Spectra RioBroker Application

Release Notes and Documentation Updates

Part Number

90990142 Revision H

Revision History

Revision	Date	Description
A	April 2019	Initial release.
B	August 2019	Updated for the RioBroker 1.0.2 release.
C	January 2020	Updated for the RioBroker 2.0.0 release.
D	March 2020	Added additional Known Issue for RioBroker 2.0.0.
E	June 2020	Updated for the RioBroker 2.1.0 release.
F	April 2021	Updated for the RioBroker 3.0.1 release.
G	June 2021	Updated for the RioBroker 3.1 release.
H	October 2021	Updated for the RioBroker 3.2 release.

Note: To make sure you have the release notes for the most current version of the RioBroker software, log into the Spectra Logic Technical Support portal at support.spectralogic.com. The release notes also include updates to the product documentation.

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Spectra Logic Website: spectralogic.com

United States Headquarters

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
Fax: 1.303.939.8844

European Office

Spectra Logic Europe Ltd.
329 Doncastle Road
Bracknell
Berks, RG12 8PE
United Kingdom
Phone: 44 (0) 870.112.2150
Fax: 44 (0) 870.112.2175

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
Fax: 1.303.939.8844
Email: sales@spectralogic.com

Europe
Phone: 44 (0) 870.112.2150
Fax: 44 (0) 870.112.2175
Email: eurosales@spectralogic.com

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Contents

ABOUT THIS GUIDE

These release notes give you the latest information available about the Spectra® RioBroker® application. They also serve as an addendum to the published documentation for the system.

> **Note:** To make sure you have the release notes for the most current version of the Spectra RioBroker Application software, log on to the Spectra Logic Technical Support portal at support.spectralogic.com. The release notes also include updates to the product documentation.

INTENDED AUDIENCE

This guide is intended for system administrators of a system with the Spectra RioBroker Application installed.

RELATED PUBLICATIONS

The following documents related to the Spectra RioBroker application are available on the Support Portal website at support.spectralogic.com.

- The *Spectra RioBroker Application User Guide* provides information about installing, configuring, and using the Spectra RioBroker application.

- The *RioBroker Partial File Restore Plugin Installation and User Guide* provides information on installing, configuring, and using the PFR plugin.

- The *Spectra BlackPearl Converged Storage System User Guide* provides detailed information about configuring, using, and maintaining your Spectra BlackPearl system.

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

TYPOGRAPHICAL CONVENTIONS

This document uses the following conventions to highlight important information:

⚠ **Caution**	Read text marked by the "Caution" icon for information you must know to avoid losing data or application configuration.

⚠ **Important**	Read text marked by the "Important" icon 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.

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

RioBroker Application Software Updates

This section provides an overview of the features and changes for each released software version.

UPDATE RIOBROKER APPLICATION TO RIOBROKER

Use the instructions in this section to update your RioBroker software to RioBroker 3.0, or later.

Notes:
- The RioBroker application does not support upgrading from RioBroker 2.0 directly to RioBroker 3.2. You must first upgrade to version 2.1.0 before upgrading to version 3.2.

- Job information does not transfer from RioBroker 2.1.0 to RioBroker 3.2.

⚠️ **Important** The period (.) character is no longer allowed in Broker names. Existing brokers using a period in the name are automatically converted to use the dash (-) character in place of the period

Backup RioBroker Configuration

Before updating the RioBroker software, you must backup the existing installation configuration settings. This backup ensures you can restore your existing configuration in the case of a failure during the software update.

1. Log in to the RioBroker user interface and select **Settings ⋯⋗ System**.

2. On the **Version** row, confirm the existing software is version **2.1.0**.

3. Select the **Reports** tab in the left-pane window.

4. Generate the Archive backup report:

   a. In the **Object Search Report** pane, using the **Job Type** drop-down menu, select **Archive**.

   b. Using the **Brokers** drop-down menu, select **All Brokers**.

   c. Select the desired **Start Date** and **End Date**.

   d. Click **Download Report**.

5. Generate the Restore backup report:

   a. In the **Object Search Report** pane, using the **Job Type** drop-down menu, select **Restore**.

   b. Using the **Brokers** drop-down menu, select **All Brokers**.

   c. Select the desired **Start Date** and **End Date**.

   d. Click **Download Report**.

6. Close the RioBroker user interface browser.

7. In the Windows Services app, right-click the **Spectra RioBroker Server** row and select **Stop**.

8. Backup the ElasticSeach and Xodus databases:

   a. Using **Windows Explorer**, navigate to the RioBroker 2.1 installation directory.

   b. The default installation location is:
      C:\ProgramData\SpectraLogic\SpectraRioBroker\

   c. Copy the **ElasticSearch** directory, and save it in the desired location.

   d. Copy the **data** directory, and save it in the desired location.

9. In the Windows Services app, right-click the **Spectra RioBroker Server** row and select **Start**.

Upgrade Software

1. Download the RioBroker installer.

2. When the installer completes downloading, double-click the installer to begin installation.

3. Proceed through the installer screens, and click **Finish**.

4. After installation is complete, **restart** the host computer.

5. After the host computer completes initialization, log in to the RioBroker user interface and select **Settings ⋯⫶ System**.

6. On the **Version** row, confirm the existing software is version **3.2**.

PACKAGE HISTORY

The following sections list the released Spectra RioBroker application update packages, and provide information about new features and updates that affect the application and its components.

RioBroker 3.2

BlackPearl Dashboard in RioBroker User Interface The RioBroker application user interface now includes a BlackPearl statistics screen that displays the current status of the BlackPearl cache, storage pools, and tape storage, as well as providing detailed information about current DS3 jobs, buckets, tapes, and tape drives associated with the BlackPearl system.

Task History in RioBroker User Interface The RioBroker application user interface now includes a History screen that displays the jobs, files, and bytes processed by the application.

Job Priorities The RioBroker application user interface now allows you to change the job priority of an active job.

Search Report Download After searching for objects in the RioBroker user interface, you can now download the search results in either CSV or JSON format.

Linux Support The Spectra BlackPearl application is now available for CentOS 7 Linux operating systems.

Base 2 Byte Units The RioBroker application now uses base 2 byte units to more accurately reflect the data transferred by the application.

Improved Restore from Tape Speed for FlashNET Archives Restore requests to FlashNET archives are now optimized for faster restore speeds.

Improved Error Messaging Error messages generated by the RioBroker user interface have been improved.

Resolved Issues

Issue	Resolution
When restoring multiple files from the Search page, if one of the objects is a zero-byte folder, the empty folder fails to restore.	This issue no longer occurs.

RioBroker 3.1

Integration with DIVAArchive™   The RioBroker application now supports DIVA and allows for indexing, metadata collection, restoration, and partial file restoration.

Integration with VS3   The RioBroker application now supports VS3 targets and allows for indexing, archiving, restoration, and partial file restoration.

Multiple Object Restore from RioBroker User Interface   The RioBroker application now allows you to restore multiple files at once from the Search page.

Blind Restore   The RioBroker application now allows you to restore an object that has not been indexed.

Glacier Restore   The RioBroker application now allows you to restore an object in the Glacier Amazon S3 storage tier.

RioBroker Command Line Interface   The RioBroker CLI allows for easy troubleshooting in a production environment.

RioCruise Migration Utility   The RioBroker application now includes the RioCruise migration utility to easily move files from one broker to another broker.

Improved SSL Certificate Handling   The RioBroker application now allows you to change the default SSL certificate to a signed certificate.

Improved Error Messaging   Error messages generated by the RioBroker user interface have been improved.

Resolved Issues

Issue	Resolution
When creating an S3 endpoint, you cannot specify the port used to communicate with the endpoint.	You are now able to specify a port when creating an S3 endpoint.
It is possible to initiate the same index operation multiple times, causing the operations to hang and not complete.	The RioBroker application now checks to see if an index operation is in progress and no longer allows duplicate index operations.
If the RioBroker sever is restarted while processing a restore job, the job does not restart after the RioBroker server completes initialization.	Restore jobs now correctly restart when the RioBroker server completes initialization.
If a RioBroker restore job fails, the system leaves 0 KB files in the destination folder for files that did not complete restoration.	This issue no longer occurs.

Issue	Resolution
If you delete a Spectra device and then create a new Spectra device using the same name, but with a new configuration, the old configuration is used instead of the new one.	This issue no longer occurs.
In a multi-node cluster configuration, when all nodes are processing job data, the size of the archive job incorrectly displays as greater than the size of the file(s) being transferred. /	This issue no longer occurs.
When the RioBroker application is processing a large number of jobs, the Jobs screen refreshes too frequently.	This issue no longer occurs.
When the RioBroker application is processing data and the user interface is open in a web browser, the host computer may experience a high-CPU load.	This issue no longer occurs.
If empty folders are restored during a restore job, they are not reflected in the number of files restored in message logs.	This issue no longer occurs.

Known Issues

Issue	Workaround
If you delete a broker in RioBroker 3.1, the user interface continues to display the broker on the Brokers page.	Using your web browser, refresh the Broker screen, then log back in to the RioBroker user interface.
When archiving files using FTP, any file names containing the following special characters fail to archive (^, {, and -).	If possible, rename the files and retry the archive. Otherwise, there is no workaround for this issue.
In a multi-cluster configuration, if a node leaves the cluster unexpectedly, the node does not automatically rejoin the cluster.	Restart the RioBroker service on the node.
If a restore job fails due to insufficient disk space on the restoration target, the error message only indicates that the job failed, but does not explain why it failed.	There is no workaround to this issue.

RioBroker 3.0.1

Improved Error Messaging Error messages generated by the RioBroker user interface have been improved.

Object Search Page Improvements The Object Search page in the RioBroker user interface allows for improved search functionality and object browsing.

Resolved Issues

Issue	Resolution
When merging two sets of metadata in RioBroker, the merge fails if the sets have identical elements.	This issue no longer occurs.
When indexing a FlashNet agent, the index fails if a file contains a control character.	This issue no longer occurs.
In a multi-cluster environment, RioBroker fails to create an archive on an encrypted device.	This issue no longer occurs.
Archive operations using the PFR plugin fail if there is an invalid video size or audio sample.	This issue no longer occurs.
When using the OpenAPI (Swagger) interface, the API incorrectly required the Bearer token.	The Bearer token is no longer required when using the Swagger interface.
RioBroker fails to index a FlashNet agent when more then one file uses the same UUID.	This issue no longer occurs.

RioBroker 3.0

Enhancements

Multi-Node Clusters The RioBroker application now supports a multi-node cluster environment. The increased availability of a multi-node cluster allows for greater security and increased performance.

Enhanced Security The RioBroker application is updated with enhanced security protocols.

Increased Number of Files per Job The RioBroker application now supports 10,000 files per job.

> **Note:** Previous versions of RioBroker are limited to 1000 files per job.

Enhanced Job Searches Jobs can now be searched for based on job name, file names in a job, and within a restricted date range. Additionally, job search time has been improved.

Simple Restore Files in a job are now able to be downloaded to a host computer directly from the RioBroker user interface.

Increased Job Timeout Value The time before an archive or restore job to a BlackPearl system times out is increased to 48 hours.

User Interface Job Retry The RioBroker user interface now allows you to restart a canceled or failed job.

Improved Error Messaging Error messages generated by the RioBroker user interface have been improved.

Resolved Issues

Issue	Resolution
Files incorrectly retain the status of "Transferring" if a job is canceled.	When a job is canceled, files in the job display the status "Job was canceled or aborted".
When a read-only agent is configured to use the same bucket as the read/write agent, if the read-only agent is deleted, the RioBroker application incorrectly attempts to use that agent when restoring files, generating an exception error.	The read-only agent now fails to delete with an error message listing the number of objects referenced by the agent. If desired, a read-only agent can be deleted by selecting the **Force** option in the user interface Agent Delete dialog box.
Job progress percentage may display excessive decimal point values. /	Job percentages now display only two decimal point values.

Known Issues

Issue	Workaround
When the RioBroker application is processing data and the user interface is open in a web browser, the host computer experiences a high-CPU load. **Note:** This issue is fixed in RioBroker 3.1.	Close the web browser.
When the RioBroker application is processing a large number of jobs, the Jobs screen refreshes too frequently. **Note:** This issue is fixed in RioBroker 3.1.	There is no workaround for this issue.
In a multi-node cluster configuration, when all nodes are processing job data, the size of the job incorrectly displays as greater than the size of the file(s) being transferred. / **Note:** This issue is fixed in RioBroker 3.1.	When the job completes, the correct job size displays.
When creating an endpoint using the RioBroker API, the system incorrectly allows extraneous data that is not required for the endpoint.	Restrict API calls to create an endpoint to the required parameters.
If a node-failover of a cluster configuration occurs during a restore operation of a multi-blob object, the restore fails.	Delete the BlackPearl S3 job for the failed restore, or wait 24 hours and retry the restore job.
When a job name contains an illegal character, the resulting error message does not indicate which character(s) is illegal. /	See the RioBroker User Guide for a list of allowed characters.

RioBroker 2.1.0

Enhancements

This release adds support for Flashnet applications.

This release improves logging for Time-Based Partial File Restore (TBPFR) devices.

This release improves error messages.

Resolved Issues

Issue	Resolution
When using TBPFR to request the full length of an object size from the BlackPearl system, the restore request may fail with an invalid byte range error.	This issue no longer occurs.
When retrying a file that was part of a canceled archive job, the retry may fail because the BlackPearl system incorrectly considers the files in the canceled archive job to already exist.	This issue no longer occurs.
When attempting to archive a file using an endpoint or host name that contains an underscore (_) in the name, the archive job fails to process the file.	This issue no longer occurs.
If an FTP server gives inaccurate file sizes, archives indexed with Time Based Partial File Restore (TBPFR) fails.	This issue no longer occurs.

Known Issues

Issue	Workaround
When attempting a restore job when there is insufficient space on the restore target, the job does not correctly fail due to the insufficient space, but instead attempts the restore job several times and eventually fails with an exceeded max retries error.	There is no workaround for this issue.

RioBroker 2.0.0

Enhancements

This release improves the user interface, error messages, error handling, and swagger documentation, and adds the new features listed in the table below. See the *Spectra RioBroker Application User Guide* and the Swagger documentation for more information.

Feature	Description
Endpoints	Endpoints can now be pre-configured to replace URIs for FTP and S3 sources and targets.
Log Sets	The Spectra RioBroker application automatically creates error logs and writes event information into log files for troubleshooting purposes. A log set, which gathers all current logs, can be generated manually.
Reports	The RioBroker application provides custom file movement reports that allow users to see how and where files were moved.
Full Handling of SGL Imports	The RioBroker application can now seamlessly import SGL LTFS tapes.
Enhanced API	New commands were added for logs, reports, and endpoints. See the swagger documentation for more information.
New Java^{TM} Version	Oracle® Java has been replaced by Amazon® Corretto® OpenJDK.

Resolved Issues

Issue	Resolution
The RioBroker solution fails to create new jobs when the number of active jobs is above 10,000.	When the number of active jobs is above 10,000 the RioBroker solution now queues new job requests instead of failing them.
When a file exists in a location and the RioBroker solution restores a smaller file of the same name to the location, only the beginning of the original file is overwritten.	The destination file is now deleted and replaced by the restored file.
Canceled restore job shows error rather than canceled status.	This issue no longer occurs.
Program data is stored on the C:\ drive even when the program is installed in a different location.	On new installs, the installer will allow you to choose the location for the program data.
A restore job is accepted but the restore fails when a target file name contains an un-escaped special character.	Now, only validly formed URIs are accepted during job creation.

Issue	Resolution
If you set the data path for a Spectra device using HTTPS://, or omit HTTP:// or HTTPS://, the user interface prepends HTTPS://, which does not work with BlackPearl systems.	You can now enable HTTPS:// connectivity with BlackPearl systems. If you do not specify HTTP:// or HTTPS://, HTTPS:// is used.
Adding ',' (comma), '=' (equals), '|' (vertical bar), or ' ' (space) to the metadata on an archive job causes the job to gets stuck in the queue.	This issue no longer occurs.
If RioBroker encounters a network interruption longer than approximately 1 minute, any active archive job status is marked as 'ERROR' and the job must be retried.	RioBroker now recovers without user intervention from a network interruption to a BlackPearl system of up to 5 minutes, and displays a message to the user that the job has stalled due to network connectivity problems after 30 minutes of network interruption.
Special characters in object metadata are not escaped properly and causes the index size to grow.	This issue no longer occurs.
During a partial file restore re-wrap operation or an SGL tape import, temporary files display in job status tables.	This issue no longer occurs.
A Management Interface link on the Spectra Devices screen for a device created outside the RioBroker user interface does not redirect properly.	HTTPS:// is now prepended so that the Management Interface link redirects correctly.
Jobs do not resume if the RioBroker application is restarted.	Jobs now resume when the RioBroker application is restarted.
Jobs may be marked as completed although file transfers have a status of failed.	Job statuses now correctly indicate if any file transfers have failed.
When trying to list relationships for all Brokers using a wild card asterisk for the Broker Name, the RioBroker application returns a 404 error.	You can now use a wild card for the Broker name and get a list of relationships for all brokers.
When a job is canceled in the RioBroker application, files written to cache are deleted from the BlackPearl system and the RioBroker database.	Now when a job is canceled in the RioBroker application, any files fully written to cache are persisted and maintained in the BlackPearl system and the RioBroker application.
Broker names are treated as case-sensitive in a search even though the RioBroker application changes broker names to all lower case.	This issue no longer occurs.

Known Issues

Issue	Workaround
The timestamp returned from a `get agentConfig` API query incorrectly appends "[UTC]" to the end of the timestamp.	Ignore the appended text.
If you delete a Spectra device while an archive job is active, the job incorrectly reports as canceled.	Although reported as canceled, the job actually continues to completion.
If you delete a Spectra device and then create a new Spectra device using the same name, but with a new configuration, the old configuration is used instead of the new one. **Note:** This issue is fixed in RioBroker 3.1.	Restarting the RioBroker service clears the old configuration.
If you update your credentials on a BlackPearl system, you cannot update your credentials within the RioBroker user interface.	Restarting the RioBroker service retrieves the new secret key.
You can successfully create an archive job with a relationship containing special characters such as '&', '*', and '?'. These characters then interfere with relationship searching.	Do not create an archive job with a relationship using special characters.
When attempting to archive a file using an endpoint or host name that contains an underscore (_) in the name, the archive job fails to process the file. **Note:** This issue is fixed in RioBroker 2.1.0.	Do not use an underscore in an endpoint name or host name.
If an FTP server gives inaccurate file sizes, archives indexed with Time Based Partial File Restore (TBPFR) may fail. **Note:** This issue is fixed in RioBroker 2.1.0.	There is no work around for this issue.

RioBroker 1.0.2

Operation Retry Time Reduced When an object is loaded into cache during a restoration operation, the RioBroker application now only waits approximately 15 seconds to begin transferring the file from cache to the restoration target location.

Concurrent Transfer Improvements The RioBroker application now processes up to 64 transfers concurrently.

Resolved Issues

Issue	Workaround
If an object with a filename containing an un-escaped special character is restored, the file restoration fails, but the RioBroker application incorrectly states that the restoration is successful.	This issue no longer occurs.
If the RioBroker application restarts with more than 100 active jobs, not all jobs resume correctly.	This issue no longer occurs.
The RioBroker application currently sends all files in a job to the BlackPearl system, regardless if one or more files is being processed in another job, causing the BlackPearl system to fail the second job.	The RioBroker application now ignores files that were processed in the first job, and the second job completes successfully.
When the RioBroker application attempts to transfer data to a BlackPearl system with a full cache, the program incorrectly cancels the job after approximately 30 minutes.	The RioBroker application will now allow up to 60 minutes for the BlackPearl system to clear its cache before failing the job.
When requesting partial file restore, the files are restored by the RioBroker application, but the job fails because a temporary file is deleted by the PFR plugin sooner than expected.	If this issue occurs, the error is logged by the RioBroker application, but the job does not fail.

RioBroker 1.0

Known Issues

Issue	Workaround
If a broker has two agents assigned each to a different bucket, if there are duplicate file names in each bucket, when listing the objects for the broker, duplicate file names only appear in one of the buckets, typically whichever bucket was last used as a write target.	You must create another broker and separate the agents between the two brokers.
The Notifications feature is currently non-functional.	There is no workaround for this issue. This feature will be added in RioBroker 2.0.
After configuring a BlackPearl device in the RioBroker user interface, the status of the device does not display.	On the Devices page of the RioBroker user interface, click the displayed IP address of the BlackPearl system. If the user interface redirects to the login page of the BlackPearl system, the connection is considered good. Otherwise, contact Spectra Logic Technical Support. See Contacting Spectra Logic on page 9.
The RioBroker application incorrectly allows a Verde array to be used as a Spectra device.	Only BlackPearl systems are supported as a Spectra device.
If a read-only agent is configured to use the same bucket as the read/write agent, if the read-only agent is deleted, the RioBroker application incorrectly attempts to use the agent when restoring files, generating an exception error. **Note:** This issue is fixed in RioBroker 3.0.	On the Brokers page, delete the read-only agent, then re-index the read/write agent using the override index parameter.
Files incorrectly retain the status of "Transferring" if a job is canceled. **Note:** This issue is fixed in RioBroker 3.0.	There is no work around for this issue.
When a restore job containing multiple blobs is canceled, the BlackPearl system continues to process additional blobs before the job is fully canceled. **Note:** This issue is fixed in RioBroker 2.0.	There is no workaround for this issue.

Documentation Updates

SPECTRA RIOBROKER USER GUIDE

The *Spectra RioBroker User Guide* is current as of the release of RioBroker 3.2.