



Spectra BlackPearl Deep Storage Gateway Upgrading to BlackPearl 3.0.x



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Part Number

90990121 Revision A

Revision History

Revision	Date	Description
A	February 2016	Initial release.

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UPGRADING TO BLACKPEARL

3.0.X

This document describes upgrading the software running on a Spectra® BlackPearl® Deep Storage Gateway to version 3.0.x.

BEFORE YOU BEGIN

Before you upgrade the BlackPearl gateway to software version 3.0.x, you must address the issues in this section.

Manual Update Required

The BlackPearl 3.0.x software contains functionality changes significant enough that an upgrade through the Automated Software Update feature is not possible. The BlackPearl gateway must be upgraded manually.

Note: After you upgrade the BlackPearl gateway to version 3.0.x, automated software updates again work normally.


Gather Software Keys

Have on hand the software keys provided to you by Spectra Logic. You will enter these keys during the upgrade procedure to enable new features included in the BlackPearl 3.0.x software.

Create a Manual Database Backup

Before you upgrade your BlackPearl gateway, it is recommended that you create a manual database backup.

Use the instructions in this section to backup the database.

1. Log into the BlackPearl user interface as described in the *Spectra BlackPearl User Guide*.
2. From the menu bar, select **Configuration**  **Database Backup**. The Database Backup screen displays.

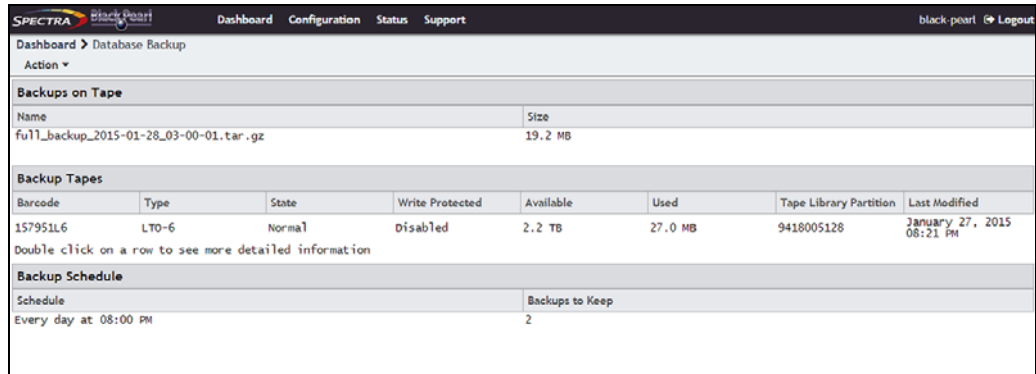


Figure 1 The Database Backup screen.

3. Select **Action**  **Start Immediate Backup**. A confirmation window displays.

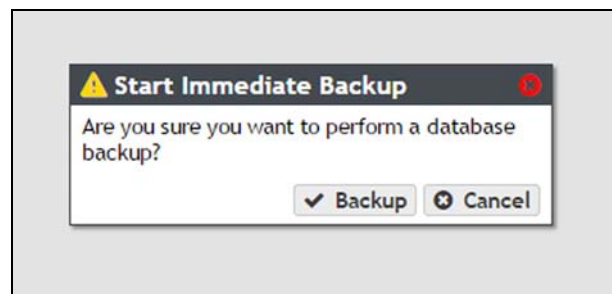


Figure 2 The Start Immediate Backup confirmation window.

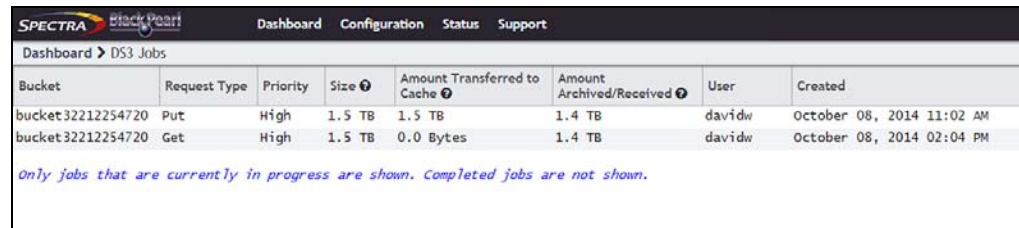
4. Click **Backup**.

Discontinue Storage Operations

No file storage operations can occur when upgrading the gateway. Use your software to stop all file storage operations to the gateway. After you have stopped all operations, confirm the BlackPearl gateway completed processing all operations.

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

- From the menu bar, select **Status** → **DS3 Jobs** to display the DS3 Jobs screen.



Bucket	Request Type	Priority	Size	Amount Transferred to Cache	Amount Archived/Received	User	Created
bucket32212254720	Put	High	1.5 TB	1.5 TB	1.4 TB	davidw	October 08, 2014 11:02 AM
bucket32212254720	Get	High	1.5 TB	0.0 Bytes	1.4 TB	davidw	October 08, 2014 02:04 PM

Only jobs that are currently in progress are shown. Completed jobs are not shown.

Figure 3 The DS3 Jobs screen.

- Only jobs that are currently in progress are shown. Confirm there are no jobs displayed on the DS3 Jobs screen. If any jobs are listed on the DS3 Jobs screen and cannot be completed or cancelled, contact Spectra Logic Technical Support before proceeding (see [Contacting Spectra Logic on page 2](#)).
- If the DS3 Jobs screen displays no active jobs, it is safe to proceed with the upgrade.

UPGRADE THE BLACKPEARL GATEWAY

Use the instructions in this section to upgrade the BlackPearl gateway.

Download Update File

Before beginning the upgrade, you must download the BlackPearl 3.0.x upgrade file. The file is located on the Spectra Logic Support Portal. Use the instructions in this section to save the file to a host computer that can access the BlackPearl web interface.

- Log into your account on the Technical Support portal at support.spectralogic.com.

2. Select **Downloads**  **Product Software**. The Product Software Screen displays.

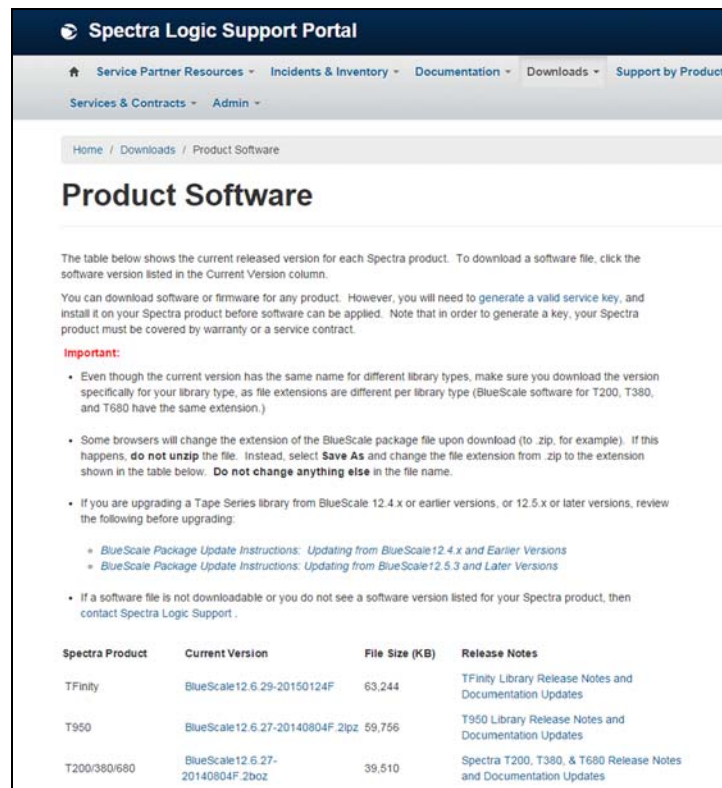



Figure 4 The Product Software screen.

3. Locate the BlackPearl gateway in the **Spectra Product** column. The currently released BlackPearl software version is listed in the **Current Version** column.
4. Click the name of the BlackPearl 3.0.x software package. The package begins downloading through your web browser. Do not unzip the downloaded file.

Upgrade the Software

1. Using the host computer to which you saved the BlackPearl 3.0.x software file, log into the BlackPearl user interface as described in the *Spectra BlackPearl User Guide*.
2. From the menu bar, select **Support**  **Software**. The Software screen displays.
3. Confirm the **Current Version** displayed on the Software screen is either version 1.2, or version 1.2.1.

Note: If your BlackPearl gateway is not at one of the listed versions, contact Spectra Logic Technical Support before proceeding (see *Contacting Spectra Logic* on page 2).

- In the Manual Software Upload pane, click **Choose File**. Using your web browser, navigate to the location of the upgrade file and select the file to upload. When the progress bar indicates 100%, the file is staged to the system.

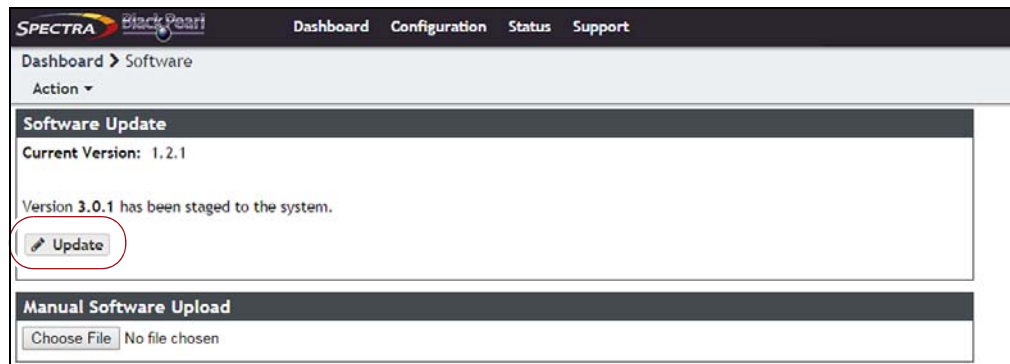


Figure 5 The Software Update screen with a staged software package.

- Click **Update**. A confirmation window displays. Confirm the operation to continue. A progress bar shows the progress of the update.

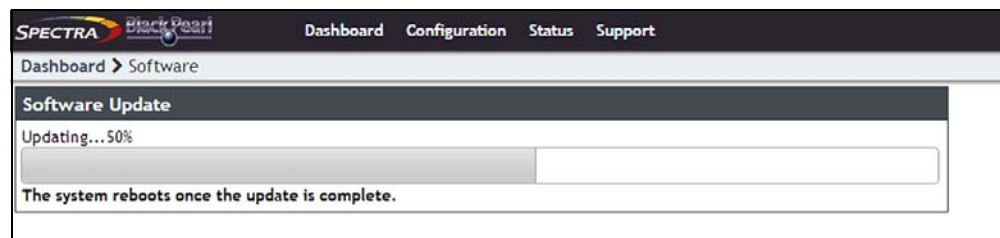


Figure 6 The Software Update screen showing the progress of an update.

- When the update completes, the BlackPearl gateway automatically reboots to begin using the latest software. When this occurs, you lose the connection to the BlackPearl user interface. Wait approximately 10 minutes for the reboot to complete.

Enter Activation Keys

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

Note: After upgrading to software version 3.0.x, the BlackPearl web interface displays the Spectra Verde branding scheme and colors. This is normal.

- From the menu bar, select **Support**  **Activation Keys**. The Activation Keys window displays.

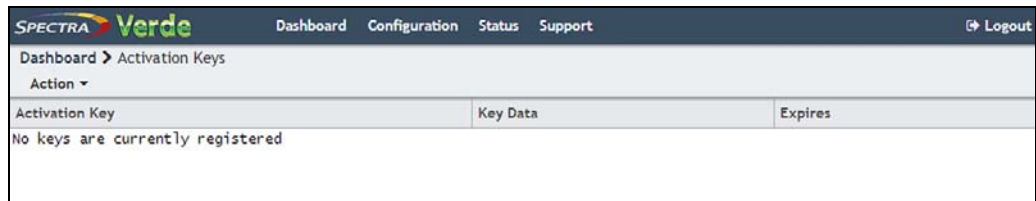


Figure 7 The Activation Keys screen.



Important The first key entered must be the Spectra S3 key.

- Select **Action**  **New**. The Enter Activation Key dialog box displays.

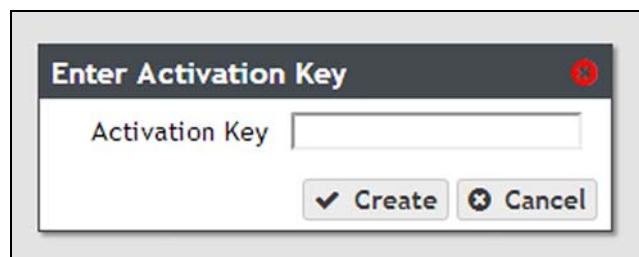




Figure 8 The Enter Activation Key dialog box.

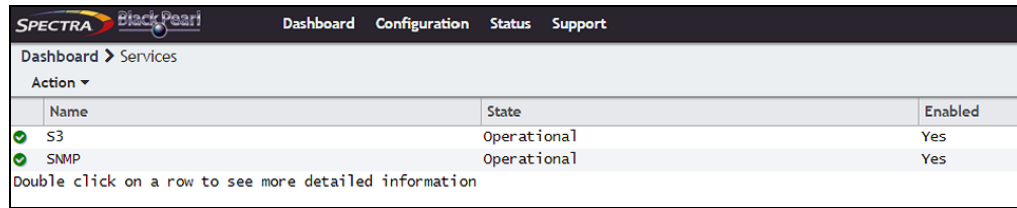
- Enter the Spectra S3 key, exactly as provided, in the Activation Key field and click **Create**. A confirmation window displays indicating that the gateway reboots after adding this key. Confirm the operation to save the key on the gateway and reboot the gateway.

Note: After the Spectra S3 key is installed and the gateway reboots, the web interface again shows the BlackPearl branding scheme and colors.

- Wait approximately 10 minutes for the reboot to complete.
- Log into the BlackPearl user interface as described in the *Spectra BlackPearl User Guide*.
- Select **Support**  **Activation Keys** to display the Activation Keys screen. Any previously entered keys are listed.
- Select **Action**  **New**. The Enter Activation Key dialog box displays.
- Enter a key, exactly as provided, in the Activation Key field and click **Create** to save the key on the gateway. The Activation Keys screen displays with the newly entered key listed.
- If necessary, repeat [Step 8](#) through [Step 9](#) to add additional keys.

Activate Hardware Systems

1. From the menu bar, select **Configuration** ...**Services**. The Services screen displays.



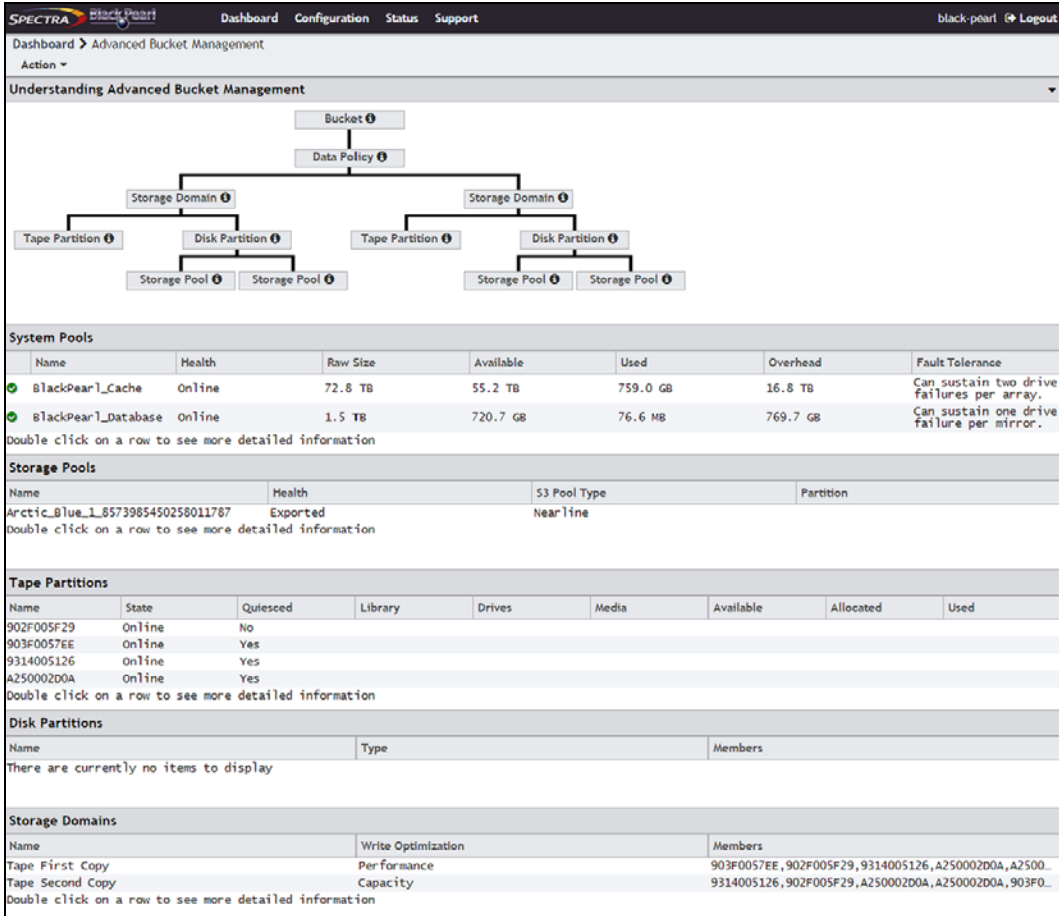
Name	State	Enabled
S3	Operational	Yes
SNMP	Operational	Yes

Figure 9 The Services screen.

2. Double-click the S3 service, or select the S3 service and select **Action** ...**Show Details**. The S3 details screen displays.
3. On the S3 service details screen, select **Action** ...**Activate Data Path Backend**. A confirmation window displays. Click **Activate** to activate the data path.

- From the menu bar, select **Configuration**  **Advanced Bucket Management** to display the Advanced Bucket Management screen.

Note: If you do not have a tape library connected to your BlackPearl gateway, skip to [Set Default Data Policies](#) on page 11.



The screenshot displays the 'Advanced Bucket Management' interface. At the top, there's a navigation bar with 'Dashboard', 'Configuration', 'Status', and 'Support'. Below it, a breadcrumb trail shows 'Dashboard > Advanced Bucket Management'. A dropdown menu is open, showing a tree diagram of storage components: Bucket, Data Policy, Storage Domain, Tape Partition, and Disk Partition, each leading to Storage Pools.

System Pools

Name	Health	Raw Size	Available	Used	Overhead	Fault Tolerance
BlackPearl_Cache	Online	72.8 TB	55.2 TB	759.0 GB	16.8 TB	Can sustain two drive failures per array.
BlackPearl_Database	Online	1.5 TB	720.7 GB	76.6 MB	769.7 GB	Can sustain one drive failure per mirror.

Double click on a row to see more detailed information

Storage Pools

Name	Health	S3 Pool Type	Partition
Arctic_Blue_1_8573985450258011787	Exported	Near Line	

Double click on a row to see more detailed information

Tape Partitions

Name	State	Quiesced	Library	Drives	Media	Available	Allocated	Used
902F005F29	Online	No						
903F0057EE	Online	Yes						
9314005126	Online	Yes						
A250002D0A	Online	Yes						

Double click on a row to see more detailed information

Disk Partitions

Name	Type	Members
There are currently no items to display		

Storage Domains

Name	Write Optimization	Members
Tape First Copy	Performance	903F0057EE, 902F005F29, 9314005126, A250002D0A, A2500...
Tape Second Copy	Capacity	9314005126, 902F005F29, A250002D0A, A250002D0A, 903F0...

Double click on a row to see more detailed information

Figure 10 The Advanced Bucket Management screen.

- Select the tape partition in the Tape Partitions pane, and select **Action**  **Activate Tape Partition**. The Activate Tape Partition confirmation window displays.

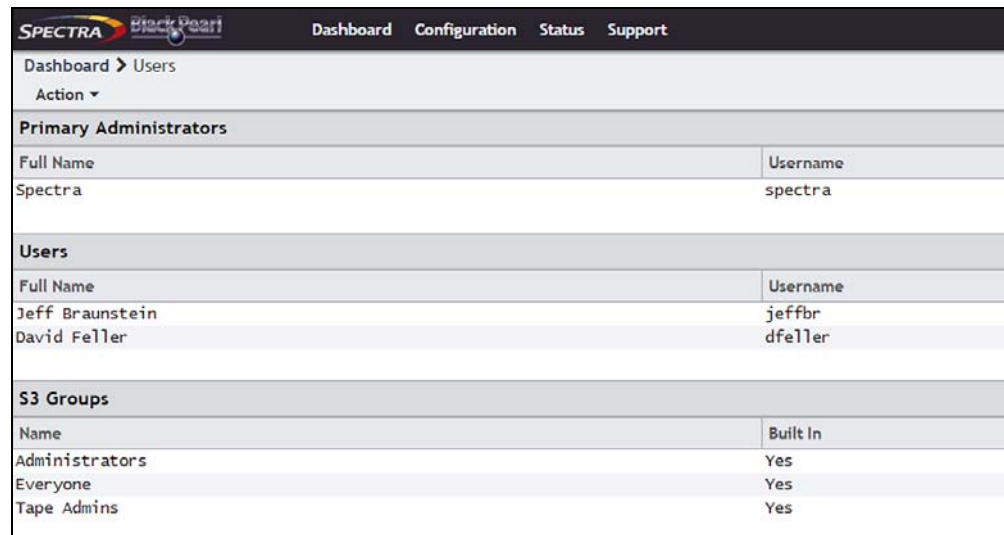


Figure 11 The Activate Tape Partition confirmation window.

- Click **Activate**. The tape partition is activated and is usable by the BlackPearl gateway.

Set Default Data Policies

1. From the menu bar, select **Configuration** → **Users**. The Users screen displays.



Primary Administrators	
Full Name	Username
Spectra	spectra

Users	
Full Name	Username
Jeff Braunstein	jeffbr
David Feller	dfeller

S3 Groups	
Name	Built In
Administrators	Yes
Everyone	Yes
Tape Admins	Yes

Figure 12 The Users screen.

You must set a default data policy for the primary administrator and each user configured on the gateway. Two default data policies are automatically available.

- **Single Copy on Tape** - Creates one copy of data that always remains in the library – not exported or delivered to an external source.
- **Dual Copy on Tape** - Creates two copies of data, one copy of data that always remains in the library and one copy able to be exported or delivered to an external source.

If these data policies do not meet your needs, see the *Spectra BlackPearl User Guide* and create a custom data policy before continuing.



Important

It is difficult and time consuming to make changes once data is written to a bucket using a data policy.

2. Use the following steps to set a data policy for the Primary Administrator.
 - a. Double-click the **Spectra** account in the Primary Administrators pane, or select the **Spectra** account, and then select **Action** ⋮ **Edit**. The Edit User dialog box appears.

The screenshot shows the 'Edit User' dialog box with the following fields and values:

- Full Name: Spectra
- Username: spectra
- Role: Primary Administrator
- Current Password: (empty)
- New Password: (empty)
- Confirm New Password: (empty)
- Session Timeout: 60
- Enable Remote Support:
- S3 Access ID: c3B1Y3RyYQ==
- S3 Secret Key: whTI3Gkp
- Default Data Policy: Single Copy on Tape (circled in red)

Below the main fields are two sections:

- Global Bucket Access Control List**: List Read Write Delete Job Owner
- Global Data Policy Access Control List**: Enabled


At the bottom right are 'Save' and 'Cancel' buttons.

Figure 13 The Edit User dialog box.

- b. From the drop-down list, select a **Default Data Policy** for the user. The gateway uses the selected data policy for all buckets created by the user, unless a different policy is specified during bucket creation.

Note: Make sure the three **Password** entry fields are blank. If they are populated, delete any data in these fields.

- c. Leave the remaining fields as-is, and click **Save**.

3. Use the following steps to set a data policy for a user.
 - a. Double-click an account in the Users pane, or select the account, and then select **Action**  **Edit**. The Edit User dialog box appears.

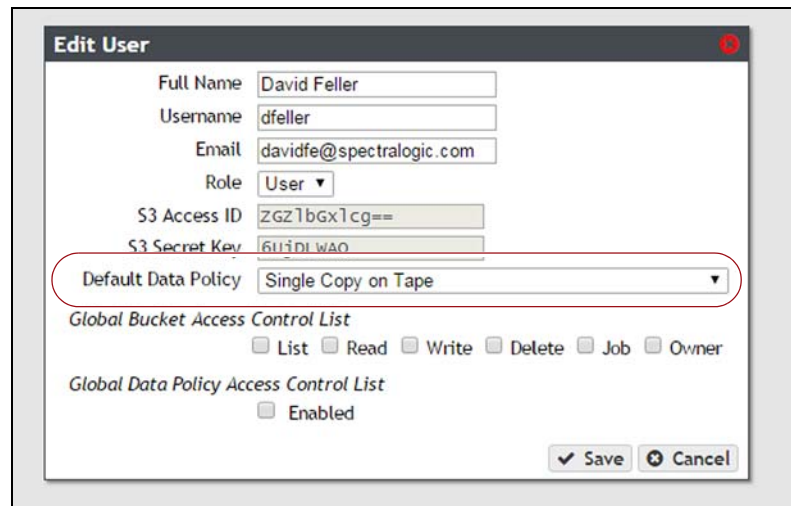

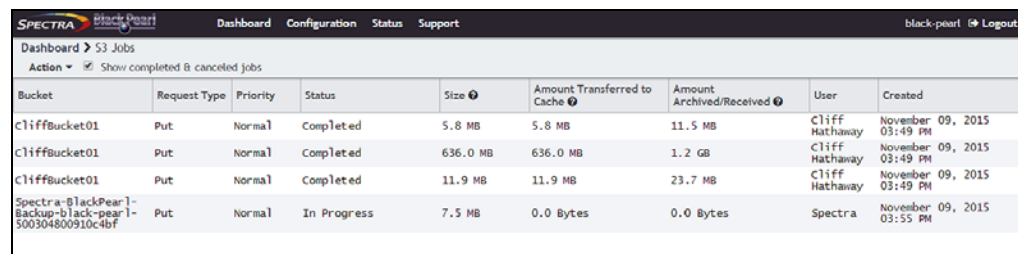


Figure 14 The Edit User dialog box.

- b. From the drop-down list, select a **Default Data Policy** for the user. The gateway uses the selected data policy for all buckets created by the user, unless a different policy is specified during bucket creation.
- c. Leave the remaining fields as-is, and click **Save**.
- d. Repeat [Step a](#) through [Step c](#) for each additional user configured on the gateway.

Test the Upgrade

1. Using the Spectra Deep Storage Browser, or a Spectra S3 client, create a bucket on the BlackPearl gateway. Once the bucket is created, PUT a small amount of data to the bucket.
2. In the BlackPearl user interface, select **Status**  **S3 Jobs**. The S3 Jobs screen displays.



Bucket	Request Type	Priority	Status	Size	Amount Transferred to Cache	Amount Archived/Received	User	Created
CliffBucket01	Put	Normal	Completed	5.8 MB	5.8 MB	11.5 MB	Cliff Hathaway	November 09, 2015 03:49 PM
CliffBucket01	Put	Normal	Completed	636.0 MB	636.0 MB	1.2 GB	Cliff Hathaway	November 09, 2015 03:49 PM
CliffBucket01	Put	Normal	Completed	11.9 MB	11.9 MB	23.7 MB	Cliff Hathaway	November 09, 2015 03:49 PM
Spectra-BlackPearl-Backup-black-pearl-500304800910c5bf	Put	Normal	In Progress	7.5 MB	0.0 Bytes	0.0 Bytes	Spectra	November 09, 2015 03:55 PM

Figure 15 The S3 Jobs screen.

3. Select the **Show completed & cancelled jobs** check box to display jobs completed or cancelled in the last 30 days.

4. Locate the row for the PUT job you initiated in [Step 1 on page 13](#). Confirm the job status shows as **Completed**. Otherwise, wait for the job to complete.
5. Once the job completes, confirm that the numerical data shown in the **Amount Transferred to Cache** column, and the **Amount Archived/Retrieved** column, equals the data shown in the **Size** column.
 - If the data displayed in the three columns is equal, the upgrade is complete.
 - If the data displayed in the three columns is not equal, there is a problem transferring data to either the BlackPearl gateway cache, or to the tape system. Contact Spectra Logic Technical Support (see [Contacting Spectra Logic on page 2](#)).