2		23	Controller 0, port 3
	24	Controller 1, port 3		24	Controller 1, port 2

* Use of the 3rd and 4th host ports is optional. At least two ports are required.

Table 7 PowerConnect 7024 with EqualLogic 7600 NAS and PS6100 or PS6500 (see Figure 4 or Figure 6)

	Switch 1 Port	To		Switch 2 Port	To
FS7600 NAS	1	Controller 1, port 3		1	Controller 1, port 7
	2	Controller 1, port 2		2	Controller 1, port 6
	3	Controller 2, port 3		3	Controller 2, port 7
	4	Controller 2, port 2		4	Controller 2, port 6
Array 1	21	Controller 0, port 0		21	Controller 0, port 1
	22	Controller 1, port 1		22	Controller 1, port 0
	23	Controller 0, port 2		23	Controller 0, port 3
	24	Controller 1, port 3		24	Controller 1, port 2



Table 8 PowerConnect 7048 and EqualLogic PS6100 or PS6500 (see Figure 3 or Figure 5)

	Switch 1 Port	To		Switch 2 Port	To
	1	Server 1, port 1		1	Server 1, port 2
	2	Server 1, port 3*		2	Server 1, port 4*
Array 1	45	Controller 0, port 0		45	Controller 0, port 1
	46	Controller 1, port 1		46	Controller 1, port 0
	47	Controller 0, port 2		47	Controller 0, port 3
	48	Controller 1, port 3		48	Controller 1, port 2

* Use of the 3rd and 4th host ports is optional. At least two ports are required.

Table 9 PowerConnect 7048 with EqualLogic FS7600 NAS and PS6100 or PS6500 (see Figure 4 or Figure 6)

	Switch 1 Port	To		Switch 2 Port	To
FS7600 NAS	1	Controller 0, port 2		1	Controller 0, port 6
	2	Controller 0, port 3		2	Controller 0, port 7
	3	Controller 1, port 2		3	Controller 1, port 6
	4	Controller 1, port 3		4	Controller 1, port 7
Array 1	45	Controller 1, port 1		45	Controller 1, port 0
	46	Controller 0, port 0		46	Controller 0, port 1
	47	Controller 1, port 3		47	Controller 1, port 2
	48	Controller 0, port 2		48	Controller 0, port 3

