Spectra BlackPearl Deep Storage Gateway

Data Drive Installation

Revision History

Revision	Date	Description
A	October 2014	Initial release.
B	January 2015	Second release.

Contacting Spectra Logic

To Obtain General Information

Spectra Logic Website: www.spectralogic.com

United States Headquarters	**European Office**
Spectra Logic Corporation	Spectra Logic Europe Ltd.
Phone: 1.800.833.1132 or 1.303.449.6400	**Phone:** 44 (0) 870.112.2150
International: 1.303.449.6400	**Fax:** 44 (0) 870.112.2175
Fax: 1.303.939.8844	

Spectra Logic Technical Support

Technical Support Portal: support.spectralogic.com

United States and Canada	**Europe, Middle East, Africa**
Phone:	**Phone:** 44 (0) 870.112.2185
Toll free US and Canada: 1.800.227.4637	**Deutsch Sprechende Kunden**
International: 1.303.449.0160	**Phone:** 49 (0) 6028.9796.507
	Email: spectralogic@stortrec.de

Mexico, Central and South America, Asia, Australia, and New Zealand
Phone: 1.303.449.0160

To Obtain Documentation

Spectra Logic Website: support.spectralogic.com/documentation

DATA DRIVE INSTALLATION

This document describes installing data drives in a Spectra® BlackPearl™ Deep Storage Gateway.

BEFORE YOU BEGIN

Before installing drives, make sure that you have addressed the requirements in this section.

Gather Materials and Tools

Required

- A grounded anti-static wristband
- Two or four solid state data drives from Spectra Logic (*PN 90999700*)
  Note: The drive is mounted underneath the drive sled and is not visible when the drive sled is oriented for installation.

—OR—

- Ten spinning disk data drives from Spectra Logic (*PN 90999684*)

Figure 1 A solid state drive.

Figure 2 A spinning disk drive.

Recommended

- An anti-static mat

Ensure ESD Protection

The repair environment for the library must be free of conditions that could cause electrostatic discharge (ESD). To protect the library from ESD, follow these procedures when repairing or testing the library:

- Place a static protection mat on the work surface used while removing and installing library components. Use a 1-megohm resistor to ground the static protection mat.

- Wear a static protection wrist band or grounding foot strap whenever you handle library components that have been removed from their anti-static bags. Connect the wrist band to the static protection mat or to other suitable ESD grounding.

   Note: Keep all electronic components in anti-static bags when not in use.

Discontinue Storage Operations

No file storage operations can occur while installing new drives in the BlackPearl gateway. Use your software to stop all file storage operations to the gateway.

Power Down the Gateway

The BlackPearl gateway must be powered down before installing new drives. Use the following instructions to power down the gateway.

1. If necessary, log into the BlackPearl user interface as described in the *Spectra BlackPearl User Guide*.

2. Click the power icon in the lower right-hand corner of any screen in the BlackPearl user interface. The Power screen displays.
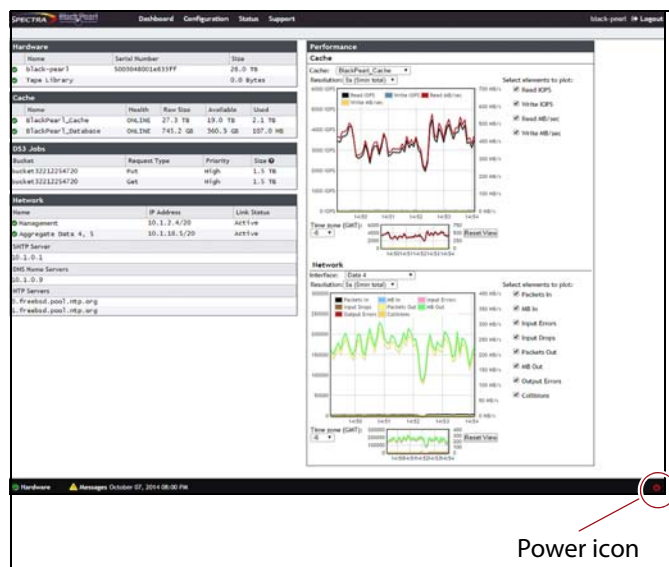
Power icon

Figure 3 The Power icon.

3. Click **Shutdown**.

4. A confirmation screen appears. Confirm the selection to shutdown the gateway.

INSTALL THE DRIVES

The drives used in a BlackPearl gateway are mounted on drive sleds that ensure proper data and electrical connection with the backplane inside the gateway. Only install drives that you purchase from Spectra Logic.

> **Note:** The BlackPearl gateway only supports drives sold by Spectra Logic. If a drive purchased from another vendor or manufacturer is installed in an BlackPearl gateway, the Hardware screen displays the drive as "unbranded" and the drive is not usable.

Determining Drive Placement

The BlackPearl gateway features two banks of drive bays, one in the front, and one in the rear of the gateway. Each drive bank is managed by a separate backplane controller. To ensure maximum performance of the BlackPearl gateway, new drives must be divided into two groups prior to installation—one group for the front drive bank, and the second group for the rear drive bank.

The drive groups are created by dividing the number of each drive type in half. For example, if you are installing two solid state drives, each group will have one drive. If you are installing ten spinning disk drives, then each group will have five drives.

Number of Drives	Front Drive Bank	Rear Drive Bank
2 solid state drives	1	1
4 solid state drives	2	2
6 solid state drives	3	3
10 spinning disk drives	5	5
20 spinning disk drives	10	10

Remove the Front Bezel

You need to remove the front bezel prior to installing drives in the front drive bank of the gateway. The bezel is held in place with magnets. Grasp the sides of the bezel and pull it straight off the gateway.

Remove Empty Drive Sleds

Use the following steps to remove an empty drive sled.

1. Put on an anti-static wristband and attach it to the anti-static mat or an unpainted metallic surface. Continue to wear the wristband throughout the entire installation procedure.

⚠️ **Caution** Any damage to the BlackPearl gateway caused by failure to protect it from electrostatic discharge (ESD) voids the BlackPearl warranty. To protect the BlackPearl drives from damage:

- Wear an anti-static wristband, properly grounded, throughout the procedure. If a wristband is not available, touch a known grounded surface, such as the unpainted metal chassis.
- Leave a drive in its anti-static bag until you are ready to install it.
- Do not place an un-bagged drive on any metal surfaces.

2. Locate the bay where you want to install a new drive. It does not matter which bay you select as long as it is in the correct drive bank (front or back) and does not contain an existing drive.

⚠️ **Important** It does not matter which empty bay you select, as long as you have divided the new drives as described in Determining Drive Placement on page 5.

3. Slide the empty drive sled locking tab to the right to release the drive sled handle.

4. Open the drive sled handle by rotating it outward and toward the left to disengage the drive sled from the chassis.
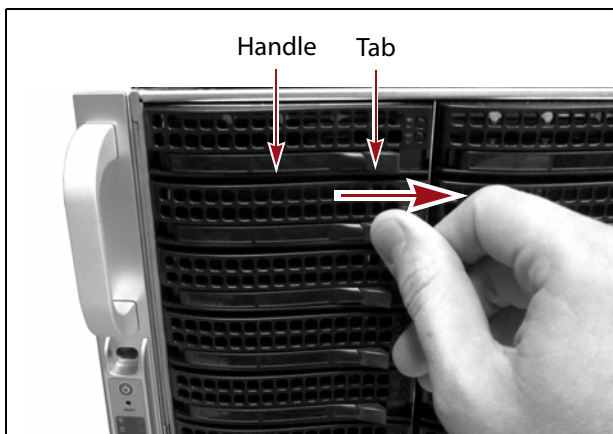
Figure 4 Slide the tab to the right to release it.
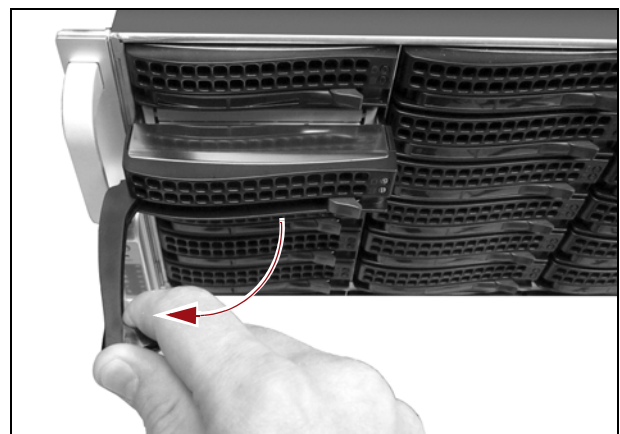
Figure 5 Open the drive sled handle.

5. Pull the empty drive sled out of the chassis.

6. Repeat Step 2 through Step 5 for each additional drive to be installed.

7. Discard the empty drive sleds in accordance with your company guidelines.

Install a New Drive

Use the following steps to install a new drive.

1. New drives are shipped installed on a drive sled. Slide the locking tab on the front of the drive sled to the right to release the handle, then rotate the handle outward and to the left.

2. With the drive handle in the open position, slide the drive sled into an empty drive bay until the front of the drive sled is flush against the chassis. The drive sled slides in easily; do not force it.

⚠️ **Important** It does not matter which drive type you install in an empty bay, as long as you have divided the new drives as described in Determining Drive Placement on page 5.

Figure 6 Install the drive into the BlackPearl gateway.

3. When the drive sled is in position, push the handle inward and to the right until the locking tab secures it in place. An audible click indicates that the drive sled is locked into position.

4. Repeat Step 1 through Step 3 for each additional drive.

5. Power on the BlackPearl gateway by gently pressing the power button on the front panel. The power LED illuminates indicating that power is on.
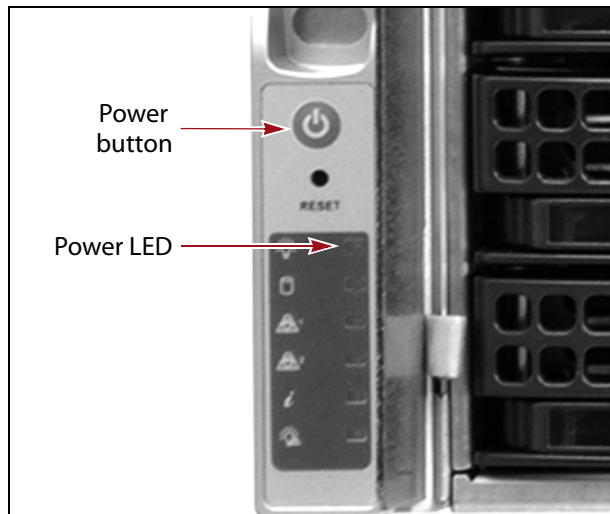
Figure 7 Press the power button.

Wait while the BlackPearl gateway completes its power-on sequence, during which the gateway incorporates the newly installed drives into the BlackPearl tape cache and database.
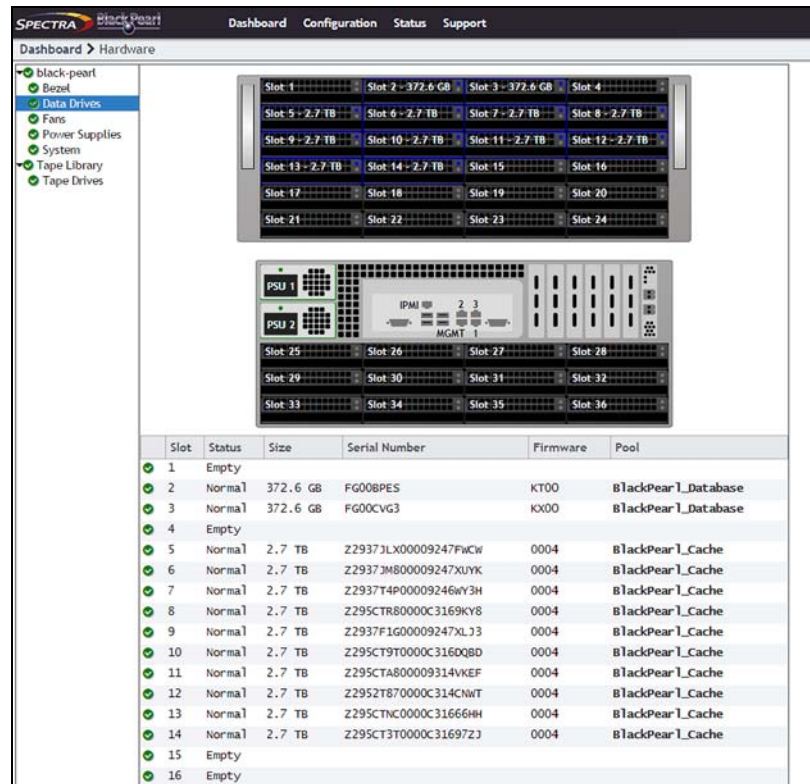
6. Reinstall the front bezel.

Complete the Replacement

1. Log into the BlackPearl user interface as described in the *Spectra BlackPearl User Guide*.

2. From the menu bar, select **Status ⋯⋮ Hardware**. The Hardware screen displays.

3. Click **Data Drives**. The screen refreshes to show the status for the drives in the gateway.

Figure 8 The Hardware screen showing all data drives.

4. Confirm all drives indicate a good status (a check mark in a green circle). If a drive does not indicate a good status, contact Spectra Logic Technical Support (see Contacting Spectra Logic on page 2).

Resume Storage Operations

Use your software to resume file storage operations to the gateway.