Planning and Preparation Guide

Rapid EqualLogic Configuration Series
Switch: Cisco Catalyst 3850
Array: PS6100, PS6500, or PS4100
Host: VMware ESXi, Windows, Red Hat Enterprise Linux or FS7600 NAS

Dell Storage Engineering
January 2017
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**Revisions**

<table>
<thead>
<tr>
<th>Date</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 2017</td>
<td>Initial release</td>
</tr>
</tbody>
</table>
Table of contents

Revisions.................................................................................................................................................. 2

1 Introduction.............................................................................................................................................. 4
  1.1 Document use..................................................................................................................................... 4
  1.2 Intended audience.............................................................................................................................. 4
  1.3 List of references............................................................................................................................... 4

2 Prerequisites........................................................................................................................................... 5
  2.1 Serial cable.......................................................................................................................................... 5
  2.2 Software............................................................................................................................................. 5
    2.2.1 VMware host operating system..................................................................................................... 5
    2.2.2 Windows host operating system.................................................................................................. 5
    2.2.3 Red Hat Enterprise Linux operating system.............................................................................. 5
    2.2.4 FS7600 – Fluid File System ........................................................................................................ 5
  2.3 Configuration settings....................................................................................................................... 6
    2.3.1 VMware host operating system .................................................................................................. 6
    2.3.2 Windows host operating system.................................................................................................. 6
    2.3.3 Red Hat Enterprise Linux operating system.............................................................................. 6
    2.3.4 FS7600 NAS with Fluid File System........................................................................................... 6
    2.3.5 Switch........................................................................................................................................... 6
    2.3.6 Array.............................................................................................................................................. 6
  2.4 Configuration information.................................................................................................................. 7

3 Connectivity diagrams.......................................................................................................................... 8
  3.1 Point-to-point connection tables....................................................................................................... 11
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:

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®, VMware® vSphere ESXi™, Red Hat Enterprise Linux®, or FS7600 NAS 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 – Analyzing Dell PS Series Storage 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.

- Dell EqualLogic Configuration Guide, available for download at:
  http://en.community.dell.com/dell-groups/dtcmedia/m/mediagallery/19852516
- Dell Storage Compatibility Matrix, available for download at:
  http://en.community.dell.com/dell-groups/dtcmedia/m/mediagallery/20438558
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://eqlsupport.dell.com/ and register.

2.2.1 VMware host operating system
   - Latest SAN HeadQuarters installation package (https://eqlsupport.dell.com/).
   - The VMware vSphere Command-Line Interface (vCLI) environment must be installed on the management server (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://eqlsupport.dell.com/)
   - Latest SAN HeadQuarters installation package (https://eqlsupport.dell.com/)

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

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://eqlsupport.dell.com/)

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

2.2.4 FS7600 – Fluid File System
   - Fluid File System (or FluidFS) version 3 or later (https://eqlsupport.dell.com/)
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 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 or later. This document assumes that all BIOS and firmware are up to data as required and that the FS7600 appliance is not configured (or has been re-initialized if previously configured).

Refer to Chapter 7 of the Dell EqualLogic Group Manager Administrator’s Manual for complete details on configuring the FS7600 NAS appliance. It can be downloaded from https://eqlsupport.dell.com/

2.3.5 Switch
Reference the Dell Storage Compatibility Matrix at http://en.community.dell.com/dell-groups/dtcmedia/m/mediagallery/20438558 to determine the recommended switch firmware version. To get the latest update, visit https://www.arista.com/en/products/switches. Installation instructions are provided as part of the download. The switch user manual can also be downloaded for reference.

2.3.6 Array
Reference the Dell Storage Compatibility Matrix at http://en.community.dell.com/dell-groups/dtcmedia/m/mediagallery/20438558 to determine the recommended array firmware version. To get the latest update, visit https://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>
<thead>
<tr>
<th>Table 1</th>
<th>IP addresses needed for SAN configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Host iSCSI Initiator</td>
<td>Host #1 or FS7600 NAS controller #1</td>
</tr>
<tr>
<td>Port 1</td>
<td></td>
</tr>
<tr>
<td>Port 2</td>
<td></td>
</tr>
<tr>
<td>Array Target</td>
<td>Array #1</td>
</tr>
<tr>
<td>Port 1 (eth0)</td>
<td></td>
</tr>
<tr>
<td>Port 2 (eth1) (PS6510/PS6210 only)</td>
<td></td>
</tr>
<tr>
<td>Management (Out-of-Band/eth1 or eth2)</td>
<td></td>
</tr>
<tr>
<td>Array Group Management IP (Out-of-Band)</td>
<td></td>
</tr>
<tr>
<td>Array Group Management IP (In-Band)</td>
<td></td>
</tr>
<tr>
<td>Out-of-Band Switch Management Port</td>
<td></td>
</tr>
<tr>
<td>FS7600 NAS cluster IP</td>
<td></td>
</tr>
<tr>
<td>FS7600 NAS Cluster Management IP</td>
<td></td>
</tr>
<tr>
<td>Internal Network initial IP address</td>
<td></td>
</tr>
</tbody>
</table>

Switch admin password: ____________________________

Array Group admin password: ____________________________ *

Array Group 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 in section Error! Reference source not found. when ablimg the SAN. The connections between the switch and array use the same port numbers for each array listed. The point-to-point tables demonstrate the same logical view despite the physical differences in the hardware.

Figure 1  Cisco Catalyst 3850 and PS4100 configuration
Figure 2    Cisco Catalyst 3850 and PS6100 or PS6500 configuration

Connections for the management network.
Figure 3  Cisco Catalyst 3850 and PS6100 or PS6500 with FS7600 NAS configuration

Cisco Catalyst 3850

Dell FS7600 NAS

Dell PS6100 or PS6500

Connections for the management network.

Client LAN

Switch interconnect
### 3.1 Point-to-point connection tables

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

<table>
<thead>
<tr>
<th>Table 2</th>
<th>Cisco Catalyst 3850 connections with the PS4100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Switch 1 Port</td>
<td>To</td>
</tr>
<tr>
<td>1</td>
<td>Server 1, port 1</td>
</tr>
<tr>
<td>2</td>
<td>Server 1, port 3*</td>
</tr>
<tr>
<td><strong>Array 1</strong></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>Controller 1, port 0</td>
</tr>
<tr>
<td>24</td>
<td>Controller 2, port 1</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Table 3</th>
<th>Cisco Catalyst 3850 connections with the PS6100 or PS6500</th>
</tr>
</thead>
<tbody>
<tr>
<td>Switch 1 Port</td>
<td>To</td>
</tr>
<tr>
<td>1</td>
<td>Server 1, port 1</td>
</tr>
<tr>
<td>2</td>
<td>Server 1, port 3*</td>
</tr>
<tr>
<td><strong>Array 1</strong></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>Controller 1, port 0</td>
</tr>
<tr>
<td>22</td>
<td>Controller 2, port 1</td>
</tr>
<tr>
<td>23</td>
<td>Controller 1, port 2</td>
</tr>
<tr>
<td>24</td>
<td>Controller 2, port 3</td>
</tr>
</tbody>
</table>

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

** The PS6500 Mgmt system connection is required only if a Windows host will not be used for management activities.
### Table 4: Cisco Catalyst 3850 connections with the PS6100 or PS6500 and FS7600 NAS

<table>
<thead>
<tr>
<th>Switch 1 Port</th>
<th>To</th>
<th>Switch 2 Port</th>
<th>To</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FS7600 NAS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Controller 1, port 3</td>
<td>1</td>
<td>Controller 1, port 7</td>
</tr>
<tr>
<td>2</td>
<td>Controller 1, port 2</td>
<td>2</td>
<td>Controller 1, port 6</td>
</tr>
<tr>
<td>3</td>
<td>Controller 2, port 3</td>
<td>3</td>
<td>Controller 2, port 7</td>
</tr>
<tr>
<td>4</td>
<td>Controller 2, port 2</td>
<td>4</td>
<td>Controller 2, port 6</td>
</tr>
<tr>
<td><strong>Array 1</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>Controller 1, port 0</td>
<td>21</td>
<td>Controller 1, port 1</td>
</tr>
<tr>
<td>22</td>
<td>Controller 1, port 2</td>
<td>22</td>
<td>Controller 1, port 3</td>
</tr>
<tr>
<td>23</td>
<td>Controller 2, port 1</td>
<td>23</td>
<td>Controller 2, port 0</td>
</tr>
<tr>
<td>24</td>
<td>Controller 2, port 3</td>
<td>24</td>
<td>Controller 2, port 2</td>
</tr>
</tbody>
</table>