Spectra StorCycle Solution Getting Started

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Part Number

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Revision History

Revision	Date	Description
A	November 2019	First public release.
B	January 2020	Updated for StorCycle 2.1.1.
C	April 2020	Updated for StorCycle 3.0.1.
D	July 2020	Updated for StorCycle 3.1.0.
E	September 2020	Updated for StorCycle 3.2.0.
F	January 2021	Updated for StorCycle 3.3.0.
G	June 2021	Updated for StorCycle 3.5.0.
H	October 2021	Updated for StorCycle 3.6.0.
I	November 2023	Updated for StorCycle 4.1.0.

Note: To make sure you have the release notes for the most current version of the BlackPearl Release Notes, check the Spectra Logic Technical Support portal at support.spectralogic.com/documentation/release-notes/. You must sign into the portal before viewing Release Notes.

Contacting Spectra Logic

To Obtain General Information	
Spectra Logic Website: spectralogic.com	
United States Headquarters	**European Office**
Spectra Logic Corporation 6285 Lookout Road Boulder, CO 80301 USA **Phone:** 1.800.833.1132 or 1.303.449.6400 **International:** 1.303.449.6400	Spectra Logic Europe Ltd. 329 Doncastle Road Bracknell Berks, RG12 8PE United Kingdom **Phone:** 44 (0) 870.112.2150
Spectra Logic Technical Support	
Technical Support Portal: support.spectralogic.com	
United States and Canada **Phone:** **Toll free US and Canada:** 1.800.227.4637 **International:** 1.303.449.0160	**Europe, Middle East, Africa** **Phone:** 44 (0) 870.112.2185 **Deutsch Sprechende Kunden** **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	
Spectra Logic Sales	
Website: shop.spectralogic.com	
United States and Canada **Phone:** 1.800.833.1132 or 1.303.449.6400 **Email:** sales@spectralogic.com	**Europe** **Phone:** 44 (0) 870.112.2150 **Email:** eurosales@spectralogic.com
To Obtain Documentation	
Spectra Logic Website: support.spectralogic.com/documentation	

Table of Contents

Helpful Information

These instructions describe how to configure, use, and monitor the Spectra® StorCycle® Solution, sometimes referred to as the *solution*.

Intended Audience

This guide is intended for data center administrators and operators who maintain and operate file storage systems. The information in this guide assumes a familiarity with computing terminology. You also need to be familiar with installing, configuring, and using data file storage and archival software.

User Interface Screens

The user interface changes as new features are added or other modifications are made between software revisions. Therefore, the screens you see in the user interface may differ from those shown in this guide.

Typographical Conventions

This document uses the following conventions to highlight important information:

WARNING Read text marked by the "Warning" symbol for information you must know to avoid personal injury.

CAUTION Read text marked by the "Caution" symbol for information you must know to avoid losing data.

IMPORTANT Read text marked by the "Important" symbol for information that helps you complete a procedure or avoid extra steps.

Note: Read text marked with "Note" for additional information or suggestions about the current topic.

User Feedback

Contact us at (800) 833-1132 to give us suggestions or feedback on our products and documentation.

Related Publications

The latest revision of the following documents related to the Spectra Spectra StorCycle Solution are available as PDF files on the Spectra Logic website at: support.spectralogic.com/documentations/user-guides.

- The *Spectra StorCycle Solution Getting Started Guide* provides a quick reference for installing and configuring the Spectra StorCycle solution.
- The *Spectra StorCycle Solution User Guide* provides detailed information about installing, configuring, and using the Spectra StorCycle solution. The content of this guide, for your revision of the StorCycle solution, is accessible by clicking **Help** ❓ in the toolbar of the software.

The following document is available after logging into your Support portal account at: support.spectralogic.com.

- The *Spectra StorCycle Solution Release Notes and Documentation Updates* provide the most up-to-date information about the solution, including information about the latest software releases and documentation updates.

For additional information about the Spectra BlackPearl® Nearline gateway and the Spectra BlackPearl NAS solution, refer to the publications listed in this section.

- The *Spectra BlackPearl Nearline Gateway User Guide* provides detailed information about configuring, using, and maintaining your BlackPearl system.
- The *Spectra S3 API Reference* provides information on understanding and using the Spectra S3 API.
- The *Spectra BlackPearl Eon Browser User Guide* provides installation and usage information for the BlackPearl Eon Browser.
- The *Spectra BlackPearl NAS Solution User Guide* provides information about configuring, using and maintaining your BlackPearl NAS solution.

The following documents are available after logging into your Support portal account at: support.spectralogic.com.

- The *Spectra BlackPearl Release Notes and Documentation Updates* provide the most up-to-date information about the BlackPearl and BlackPearl NAS systems, including information about the latest software releases and documentation updates.

API Documentation

To access the documentation for the REST API, after StorCycle is installed, go to https://localhost/apidocs/.

For additional API documentation, examples, and a generated client, go to https://github.com/SpectraLogic/storcycle_api/.

Chapter 1 - Install the StorCycle Solution on a Windows Server

This section describes how to do the initial installation of the Spectra StorCycle Solution on a Windows server.

The StorCycle solution is intended to migrate / store or copy inactive files. It is not intended to backup or manage active files in primary storage.

IMPORTANT
The StorCycle solution runs on Windows servers and supports CIFS/SMB networked storage or runs on Linux servers and supports NFS-protocol storage or CIFS/SMB networked storage.
If you are installing StorCycle on a Linux server, see Install the StorCycle Solution on a Linux Server on page 22.

Verify StorCycle Requirements

Ensure that the server you will use for StorCycle meets the following minimum requirements:

Notes:

- Additional RAM and CPU cores will improve file transfer speeds in most cases.
- Customers are responsible for maintaining patches and upgrades on the operating system where StorCycle is installed.

- 64 GB RAM

- Four 64-bit CPU cores running at a minimum of 2.6 GHz

- 1 TB hard drive space

- 10 GigE network or better

- Windows Server® 2019

- A network which supports reverse DNS lookups. If the network does not support reverse DNS lookups, then the IPv4 address of the storage location is used in HTML links created during a Migrate / Store job. See Migrate / Store Wizard—Set Targets in the User Guide for more information.

- The StorCycle solution uses whatever domain is configured on the server, including multiple / trusted domains, to access DNS (Domain Name System) to resolve UNC (Universal Naming Convention) paths over the domain and uses Active Directory / LDAP to verify restore users are valid on the domain.

- If BlackPearl storage locations are configured to group files into TAR or ZIP 'packs' (see Enter BlackPearl Storage Location Information in the User Guide for more information), the data to be packed is temporarily written to the server disk storage before it is transferred.

  - When using packing, the StorCycle solution requires enough disk space on the drive for ten times the size of a pack (10 * 10 GiB), or the largest file to be migrated / stored in a pack, whichever is larger.

  - For maximum performance, Spectra Logic recommends that flash / SSD storage be used for the StorCycle server disk storage when creating TAR or ZIP packs.

  - Packing may use up to 500 GiB and the MongoDB will require (minimum) 4 GiB per 10 Million Files (assuming that no files being packed are larger than 10 GiB).

- Due to Windows limitations, the file system must meet the following requirements:

  - Maximum file directory path length of 260 characters (Windows limitation)

  - Maximum directory depth: whatever the maximum directory depth that is possible within the constraints of the 260-character limit above

- The user interface supports Google Chrome version 75 or later and requires a minimum screen resolution of 1024 pixels.

Determine Server UUID and Request a License

The StorCycle license is tied to the UUID of the StorCycle server. Use the following instructions to determine the UUID of the server.

1. On the StorCycle server, open a Command Prompt window.

2. Execute `wmic csproduct get "UUID"`. This returns a string representation of the UUID.

3. Send this UUID to Spectra Logic Technical Support (see Contacting Spectra Logic on page 3) for license generation.

Configure the User Account

The StorCycle installation includes two services, the StorCycle service and the MongoDB® service. By default, these services are run by the Local System User. However, the Local System User often does not have access to all storage locations used by the StorCycle solution, permissions to read from and write to the storage locations, and permissions to take ownership of files. If you want to use the Local System User to run the services, continue with Download and Install the StorCycle Software on page 20.

If you want to configure a different user to run the StorCycle service, use the table below to select the privileges to configure.

Note: Consult an IT administrator to configure the StorCycle service user.

Note: If you plan to create NAS storage targets, see Source Storage Location Best Practices - NAS Storage on page 1.

Role	Privileges	Configuration Instructions
Domain Administrator - **Recommended**	• Able to migrate / restore any files and folders on a computer in the domain, with or without a two-way trust relationship. • The StorCycle user is added to the Domain Administrator Group for the entire Domain.	Configure a Domain Administrator on page 12

Role	Privileges	Configuration Instructions
Local Administrator - **Recommended**	• Able to migrate / restore files and folders on the local computer to which the local group applies. • StorCycle user added to 'Local Administrator' group on the StorCycle Server and ALL Source and Target shares.	Configure a Local Group Administrator on page 13
Custom Owner of Files and Folders - **Not Recommended**	• Custom attributes to give a StorCycle user special privileges to perform actions such as taking control of files, or creating symbolic links. • A user or group with 'Full Control' and special attributes is created and added to all Source and Target shares.	Configure a Custom Owner of Files and Folders on page 13

Configure a Domain Administrator

Domain Administrator users have unrestricted access to all files and folders on the domain. With this configuration, an IT Administrator adds the StorCycle user to the Domain Administrator group.

1. Create a user account for running the StorCycle service.

> **Notes:**
>> • If you want to use the same user as your Spectra NAS equipment, use all lower case for the username.
>>
>> • Spectra Logic recommends that you select the **User cannot change password** and **Password never expires** check boxes when creating the new user.

2. Add the new user account as a member of the Domain Administrators group.

> **Note:** The user must be an Administrator and not a Backup Operator. Windows does not give Backup Operators permissions to write files and can not be used to create HTML links and symbolic links on sources, or write files to most targets.

3. Spectra Logic recommends mounting Isilon CIFS shares for the user running the StorCycle solution using the "map network drive" wizard or the "net use" command.

4. Continue with Download and Install the StorCycle Software on page 20.

Configure a Local Group Administrator

Local Administrator group users have unrestricted access to files and folders on the StorCycle server, NAS sources, and NAS targets. An IT Administrator must manually add the StorCycle user to each Local Administrator group on every required server.

1. Create a User Account for running the StorCycle Service.

    Notes:
    - If you want to use the same user as your Spectra NAS equipment, use all lower case for the username.
    - Spectra Logic recommends that you select the **User cannot change password** and **Password never expires** check boxes when creating the new user.

2. Make the new user account a local Administrator on the StorCycle server, all source locations, and all target storage locations.

    Note: The user must be an Administrator and not a Backup Operator. Windows does not give Backup Operators permissions to write files and can not be used to create HTML links and symbolic links on sources, or write files to most targets.

3. If migrate / store projects will replace files with symbolic links for transparent access, ensure the new user can create symbolic links.

    a. Use the keyboard shortcut Windows logo key+R to open the Run window.

    b. In the Open: field enter `secpol.msc` and click **OK**. The Local Security Policy window displays.

    c. Select **Local Policies > User Rights Assignment**, and then double-click **Create symbolic links**. The Create symbolic links Properties screen displays.

    d. Add the Service User account name created in .

4. Spectra Logic recommends mounting Isilon CIFS shares for the user running the StorCycle solution using the "map network drive" wizard or the "net use" command.
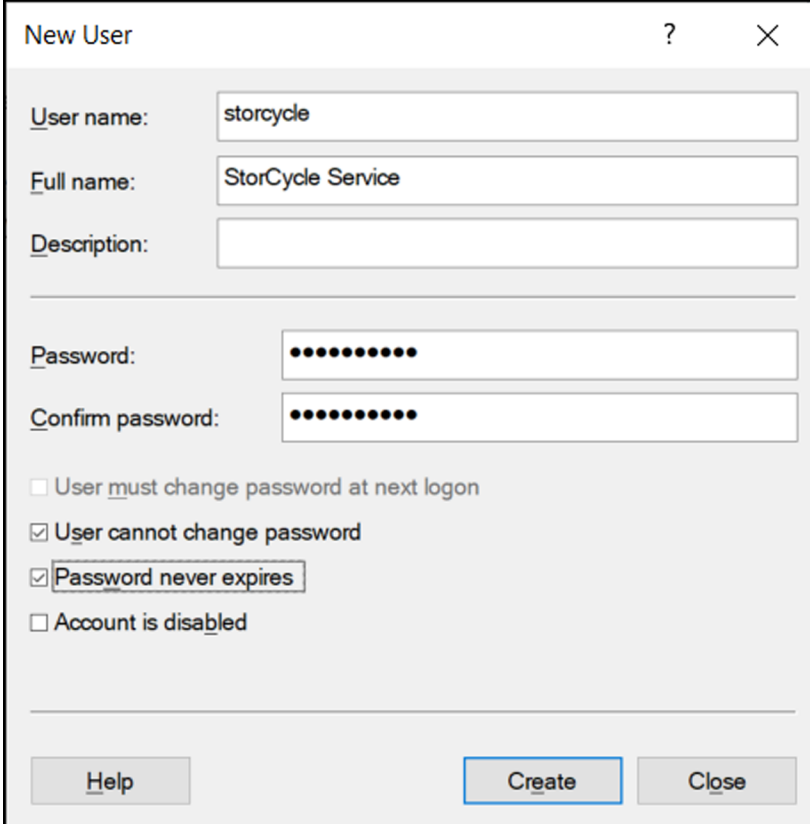
5. Continue with .

Configure a Custom Owner of Files and Folders

If Domain and Local Administrators cannot be used, custom security policy attributes must be added to the account or custom group to access each source and target share.

Create a user account for running the StorCycle service

    a. Use the keyboard shortcut Windows logo key+R to open the Run window.

b. In the **Open:** field enter `lusrmgr.msc` and click **OK**. The Local Users and Groups window displays.

c. Select the **Users** folder and select **Action > New User**. The New User dialog box displays.

Figure 1 The New User dialog box.

**d.** Create a new user account that will be used for the StorCycle service.

Notes:

- If you want to use the same user as your Spectra NAS equipment, use all lower case for the username.

- Spectra Logic recommends that you select the **User cannot change password** and **Password never expires** check boxes when creating the new user.

i. Provide values for **User name** (for example, storcycle), **Full name**, and **Password**. Record this information.

ii. Clear the **User must change password at next login** check box.

iii. Select the **User cannot change password** and **Password never expires** check boxes.

iv. Click **Create** and click **Close**.

Give the new user account the privileges necessary for the StorCycle solution

a. If network access is restricted by group, add the Service User Account to Groups with access to every share that you want to access with the StorCycle solution.

Note: If the user under which the StorCycle service is running has read-only permissions to a directory on a source storage location, then StorCycle will be unable to place files into the directory with the same name created on a NAS target storage location because the directory will have the same read-only permissions.

b. Double-click the **Groups** folder. The list of all available groups displays.

c. Select a Group that you want to add the Service User Account to and select **Action > Add to Group**. The *Group* Properties dialog box displays.

d. Click **Add**. The Select Users, Computers, Service Accounts, or Groups dialog box displays.
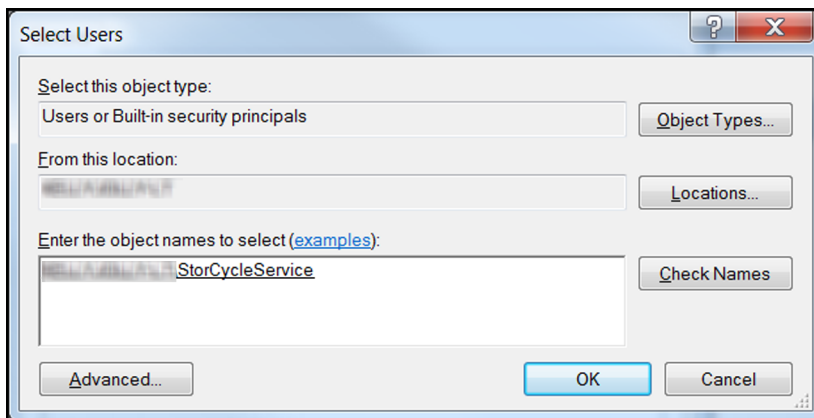
Figure 2 The Select Users, Computers, Service Accounts, or Groups dialog box.

e. In the **From this location** field, select the name of the server. The dialog box changes to Select User.

f. In the **Enter the object names to select** field, enter the Service User Account name created in Create a user account for running the StorCycle service on page 13 and click **Check Names**.

g. Click **OK** to add the Service User Account to the Group.

h. Repeat to as needed to add the Service User Account to additional groups.

Give the Service User full control of the program data directory

a. Open File Explorer.

b. Browse the system or network drive for the **ProgramData** file.

Note: ProgramData is a hidden folder, you may need to change File Explorer options to see it.
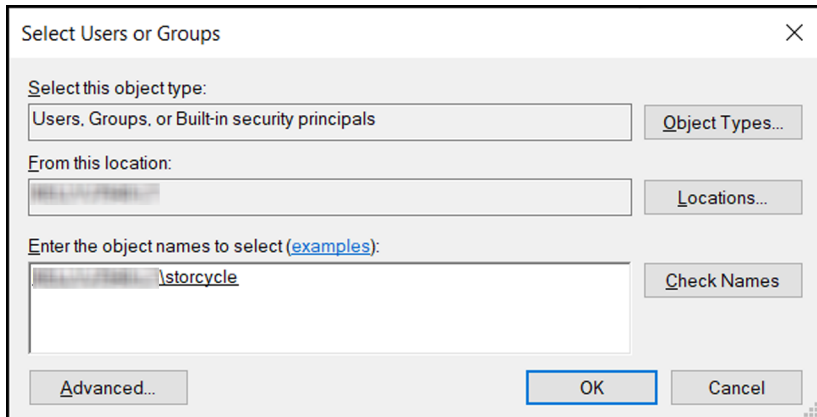
c. Right click the Spectra Logic Corporation directory and select **Properties**. The Spectra StorCycle Properties screen displays.
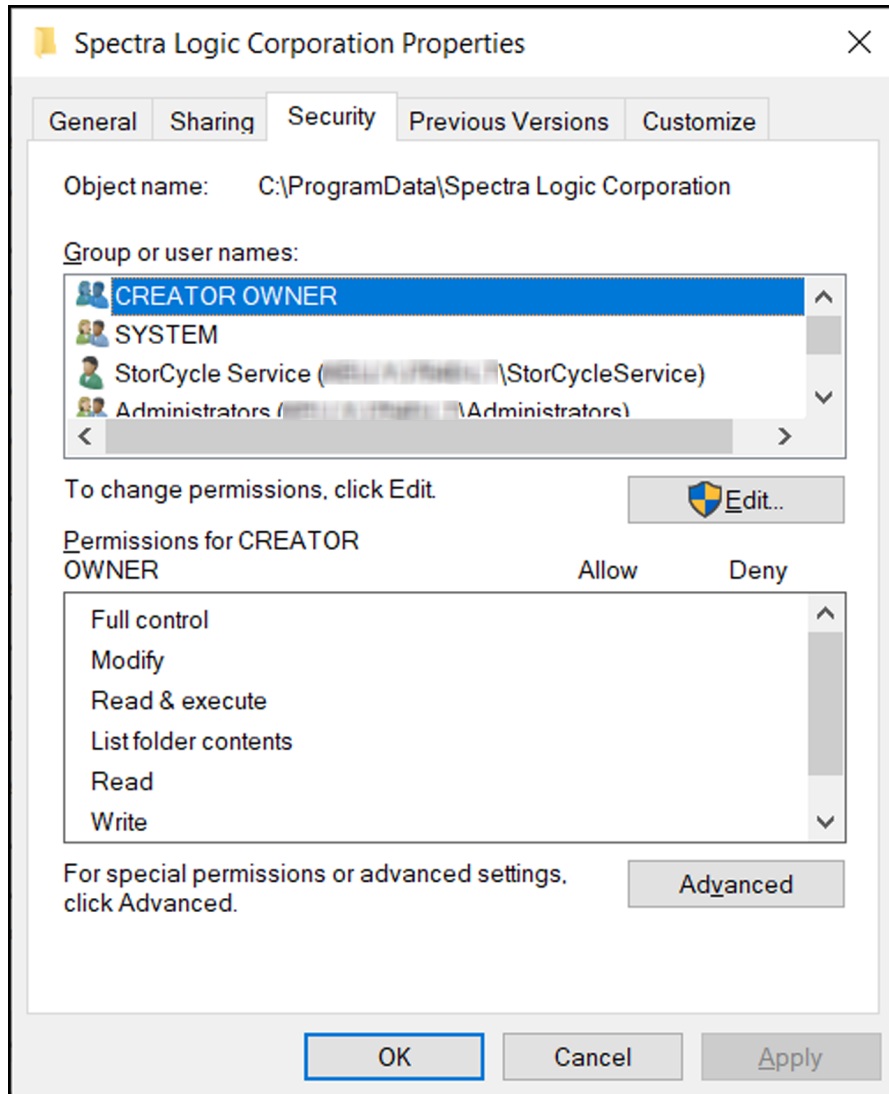
Figure 3 The Spectra Logic Corporation Properties dialog box.

d. Select the **Security** tab and click **Edit**, then click **Add**. The Select Users, Computers, Service Accounts, or Groups dialog box displays.

Figure 4 The Select Users, Computers, Service Accounts, or Groups dialog box.

e. Click **Locations**, select local computer, and then click **OK**. The dialog box changes to Select Users or Groups.

f. In the **Enter the object names to select** field, enter the Service User account name created in Configure a Custom Owner of Files and Folders on page 13 and click **Check Names**, then click **OK**.

g. Select the newly created Service User account in the **Group or user names** field. In the **Permissions for** pane, in the **Allow** column, select **Full Control**, and click **OK**.

h. Click **OK** again.

Configure the Service User to take ownership of files and other objects

a. Use the keyboard shortcut Windows logo key+R to open the Run window.

b. In the **Open:** field enter `secpol.msc` and click **OK**. The Local Security Policy window displays.

c. Select the Local Policies folder in the left pane, and double-click **User Rights Assignment** in the right pane.

d. Double-click the policy **Take ownership of files and other objects**. The "Take ownership of files and other object Properties" dialog box displays.

e. Click **Add User or Group...**. The Select Users, Computers, Service Accounts, or Groups dialog box displays. See Figure 2 on page 15.

f. Click **Object Types**. The Object Types dialogue box displays.

g. Select all of the Object types listed and click **OK**.

h. Click **Locations** and select the name of the server and click **OK**. The dialog box changes to Select Users or Groups.

i. In the **Enter the object names to select** field, enter the Service User account name created in Configure a Custom Owner of Files and Folders on page 13 and click **Check Names** and then click **OK**.

j. Click **OK** again.

Configure Network Drive Access

The user running the StorCycle service must be able to access and have permission to read and write on all of the storage locations in the StorCycle environment.

Notes:

- If the user under which the StorCycle service is running has read-only permissions to a directory on a NAS source storage location, then StorCycle will be unable to place files into the directory with the same name created on the target storage location because the directory will have the same read-only permissions.

- Spectra Logic recommends mounting Isilon CIFS shares for the user running the StorCycle solution using the "map network drive" wizard or the "net use" command.

a. Sign in to Windows using the new user account created in Configure a Custom Owner of Files and Folders on page 13.

b. Open File Explorer.

c. Select **This PC** on the left.

d. Select the **Computer** tab.

e. Click **Map Network Drive**. The Map Network Drive dialog box displays.

f. Select a drive letter and enter a folder path for a Storage Location you want to use in the StorCycle solution.

g. Select **Reconnect at sign-in** and **Connect using different credentials**.

h. Click **Finish**.

i. Enter the credentials for the user account you want to use to connect to the NAS storage location. Select **Remember my credentials** and then click **OK**.

j. Repeat through for additional NAS storage locations.

Configure NAS Share Access

If the user running the StorCycle service is used to Migrate / Store data to a NAS storage location, configure the permissions as described below.

a. Sign in to Windows using the new user account created in Configure a Custom Owner of Files and Folders on page 13.

b. Open File Explorer.

c. Navigate to the NAS share, or a folder in the NAS share.

d. **Right-click** the share, then select **Security>Advanced**. The Advanced Security Settings screen displays.
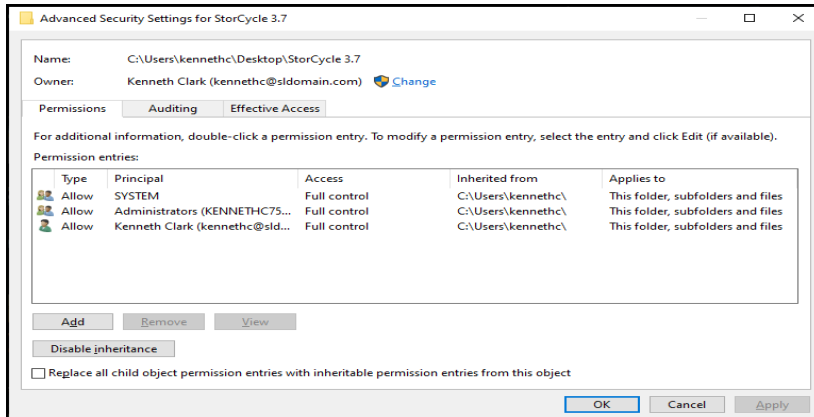
Figure 5 The Advanced Permission Settings.

e. Click **Add**. The Permission Entry screen displays.
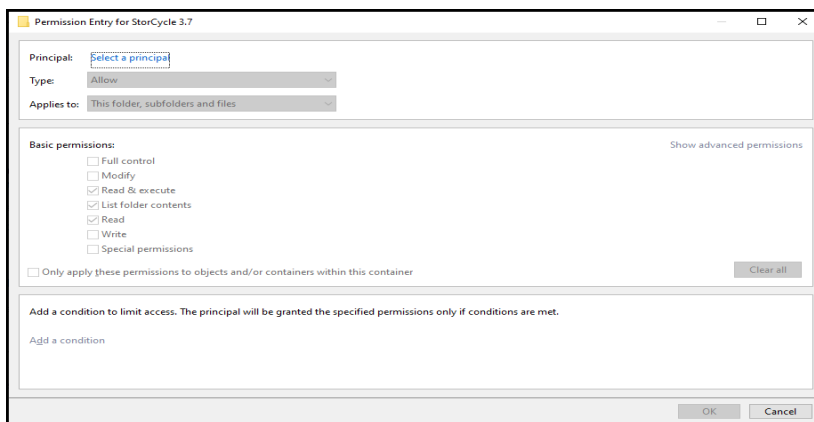
Figure 6 The Permissions Entry screen.

f. If necessary, select a **Principal** user.

g. using the **Applies To** drop-down menu, select **This folder, files and subfolders**.

h. Under **Basic Permissions**, select **Full Control**.

i. Click **OK** to close the Permissions Entry screen, then click **OK** to close the Advanced Permission Setting screen.

j. Click **OK** to close the Folder Properties screen.

k. Repeat through for additional NAS storage locations.

Give a new user the ability to create symbolic links

1. If migrate / store projects will replace files with symbolic links for transparent access, ensure the new user can create symbolic links.

   a. Use the keyboard shortcut Windows logo key+R to open the Run window.

   b. In the Open: field enter `secpol.msc` and click **OK**. The Local Security Policy window displays.

   c. Select **Local Policies > User Rights Assignment**, and then double-click **Create symbolic links**. The Create symbolic links Properties screen displays.

   d. Add the Service User account name.

Download and Install the StorCycle Software

Use the following instructions to download and install the software.

1. Sign in to the server where you want the program to run as a user that is a member of the "Administrators" Local Group.

2. Download the Spectra StorCycle solution installer.

3. Run the installer, `ssc.`*`revision`*`.msi,` where *`revision`* is the revision number for the software.

4. Follow the on-screen instructions to install the software. Leave the **Account name** and **Password** fields empty if you want to the Spectra StorCycle serviced to run under the Local System user. Otherwise enter the **Account name** and **Password** identified in Configure the User Account on page 11.

Configure for Transparent Access

Replacing migrated / stored files with symbolic links allows transparent access to the files after they are moved to secondary storage.

⚠️ **IMPORTANT**   To use symbolic links, your source storage must support remote-to-remote symbolic links.

Enable Remote Symbolic Links

1. Open a Command Prompt as an Administrator.

2. To determine if symbolic link types are disabled, enter:

```
fsutil behavior query SymlinkEvaluation
```

3. If any symbolic link types report as disabled, enter the following:

```
fsutil behavior set SymlinkEvaluation L2L:1 R2R:1 L2R:1 R2L:1
```

Chapter 2 - Install the StorCycle Solution on a Linux Server

This section describes how to do an initial installation of the Spectra StorCycle Solution on a Linux server.

The StorCycle solution is intended to migrate / store or copy inactive files. It is not intended to backup or manage active files in primary storage.

The commands listed in this document are for CentOS operating systems.

IMPORTANT
The StorCycle solution runs on Windows servers and supports CIFS/SMB networked storage or runs on Linux servers and supports NFS-protocol storage or CIFS/SMB networked storage.
If you are installing StorCycle on a Windows server, see Install the StorCycle Solution on a Windows Server on page 9.

Verify StorCycle Requirements

Ensure that the server you will use for StorCycle meets the following minimum requirements:

   Notes:

   - Additional RAM and CPU cores will improve file transfer speeds in most cases.

   - Customers are responsible for maintaining patches and upgrades on the operating system where StorCycle is installed.

- 64 GB RAM

- Four 64-bit CPU cores running at a minimum of 2.6 GHz

- 1 TB allocated to root (/dev/mapper/centos-root)

- 10 GigE network or better

- Red Hat Enterprise Linux v8

- A network which supports reverse DNS lookups. If the network does not support reverse DNS lookups, then the IPv4 address of the storage location is used in HTML links created during a migrate / store job. See Migrate / Store Wizard—Set Targets in the User Guide for more information.

- The StorCycle solution uses whatever domain is configured on the server, including multiple / trusted domains, to access DNS (Domain Name System) to resolve UNC (Universal Naming Convention) paths over the domain and uses Active Directory / LDAP to verify restore users are valid on the domain.

- MongoDB requires a minimum of 4 GiB per 10 million files scanned/migrated. If files are versioned, each version is counted for database sizing.

- If BlackPearl storage locations are configured to group files into TAR or ZIP 'packs' (see Enter BlackPearl Storage Location Information in the User Guide for more information), the data to be packed is temporarily written to the server disk storage before it is transferred.
   - When using packing, the StorCycle solution requires enough server disk storage for ten times the size of a pack (10 * 10 GiB), or the largest file that will be migrated / stored in a pack, whichever is larger.

   - For maximum performance, Spectra Logic recommends that flash / SSD storage be used for the StorCycle server disk storage when creating TAR or ZIP packs.

   - Packing may use up to 500 GiB and the MongoDB will require (minimum) 4 GiB per 10 Million Files (assuming that no files being packed are larger than 10 GiB).

- The maximum file directory path length is 1024 characters.

- The user interface supports Google Chrome version 75 or later.

- The installation user must have root privileges.

Determine Server UUID and Request a License

The StorCycle license is tied to the UUID of the StorCycle server. To get the UUID of the server, execute the following command in a shell:

```
cat /etc/machine-id
```

Send this UUID to Spectra Logic Technical Support (see Contacting Spectra Logic on page 3) for license generation.

Create the StorCycle Mongo Database Repository

The following instructions provide an example using Yum to create the Mongo Database Repository. The StorCycle solution requires specific MongoDB version numbers that are compatible with the version of StorCycle. Use the table below to determine which version of MongoDB needs to be on the repository.

StorCycle Version Number	3.6.2	3.7.0	3.7.1	4.0	4.1
MongoDB Version Number	MongoDB 4.0	MongoDB 4.0	MongoDB 4.0	MongoDB 4.2	MongoDB 4.4

Create the MongoDB Repository

Open the terminal and sign in as a superuser. Use your favorite editor to create a file called `/etc/yum.repos.d/mongodb-org-4.X.repo` containing the following information, where X stands for the MongoDB version number:

```
[mongodb-org-4.X]

name=MongoDB Repository

baseurl=https://repo.mongodb.org/yum/redhat/$releasever/mongodb-org/4.X/x86_64/

gpgcheck=1

enabled=1

gpgkey=https://www.mongodb.org/static/pgp/server-4.X.asc
```

Install the StorCycle Solution

The StorCycle.rpm file is delivered as a link from a Spectra representative. Move the .rpm file to the server StorCycle will be installed on. Complete all Create the StorCycle Mongo Database Repository installation steps before running the .rpm StorCycle file. Go to the directory in which the .rpm file is located or give the full path to the file. The .rpm must run as root.

To install the StorCycle .rpm, use the following command:

```
sudo yum install -y ssc-production-X.X.X.XXX.XXXXXXXX.rpm
```

If desired, change the user from root using the following commands:

```
sudo chown -R user:group /var/lib/ssc

sudo vi /usr/lib/systemd/system/ssc.service

   # User=root - change root to the new user name

sudo setcap CAP_NET_BIND_SERVICE=+eip /sbin/ssc

sudo systemctl restart ssc
```

Start, Stop, and Restart the Services

To check if the services are running, execute the following commands.

MongoDB: `sudo systemctl status mongod`

StorCycle: `sudo systemctl status ssc`

To start the mongod or StorCycle processes, issue the appropriate command below.

MongoDB: `sudo systemctl start mongod`

StorCycle: `sudo systemctl start ssc`

To stop the mongod or StorCycle processes, issue the appropriate command below.

MongoDB: `sudo systemctl stop mongod`

StorCycle: `sudo systemctl stop ssc`

To restart the mongod or StorCycle processes, issue the appropriate command below.

MongoDB: `sudo systemctl restart mongod`

StorCycle: `sudo systemctl restart ssc`

Mount Linux Storage Devices

Prior to configuring NAS storage in the StorCycle solution, mount the storage device(s) using the following commands.

1. Create a directory.

```
sudo mkdir ./mount-point
```

2. Mount the share to the created directory.

For NFS shares, use the following:

```
sudo mount -t nfs server:/directory /mount-point
```

For CIFS shares, use the following:

```
sudo mount -t cifs -o
username="user",password="password",domain="domain",iocharset=utf8,
dir_mode=0755 //uncpath/to/share /mount-point
```

Note: In order for users to use symbolic links to access files in secondary storage, the share must be mounted on the StorCycle Linux server using the same mount point used by all users of the primary storage. For example, if users of the primary storage mount 'nas_server/share1' as 'mnt/share1', then the StorCycle server must also mount it as 'mnt/share1'. If the StorCycle server instead uses a different mount point, symbolic links created by the StorCycle solution will not provide access to the file.

3. Mount any desired read-only shares to the directory.

Chapter 3 - Start Using the StorCycle Solution

This section describes how to get started using the Spectra StorCycle Solution after completing the installation (see Install the StorCycle Solution on a Windows Server on page 9 or Install the StorCycle Solution on a Linux Server on page 22).

Log Into the User Interface

Use the following instructions to log into the Spectra StorCycle solution user interface.

1. Using a supported web browser (Google Chrome version 75 or later), do one of the following:

   Note: You must include `https://`.

   - If you are on the server, enter `https://localhost` and press the Enter key.

   - If you are on a host on the same network as the server, enter the IP address for the Spectra StorCycle solution server with the https: port (for example `https://xxx.xxx.xxx.xxx/app`) and press the Enter key.

   The Login screen displays.
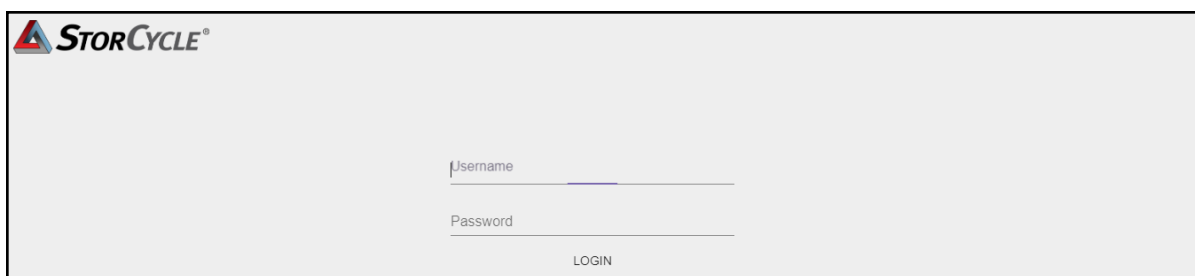
   Figure 7 The Spectra StorCycle solution Login screen.

2. Enter the **Domain** for a Domain User or clear the **Domain** for a Non-Domain User.

   Note: This field only displays when Active Directory / LDAP is configured.

3. Enter the primary administrator username and password.

The default username is **administrator**. The default password is **spectra**.

Notes:

- Usernames are case insensitive.
- Spectra Logic recommends that you change the default password for the primary administrator.

4. Click **Login** to log in.

⚠️ **IMPORTANT** After five unsuccessful login attempts, a local user is locked out and the password must be reset by an administrator. See 'Reset a Password' in the *Spectra StorCycle Solution User Guide* for instructions.

Active Directory user login attempts follow Active Directory policies. To protect the Active Directory server, the Spectra StorCycle solution adds a 1 second delay on the next login attempt for every invalid login attempt.

⚠️ **IMPORTANT** The remainder of this guide assumes that you are logged in to the Spectra StorCycle solution user interface.
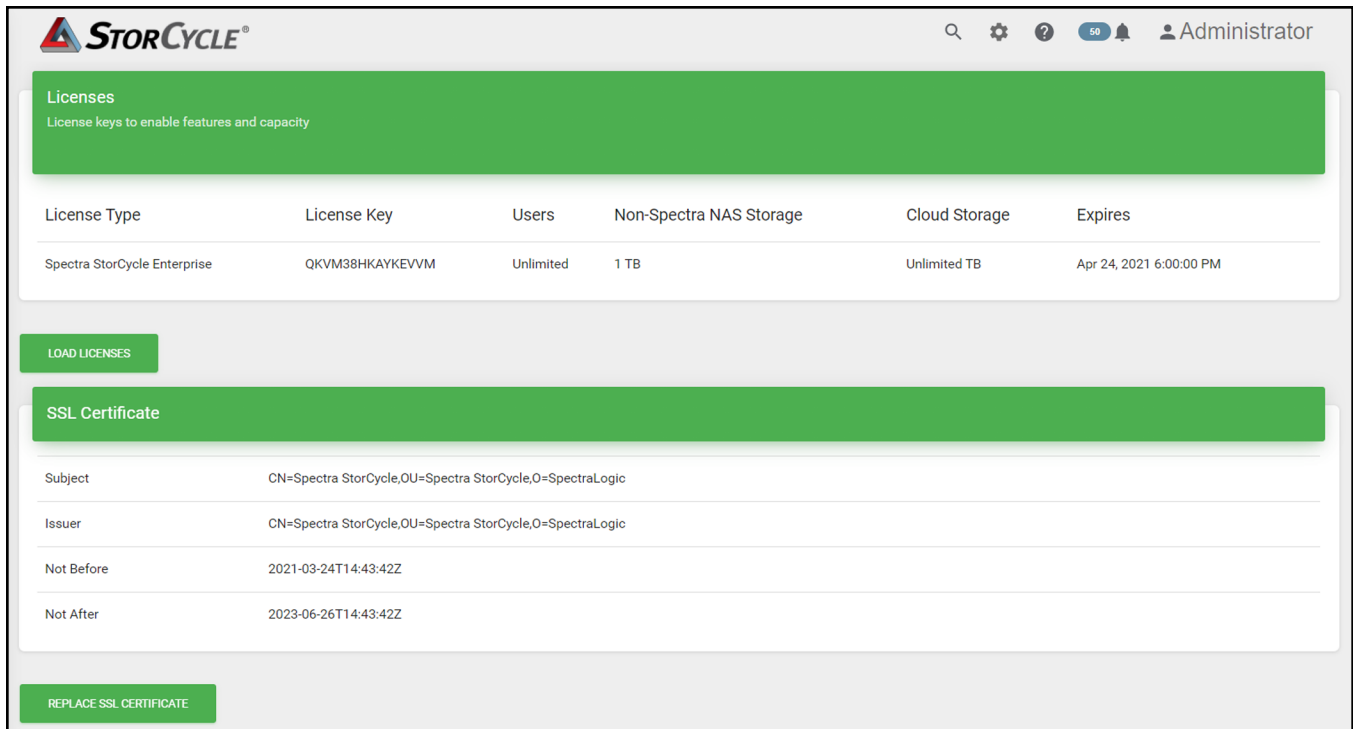

Load License Keys

License keys enable features and capacity within the Spectra StorCycle solution.

Use the instructions below to load new license keys.

1. Click **Settings** ⚙ in the toolbar and then select **Configuration > Licenses & SSL Certificate**. The Licenses & SSL Certificate screen displays showing any licenses currently installed in the software.

Figure 8 The Licenses & SSL Certificate screen.

2. Click **Load Licenses**. The Load Licenses dialog box displays.
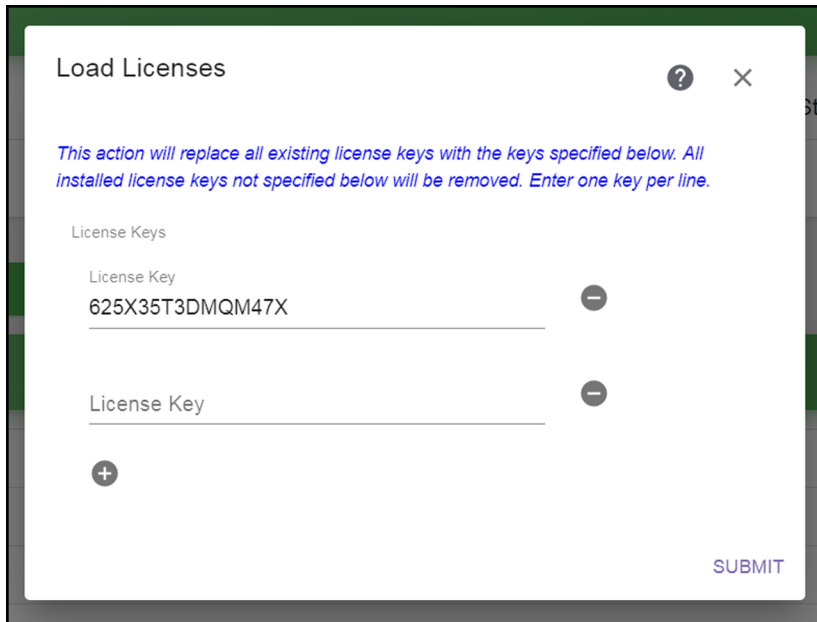
Figure 9 The Load Licenses dialog box.

3. Click the minus (**-**) sign next to any license that you want to remove.

4. Click the plus (**+**) sign to add a new line for entering a license. Enter all license keys, exactly as provided, one per line.

5. Click **Submit** to save the license keys. The Licenses & SSL Certificate screen displays with the newly entered keys listed.

Next Steps

At this point you can configure storage locations or additional settings. In the StorCycle User Interface, click **Help** ? on any screen, then search for one of these topics.

- Configure Storage
- Configure additional settings:
    - Configure Active Directory / LDAP
    - Configure Departments
    - Configure Global Settings
    - Load or Remove Licenses or Replace the SSL Certificate
    - Configure SMTP
    - Configure Users
- Configure a Database Backup — After configuring target storage locations, Spectra Logic strongly recommends that you configure Database Backup. Daily Database Backups must be configured and scheduled before migrate / store jobs can be run.
- Enable Encryption
- Configure Linked Instances