

FS7500 Installation

Before You Begin

This is a condensed reference. Read the *Installation Guide* (provided in the box) for complete installation information.

Register for an EqualLogic Customer Support account. If you do not have a Customer Service Support account, go to support.dell.com/EqualLogic and create one. Download and read the PS Series *Release Notes* from the support site. The *Release Notes* contain the latest product information.

Environmental Requirements

Make sure the installation location meets the power, cooling, and ventilation requirements in the *Installation and Setup* manual, located in the shipping box.

Required Hardware (Not Supplied)

- 19-inch (48.3 cm) four-post tool-less rack
- Ethernet cables: You need 13 Category 5E or Category 6 Ethernet cables with RJ45 connectors (for each FS7500 controller)
- 2 network switches

Installation Guidelines

The EqualLogic FS7500 hardware configuration consists of two FS7500 Controller units and one FS7500 Backup Power Supply (BPS) unit. The BPS is required even if you have an uninterruptible power supply system in your environment. Install the three hardware components adjacent to one another in the same rack.

Additional Information About SANs

For EqualLogic best practices, whitepapers, reference architectures, and sizing guidelines for enterprise applications and SANs, refer to the Dell Storage Community at <http://dell.to/sM4hJT>.

1 Unpack the Shipping Box

Caution: Protect sensitive hardware. Make sure you use an electrostatic wrist strap or similar form of protection when handling hardware.

The FS7500 comes packed in one box or two boxes, depending on your location. In the single box configuration, the BPS is packed on top of the box containing the controllers. Place all components on a stable surface.

Controller Contents:

- 2 controller units
- 2 controller bezels
- 6 power cables
- 2 controller rail kits
- Documentation

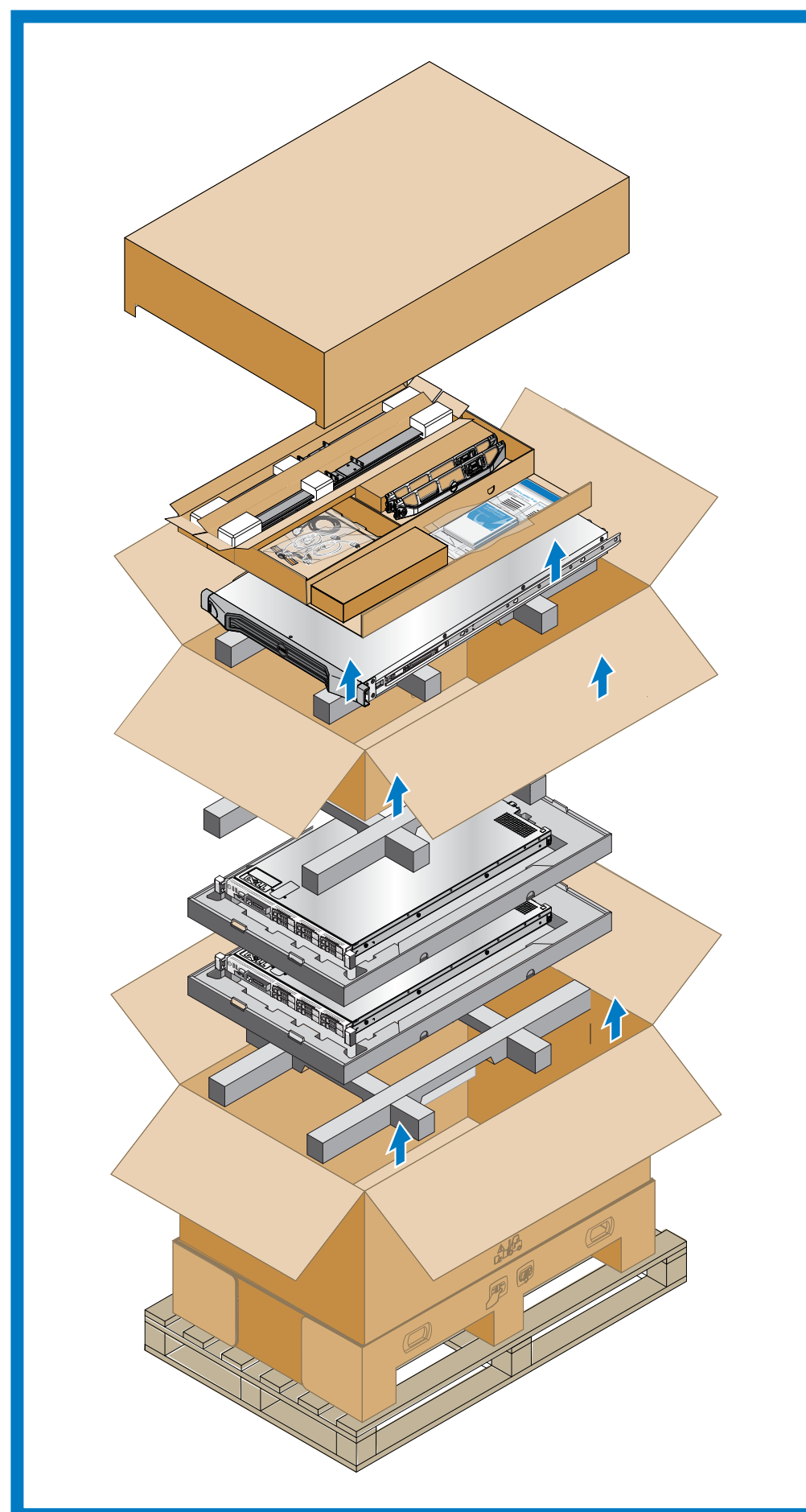
BPS Box Contents:

- BPS chassis with 2 installed power modules
- Accessory box with bezel, 2 USB cables, 2 hook-and-loop fastener strips, and 2 REPO port connectors
- Rail kit for the BPS

2 Connect BPS Batteries and Install the BPS in a Rack

Note: Install the hardware starting from the bottom of the rack. You will install the two controllers on top of the BPS.

1. Obtain the rail kit from the BPS shipping box.
2. Remove the power modules from the BPS.
3. Install the rails into the rack.
4. Install the empty BPS chassis into the rack.
5. Connect the battery in each BPS power module:
 - a. Remove the power module cover. Do not disconnect the ribbon cable.
 - b. Remove the battery from the power module.
 - c. Rotate the battery 180 degrees (turn back to front).
 - d. Reinstall the battery in the power module.
 - e. Attach the power module cover.
6. Install the 2 power modules in the BPS chassis.

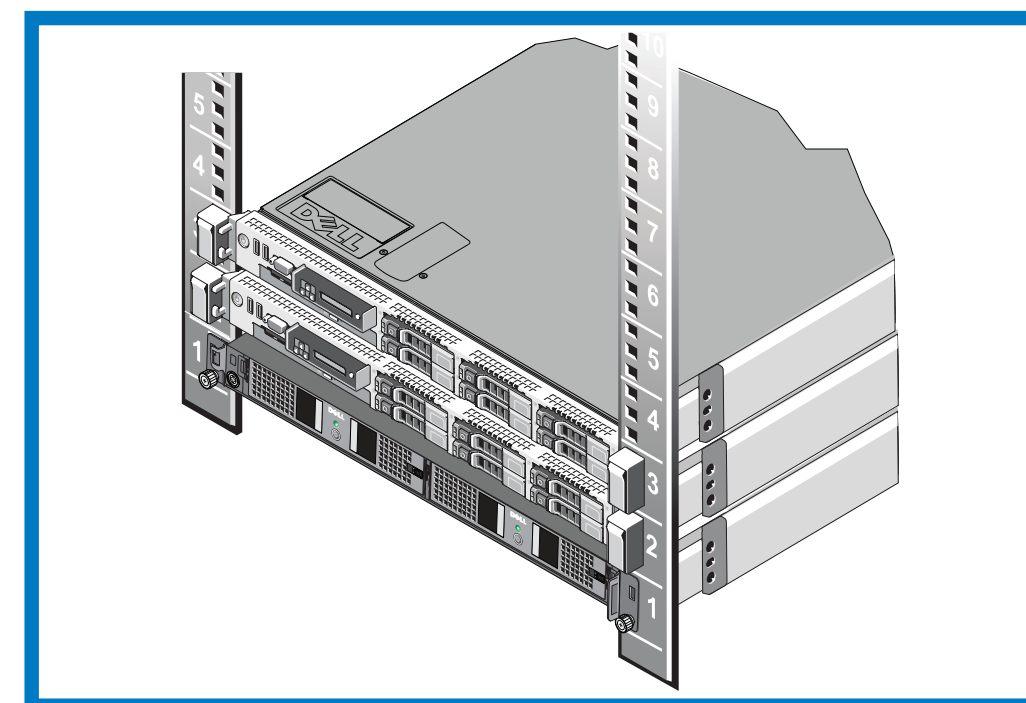


3 Install the Controllers in the Rack

For each controller, perform the following steps:

1. Obtain the controller rail kit from the controller shipping box.
2. Install the rails in the rack.
3. Pull out the inner sliding rails until they lock into place.
4. Lower the controller onto the rails, starting with the rear.
5. Fit the screws into the J slots on the rails.
6. Slide the controller into the rack.
7. Press the release latch on the side of the rail, and slide the controller all the way into the rack.

After you install the EqualLogic FS7500 hardware in a rack, it should look similar to the figure below.



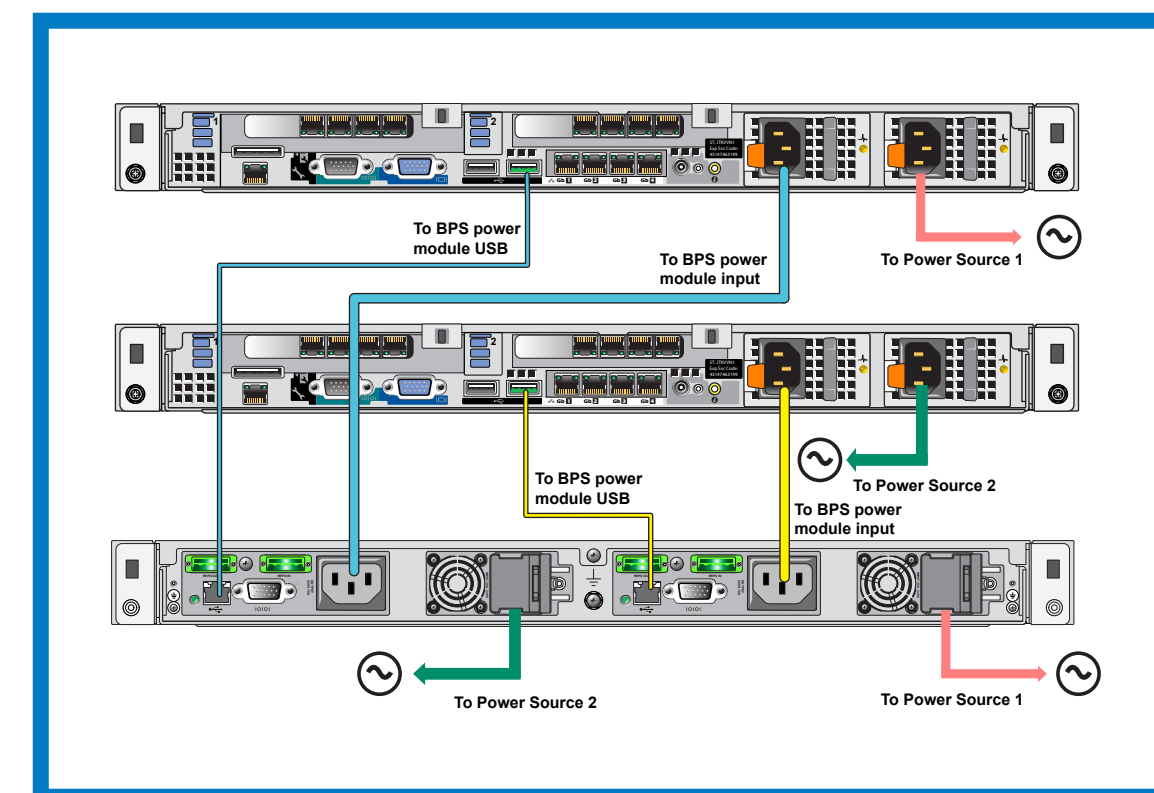
4 Connect the BPS and Controllers to Power

Warning: Make sure the voltage of your power source is compatible with the voltage rating of the BPS. If the power source voltage is too low, the BPS will not activate. If the voltage is too high, the BPS can be damaged.

1. Connect each BPS power module to a separate power source using the included power cables.
2. Use the hook-and-loop fastener strips to secure the power cable to the latch on each power module.
3. Turn on the power to each BPS module and make sure it is operational.

For each controller, perform the following steps:

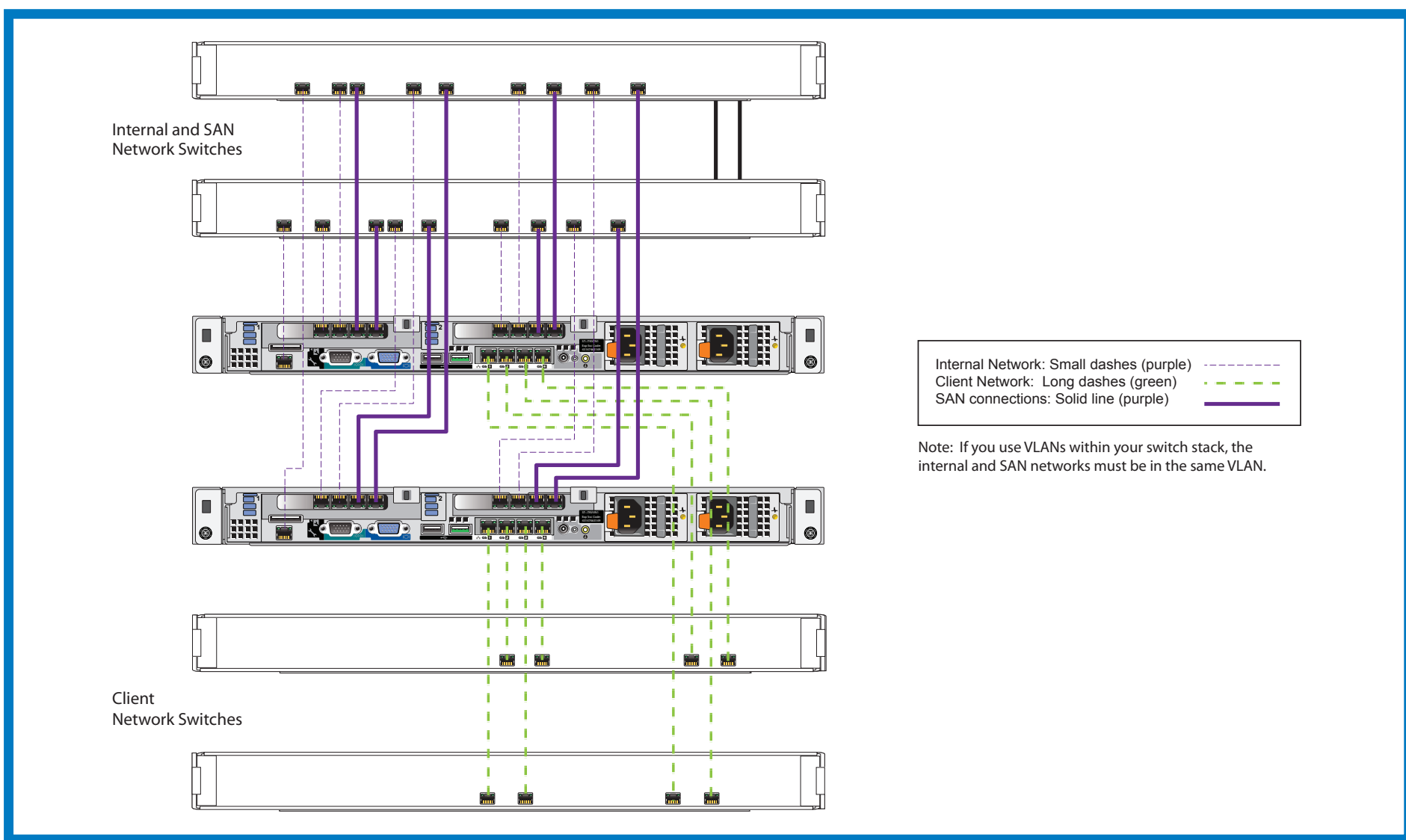
1. Connect the controller to a power source.
2. Connect the controller to the power output receptacle on a BPS power module.
3. Using one of the USB cables included in the BPS shipping box, connect the controller to the USB port on the same BPS power module.
4. Turn on the power to the controller and make sure it is operational.



5 Connect the Controllers to the Networks

Cabling Configuration Using Redundant Network Switches.

NOTE: The BPS and power connections are not shown.



Network Requirements

Your EqualLogic FS7500 system comes with a Dell enterprise deployment service. A representative from Dell enterprise services will be contacting you to install the FS7500 system. Use these instructions in addition to the *EqualLogic FS7500 Installation and Setup Manual* as a guideline to prepare your network to successfully install and run the FS7500 in your environment. For questions regarding these requirements, contact your Dell deployment service engineer or Dell Technical Support.

The Dell FS7500 has three kinds of networks:

- **Client Network:** Enables the FS7500 system to connect to your user clients for file data access.
- **SAN Network:** Enables the FS7500 system to connect to the EqualLogic PS Series SAN for storing user data.
- **Internal Network:** Enables the FS7500 controller nodes to engage in internal communication required for failover and heartbeat.

The SAN and internal network connections (hereafter, "SAN/Internal") are connected to the same set of Ethernet switches. Dell recommends using separate switches for the client network than for the SAN/Internal network.

Before installing the FS7500, meet these requirements:

1. Category 5/6 cables: 26 network cables are required for each FS7500 system. Use Category 5 cables only if they adhere to the TIA/EIA TSB95 standard.
2. If you rack and cable the FS7500 system yourself, follow the cabling diagram and instructions listed in the *EqualLogic FS7500 Installation and Setup Manual* included with your FS7500 product. Dell strongly recommends using a highly available network topology for both your SAN/Internal and client networks.
3. Enable Spanning Tree Protocol/Port Fast on the SAN/Internal network switches.
4. Enable Flow Control on the SAN/Internal and client network switches.
5. Enable jumbo frames (to support a frame size of 9000 bytes) on the SAN/Internal network switches. Note that Dell PowerConnect switches must be configured to 9216 MTU. Switches from vendors other than Dell might require a different MTU configuration to accept frames of 9000 bytes size.
6. Disable Unicast storm control on the SAN/Internal switches.
7. You can use VLANs, but they are not required. If you use VLANs on your switches, the SAN and internal networks must be in the same VLAN.
8. IPv6 must be enabled on SAN/Internal switches for successful discovery of FS7500 controllers.

Additional Notes

1. Jumbo frames are required only on the SAN/Internal network. The client network on the FS7500 is set to 1500 MTU by default. However, you can modify the setting on client network switches to enable jumbo frames if required.
2. All Ethernet ports of FS7500 communicate at 1 Gbps speed except the IPMI ports on the SAN/Internal network, which communicate at 100 Mbps only. If you are connecting the FS7500 SAN/Internal network to 10 Gb Ethernet switches, ensure that the switch ports to which the FS7500 IPMI connections are connected can operate at 100 Mbps speed and the rest of the switch ports connected to FS7500 can operate at 1 Gbps.
3. Do not connect the SAN/Internal network ports to a router.

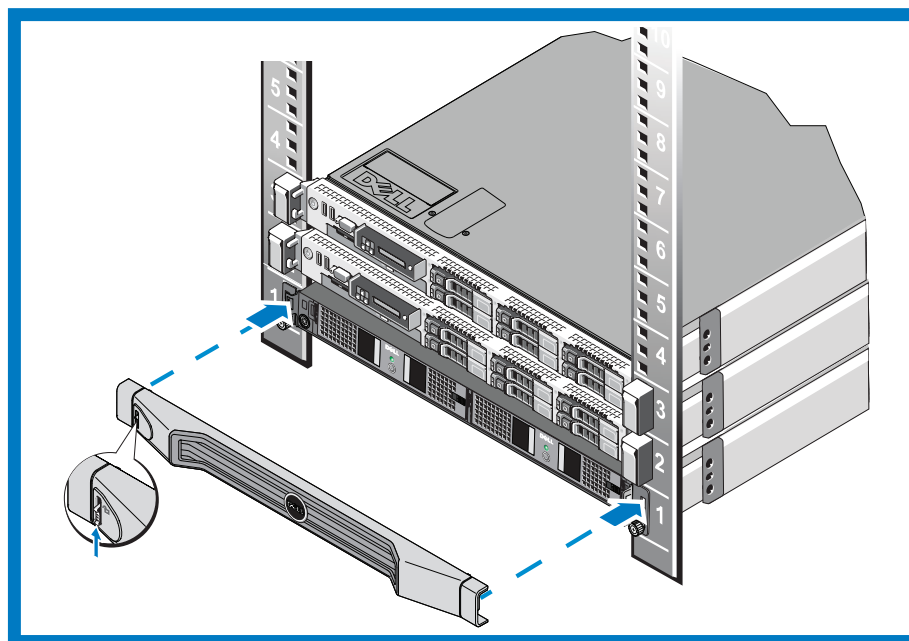
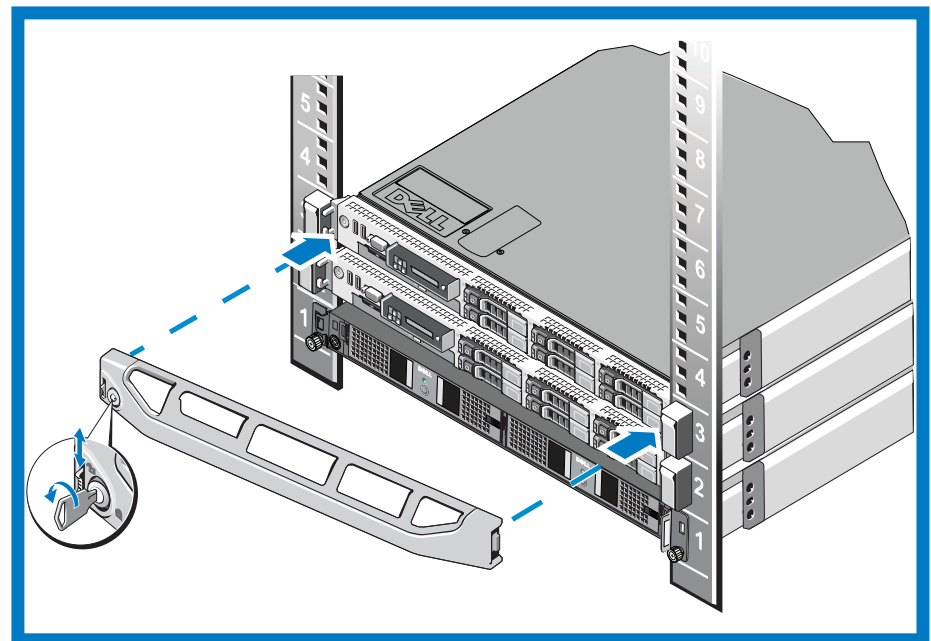
6 Attach the Controller and BPS Bezels

For each controller, see the figure below and perform these steps:

1. Insert the right side of the bezel into the slot on the right side of the controller.
2. Push the bezel toward the left side of the controller.
3. Lift the latch on the left side of the bezel.
4. Engage the bezel with the left side of the controller chassis.
5. Release the latch.
6. Use the key to lock the bezel.

For the BPS, see the figure below right and perform these steps:

1. Gently fit the bezel onto the right side of the BPS.
2. Lift the latch on the left side of the bezel.
3. Push the left side of the bezel onto the left side of the chassis to engage the bezel with the front of the BPS.
4. Release the latch.



Hardware Installation is Complete!

Your array hardware should now be up and running. If it is not, make sure that you have successfully completed all of the steps described in this poster.

If you are still experiencing problems, see the *Installation Guide* for additional installation information. The *Installation Guide* also provides technical support and customer service information.

For live technical support, call 1-800-945-3355.

What to do Next

Next, configure the NAS Service. See the *EqualLogic FS7500 Installation Guide* for information.

Notes, Cautions, and Warnings

A **NOTE** symbol indicates important information that helps you make better use of your hardware.

A **CAUTION** indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.

A **WARNING** symbol indicates a potential for property damage, personal injury, or death.

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