Spectra T-Finity Library

Release Notes and Documentation Updates

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Part Number
90940044 Revision R

Revision History

BlueScale Version	Document Revision	Date	Description
12.0.111-20121018F	F	October 2012	BlueScale12.0.104 - 12.0.111 updates
12.0.112-20121121F	G	December 2012	BlueScale12.0.112 update.
12.0.114-20121213F	H	December 2012	BlueScale12.0.114 update.
12.4.6-20130218F	I	March 2013	BlueScale12.4.1 - 12.4.6 updates.
12.4.12-20130621F	J	July 2013	BlueScale12.4.10 - 12.4.12 updates.
12.4.15-20130726F	K	August 2013	BlueScale12.4.14 and 12.4.15 updates.
12.4.17-20130925F	L	October 2013	BlueScale12.4.17 updates.
	M		Not released.
12.6.3-20131030F	N	December 2013	BlueScale12.6.3 updates.
12.6.22-20140213F	O	February 2014	BlueScale12.6.22 updates.
12.6.24-20140516F	P	June 2014	BlueScale12.6.24 updates.
12.6.26-20140708F	Q	July 2014	BlueScale12.6.26 updates.
12.6.27-20140726F	R	July 2014	BlueScale12.6.27 updates.

Note: To make sure you have the release notes for the most current version of the BlueScale 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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Contacting Spectra Logic

To Obtain General Information

Spectra Logic Website: www.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.
Venture House
Arlington Square, Downshire Way
Bracknell, RG12 1WA
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: www.spectralogic.com/shop

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

To Obtain Documentation

Spectra Logic Technical Support Portal: support.spectralogic.com

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Introduction

These release notes give you the latest information available about the Spectra® T-Finity® library, the BlueScale® software, and the library firmware. They also serve as an addendum to the published documentation for the library.

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

RELATED INFORMATION

This section contains information about this document and other documents related to the T-Finity library.

BlueScale User Interface Screens

The BlueScale interface changes as new features are added or other modifications are made between software revisions. Therefore, the screens on your library may differ from those shown in the library documentation.

Additional Publications

For additional information about the Spectra T-Finity library and its drives, refer to the following publications.

Spectra T-Finity Library

The following documents related to the T-Finity library are available on the Spectra Logic website at support.spectralogic.com/documentation.

- The *Spectra T-Finity Library User Guide* provides detailed information about configuring, using, and maintaining your library.

- The *Spectra T-Finity Library Quick Reference Guide* provides a quick reference for the user interface and instructions for performing day-to-day library operations such as powering on and off, and preparing, importing, and exporting media.

- The *Spectra T-Finity Library BlueScale Toolbar Option Map* provides a quick reference for locating the options and commands available through the BlueScale user interface.

- The *Spectra T-Finity Library Site Preparation Guide* provides information about preparing your site for the installation of the T-Finity library.

- The *Spectra BlueScale Vision Camera User Guide* provides detailed information about installing and using the white BlueScale Vision Camera and software.

- The *Vivotek FD8361 Fixed Dome Network Camera User's Manual* provides detailed information about installing and using the black BlueScale Vision Camera and software.

- The *Spectra Encryption User Guide* provides detailed information about using BlueScale Encryption Standard and Professional Edition and the Spectra TKLM Encryption key management system. It also provides useful information about encryption best practices and recycling encrypted media.

- The *Spectra T-Series Libraries SCSI Developer's Guide* provides detailed information about the SCSI and Fibre Channel commands used in the library.

- The *T-Series XML Command Reference* provides detailed information about using the XML interface with the T-Finity library.

- The *Spectra T-Series Libraries Warnings* document provides all of the warnings found in Spectra T-Series Libraries documentation, in English and 27 other languages.

LTO Ultrium Tape Drives

The following documents provide information that is applicable to all IBM LTO tape drives.

- *IBM Tape Device Drivers Installation and User's Guide*

    Note: This guide also provides information about using the IBM Tape Diagnostic Tool (ITDT) to troubleshoot drive problems.

- *IBM TotalStorage LTO Ultrium Tape Drive: SCSI Reference* (LTO-1 through LTO-4)

- *IBM TotalStorage LTO Ultrium Tape Drive: SCSI Reference* (LTO-5 and LTO-6)

For drive-specific information, search for the product name (for example, LTO 5) on the documentation page on the IBM website. You can also search the IBM Support Portal at
http://www-947.ibm.com/support/entry/portal/Documentation.

TS1140 Technology Drives

The following documents provide information that is applicable to TS1140 technology drives.

- *IBM Operator Guide 3592 Models J1A, E05, E06, EU6, J70 and C06*

- *IBM System Storage Tape Drive 3592 SCSI Reference*

- *IBM Tape Device Drivers Installation and User's Guide*

    Note: This guide also provides information about using the IBM Tape Diagnostic Tool (ITDT) to troubleshoot drive problems.

Spectra TKLM Server

For additional information that can assist you during the installation and configuration of your server, see the following websites:

- *IBM Tivoli Key Lifecycle Manager Information Center*

- *Tivoli Key Lifecycle Manager Installation and Configuration Guide*

Discontinued Components

Check the Spectra Logic Support portal for information about which products are currently supported and which are considered discontinued. For information about discontinued products, log on to the Support portal (at support.spectralogic.com), open the Knowledge Base, and search using the term "discontinuance".

USER FEEDBACK

Please give us suggestions for and opinions on our products and their documentation by calling us at (800) 833-1132 or sending an email to *feedback@spectralogic.com*.

TYPOGRAPHICAL CONVENTIONS

These release notes use the following conventions to highlight important information:

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

Important Read text marked by the "Important" icon for information that will help you complete a procedure or avoid extra steps.

Caution Read text marked by the "Caution" icon for information you must know to avoid damaging the library, the tape drives, or losing data.

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

These release notes use an arrow (⋯⋮) to describe a series of menu selections. For example:

Select **Configuration** ⋯⋮ **Partitions** ⋯⋮ **New**.

— means —

Select **Configuration**, then select **Partitions**, and then select **New**.

Library BlueScale Updates

PACKAGE INFORMATION

> ⚠️ **Important** Updating the library's BlueScale software and library firmware requires a current service contract with Spectra Logic Technical Support. The BlueScale Software Support key associated with your service contract must be stored in the library by entering it into the System Configuration screen. See the *Spectra T-Finity Library User Guide* for instructions.
>
> If you have questions about your service agreement, contact Spectra Logic Technical Support (see Contacting Spectra Logic on page 4).

Package Support

Spectra Logic recommends that you keep the BlueScale software and library component firmware up-to-date. Customers using a previously released version of BlueScale software are urged to update to the current release. If the BlueScale software version you are running is more than two releases behind, you may be required to update to the current release to resolve an issue or to verify that a problem still exists in the current release.

The currently released BlueScale package can be downloaded from the Spectra Logic Technical Support portal. Refer to the *Spectra T-Finity Library User Guide* for information about accessing the Technical Support portal. The User Guide provides detailed information about downloading a BlueScale package and updating your library, as well as information about downloading and installing tape drive device drivers. Contact Spectra Logic Technical Support at support.spectralogic.com if you have any questions.

To determine whether you have the most currently released version of BlueScale software for your library, as well as the most current firmware for the installed tape drives, do the following:

1. Check the library BlueScale software version on the BlueScale status bar.

2. Check the drive firmware version on the Drive Details screen for each drive.

3. Compare your software and firmware versions with the most current versions available. Log onto the Spectra Logic Technical Support portal at support.spectralogic.com.

   The Spectra Logic Technical Support portal lists the currently recommended library software and drive firmware versions, as well as important notifications.

4. If a more current BlueScale package version is available, download the update package and install it.

5. If a more current tape drive firmware version is available, download the update and install it.

Update Procedure

The BlueScale package update procedure is described in the following documents:

- *Spectra T-Finity Library User Guide*

- *BlueScale Package Update Instructions: Updating from BlueScale12.4.x and Earlier Versions*

- *BlueScale Package Update Instructions: Updating from BlueScale12.5.x and Later Versions*

If you have any questions or concerns about updating, contact Spectra Logic Technical Support (see Contacting Spectra Logic on page 4).

Package Management

If you receive an error message stating that your disk is full when the library attempts to unzip an update package, you need to delete downlevel packages to make room for the new package. Refer to the *Spectra T-Finity Library User Guide* for information about managing update packages.

FIRMWARE VERSION REQUIREMENTS

⚠ **Caution** Spectra Logic recommends updating the drive firmware to the most current version available. Log into your Support portal account at support.spectralogic.com and check the Drive Firmware page for the currently recommended firmware version. IBM LTO tape drives must be using the following minimum firmware versions:

- **LTO-6**: For use with BlueScale 12.4.0 or later, use firmware version C9T4, or later.

- **LTO-5**: For LTFS support with BlueScale12.0.3 or later, firmware version B6W0, or later, is required.

- **LTO-4:** To prevent a potential hardware failure, firmware version 97F9, or later, is required.

⚠ **Important** **EtherLib**   To use EtherLib to speed up library component communication, you must have BlueScale 12.3.1 or later.

After you update your library to BlueScale12.3.1or later, the right-most Ethernet port on each Spectra LS in the library becomes a dedicated EtherLib port. This port cannot be used for accessing the library using the BlueScale web interface.

⚠ **Important** **TKLM**   To use Spectra TKLM encryption key management with your library, all LTO-5 drives in the encrypted partition must use firmware version C7RC or later. LTO-6 and TS1140 technology drives can use any firmware supported by the library.

PACKAGE HISTORY

The following sections list the library's released BlueScale packages and provide information about new features and updates that affect the library and its components. The packages are listed in reverse chronological order, with the most recent release listed first.

⚠ **Important** Unless otherwise stated, the known issues for a package remain active until moved to the resolved issues section. Always read the known issues section for each firmware release to make sure you are aware of any potential problems.

BlueScale 12.6.27

This release corrects an issue that may cause an inventory mismatch when TeraPack magazines are imported or exported from a partition using a RIM to provide the robotic control path. It also corrects an uncommon inventory error when a robot goes into service with a TeraPack magazine in the transporter.

BlueScale 12.6.26

This release changes when and how data is written to the SD card to increase reliability and it corrects a memory leak.

Resolved Issues

Issue	Resolution
No message is generated when a chamber is marked as bad.	A front panel message is now generated when a chamber is marked as bad.
If a TeraPack magazine being imported through the bulk TAP is rejected due to a tape barcode being unreadable or indicating that the media type does not match the partition, the magazine will continue to be rejected on subsequent imports even if the media mismatch is corrected.	A magazine that was rejected due to a media mismatch error will now successfully import after the media mismatch is resolved
The Performance Accelerator option appears in the partition creation wizard even though it is not currently supported.	Performance Accelerator was removed from the partition creation wizard.
The library allows magazine imports when all chambers are either full or marked bad.	The library now fails an import request if all chambers are either full or marked bad.

Issue	Resolution
If multiple XML commands are sent to the library while drive firmware is staging, the webserver may stop responding.	This issue no longer occurs.
Rarely, when a move fails the library will get into an infinite loop of retrying the move.	This issue no longer occurs.
The library incorrectly imports a Maintenance TeraPack magazine containing non-cleaning media through the bulk TAP.	Maintenance TeraPack magazines containing non-cleaning media are rejected when an import is attempted.
One or both of the TeraPorters in the library may stop functioning due to an internal communication problem.	This issue no longer occurs.

BlueScale 12.6.24

This release corrects a memory leak, improves error recovery, and provides faster barcode scanning for improved performance.

Resolved Issues

Issue	Resolution
After running the Delete Robotics Geometry utility, the library may incorrectly report that one of the barcode scanners is faulty, and the subsequent inventory scan fails.	This issue no longer occurs.
If a barcode scanner on one TeraPorter fails, both TeraPorters are disabled.	Only the TeraPorter with the faulty barcode scanner is disabled. The other TeraPorter continues to function normally.
If a tape drive is removed from the library without using the **Remove** feature on the DLM (Drives) screen, an incomplete error message displays.	The full error message displays when a drive is removed from the library.
If a user selects **Delete Selected** on the Delete Exported MLM Records screen when no records are selected, the BlueScale navigation pane stops displaying.	This issue no longer occurs.
The timestamp in SMTP headers uses UTC (GMT) rather than local time.	If NTP is used for the library time, the header will report the correct local time. If the library time is set manually, the header will continue to report UTC (GMT).

Issue	Resolution
If the front panel is reset, the library does not remember the source slot for any tapes currently loaded in drives, which can result in move failures.	The library remembers the source slot of tapes currently in drives through a front panel reset.
In a multi-partition library, if a move is sent to the robotics through the RIM and then the robotics controller gets reset for some reason, the RIM controller inventory may be incorrect.	This issue no longer occurs.
If a partition is added, deleted, or edited after a controller failover pair is configured, the partitions exported out of the master controller are not configured correctly.	This no longer occurs.
Using a bulk TAP, attempting an import from an empty source chamber or an export to a full destination chamber causes a 24V power cycle.	The attempted operation now correctly fails and informs the user that the request is invalid.
EtherLib fails to initialize when the library reboots following an upgrade to BlueScale12.6.21 or later.	This issue no longer occurs.
Libraries configured with many partitions and in heavy use may fail to display the Import/Export screen on the front panel.	This issue no longer occurs.
If the library is unable to import a TeraPack magazine from a TAP for any reason, the library front panel locks up.	This issue no longer occurs.
The exporting drive for a partition may lock-up after an import or export operation when the host has issued a PreventMediaRemoval or a ModeSense SCSI command with a very short timeout value.	This issue no longer occurs.
If the Robotics Control Module (RCM) fails to upgrade during a Package Update, no error is presented to the user.	An error message is generated informing the user that the RCM upgrade failed.
If the 12V power supply voltage goes out of range and then returns to an acceptable range, the message displayed erroneously includes the remedy "Determine why voltage is outside acceptable limits."	The message generated in this situation now indicates that no remedy action is required.
If a RIM fails to retrieve an updated inventory from the BlueScale software, the RIM fails to respond to any host commands while waiting for the inventory, causing host commands to timeout and be aborted.	This issue no longer occurs.

Issue	Resolution
When a partition is configured to use controller failover, if a failover occurs from the primary controller to the secondary controller, and then failover is disabled, the secondary controller incorrectly reports the same WWN as the primary controller.	This issue no longer occurs.
If a robot moves into the service frame in preparation for maintenance, the robot is not shown on the Robotic Status screen.	The robot now correctly displays on the Robotic Status screen when in a service frame.
When a TeraPack magazine with different barcode labels on the front and back of the magazine is imported into the library, the library gets stuck in a recovery loop.	Magazines with different barcodes are rejected from the library during import.
Occasionally the library will repeatedly attempt to move a magazine to a chamber that is already full.	This issue no longer occurs.
When updating drives using Package Update, the library occasionally reports that drive firmware is ready to be committed when the firmware has not staged correctly.	Drives no longer display on the Commit screen if the firmware did not stage correctly.
When using the soft power button to power on the library, the button occasionally starts to flash, indicating that the library is powering off. The button must be pressed again to power on the library.	This issue no longer occurs.

Known Issues

Problem	Workaround
The first time a library is powered on after being updated from BlueScale12.6.21, a library with EtherLib set up may report a message to the front panel that "DHCP was unable to obtain an IP address," although network communication is working correctly.	Ignore the message, EtherLib did obtain an IP address via DHCP.

BlueScale12.6.22

This BlueScale release improves front panel and web interface stability and reliability.

Resolved Issues

Issue	Resolution
If a drive is selected as the robotic control path and subsequently unselected, the drives assigned to the partition may be incorrect.	The partition configuration wizard correctly keeps track of drives selected and unselected as the robotic control path and includes the selected drives in the partition.
The Ignore Magazine Seated Sensor utility is only available to an administrator or superuser from the front panel.	An administrator or superuser can now run the Ignore Magazine Seated Sensor Utility remotely, using the BlueScale web interface.
The MLM Load Count always reports 0 for TS1140 technology cartridges.	MLM now provides the correct Load Count for TS1140 technology drives.
The DLM Drive Test wizard fails for TS1140 technology drives with the error "---Error: Media generation does not match drive generation; cannot run FTest."	The DLM Drive Test wizard now works correctly for TS1140 technology drives.
The XML command `partition.xml?action=autoCreate` does not correctly create TS1140 technology partitions.	The `partition.xml?action=autoCreate` XML command can now be used to create a TS1140 technology partition.
Library reports 'successful auto-clean' even though the Auto Drive Clean failed because the cleaning cartridge was expired.	The library now correctly reports a failed Drive Auto Clean in the system messages.
The robotics motion traces zip file is corrupt and unable to be opened.	The robotics motion trace zip file is now generated correctly.
Full motion trace is appended to previous motion trace making the ASL too large to email.	The full motion trace replaces the previous motion trace rather than being appended so that the file does not grow too large to email.
User is not informed when the secondary disk is missing.	When the secondary disk is missing, the user is informed with an informational system message.
The LCM may restart when a TeraPorter comes out of service after going into service with a TeraPack magazine in the transporter.	The LCM no longer requires a restart under these conditions.
When the TeraPorter comes out of service after entering service with a magazine in the transporter and attempts to reimport the magazine as instructed, the library generates an error message stating that the magazine's barcode is a duplicate and the import is refused.	The library now correctly imports the magazine.

Issue	Resolution
If a drive fails to respond to an unload command, robot motion begins an error recovery process although no robot motion error occurred.	The library now fails the move with a Tape Left in Source error rather than a robot motion error.
The Read Element Status bytes for Media Domain and Media Type are not updated between moves to/from a drive.	The Read Element Status bytes for Media Domain and Media Type are now updated correctly.
The Read Element Status response for a single storage element with the VolTag bit set to 0, contains four erroneous bytes.	This no longer occurs.
The library attempts to unload a tape during tape drive power on recovery even if the drive is in mid-tape recovery.	The library now displays a message saying to try the move again after mid-tape recovery is complete.
QuickScan and PostScan stop at the end of the first filemark.	QuickScan and PostScan now continue to the end of the track or the end of the tape as expected.
Motion commands are assigned to the left TransPorter more often than the right.	Motion commands are now assigned more equally between the two TransPorters.
Imports and exports occasionally fail when the TeraPorters are executing other moves.	This no longer occurs.

Known Issues

Problem	Workaround
The number of cleans reported for a TS1140 technology cleaning tape in the MLM report is incorrect.	Use the value reported for Load Count on the MLM report to determine how many times a TS1140 technology cleaning tape was used.
Drives incorrectly display good health status after an Auto Drive Clean fails because the cleaning tape is expired.	If you receive a system message that a drive was not cleaned because the cleaning cartridge was expired, ignore the good health status shown, the drive is not clean. Import a new cleaning tape and the drive will be cleaned the next time it requests cleaning.
If a partition is configured to use controller failover, a failover occurs from the primary controller to the secondary controller, and then failover is disabled, the secondary controller will incorrectly report the same WWN as the primary controller. **Note:** This issue is fixed in BlueScale 12.6.24.	Reset the secondary controller. The correct WWN for the secondary controller displays.
When viewing the current firmware versions installed on the library, the SCM indicates it's firmware file is missing.	Ignore the error. The SCM firmware file has ben added to the RCM firmware and is no longer a separate file.
After performing a BlueScale firmware update to BlueScale12.6.21 or later, from BlueScale12.6.20 or earlier, EtherLib initialization fails.	Power-cycle the library to restore EtherLib functionality.

BlueScale12.6.3

Enhancements

This BlueScale release improves overall reliability and adds the new features listed in the table below. Refer to the most current version of the *Spectra T-Finity Library User Guide* for detailed information about using these features.

Feature	Description
Maximum number of library partitions increased to 16	The number of partitions the library supports has increased from 8 partitions to 16 if all of the partitions use RIMs as the exporting controller. One RIM can export up to 8 partitions.
LTO-5 or later generation drives used as exporting controllers	The library now supports using LTO-5 or later generation drives as exporting controllers to provide the robotic control path for a partition. **Note:** If any partitions in a library use a drive to provide the robotic control path, the maximum number of partitions in the library is six.
Multiple exporting drives in a partition	You can select multiple LTO-5 and later generation drives as controllers, and export the same changer interface over the drives to provide redundancy, as long as your software can support this. These multiple paths cannot be used at the same time to communicate to the same changer.
Initialization screen	An Initialization screen is now available to provide the system's progress during library initialization.
DLM support for TS1140 technology drives	DLM functionality is now supported on TS1140 technology drives.

Resolved Issues

Issue	Resolution
Occasionally, the library allows a tape to be moved from a drive, even though the prevent bit is set.	The backup software now needs to clear the prevent bit before the library can move a tape from a drive. If for some reason the prevent bit is set but the software is down, you can reset the drive using the **Reset** button on the DLM screen to clear this bit.
The **Prevent Media Removal** command doesn't prevent media removal from the library. Using the Inventory screen, media can be removed by selecting **Storage** as a source and **To TAP** as a destination.	The **Prevent Media Removal** command now prevents media removal from the library.

Issue	Resolution
When issuing the XML **Login** command to a library that has SSL enabled without using `https://` in the command URL, the command response indicates that the command was successful when it was not.	The XML **Login** command now reports a failure to log in error when the `https://` prefix is not used to log in to a library with SSL enabled. Make sure that you use `https://` in the command URL when logging into a library that has SSL enabled.
Staged drive firmware updates cannot be cancelled.	Delete the associated drive firmware package to cancel the staging process. **1.** Select **Maintenance ⋯⟩ Package Update**. **2.** Click **Manage Packages**. **3.** Click the check box next to the drive firmware that is currently staging. **4.** Click **Delete Selected**.
If the host and front panel both start moves from different drives to the same slot, the one that received first finishes correctly. The other move fails with the tape left in the drive, but the library reports a sense code of 2,3a,0 (drive empty).	The library now sends the correct sense code if a move fails.
If MLM is disabled, the **Drive Reset** button on the Drives screen will be greyed out and inaccessible.	The **Drive Reset** button on the Drives screen is now available when MLM is disabled.
When the library is unable to read the transporter's serial number, the library enters maintenance mode and is not able to capture an ASL.	The library is now able to capture an ASL when the transporter's serial number is not available to the library.
The library does not report incompatible media.	The library now reports incompatible media.
The Drive Firmware Staging Committed process may fail, due to a memory management issue. After the LCM restarts, drive firmware staging restarts from the beginning.	The Drive Firmware Staging Committed process now completes as intended.
Partition data in the MLM database is not always accurate/up-to-date.	The partition data in MLM now reflects the current inventory of the library.
The library occasionally fails to create and open PwrFmm logs. This caused the Power Metrics screen to only show power usage for the last hour.	The library now creates the appropriate log files and the power metrics screen correctly displays the power usage statics over a five day period.
The LCM will become unresponsive if a bulk import is started while PreScan is running.	The library no longer crashes during a bulk import when PreScan is running.
Attempts to update the RCM using EtherLib fail.	The library can now successfully perform updates using EtherLib if EtherLib is set up.
The health of cleaning media is incorrectly calculated when unloaded from LTO-6 drives.	The health of LTO-6 cleaning media is now correctly calculated.

Issue	Resolution
LTO-6 media is shown as Unknown in the MLM report.	LTO-6 media is now correctly identified in the MLM report.
TS1140 technology drives fail to commit an update after drive firmware is staged. The library reports an error message that "Drive firmware does not match staged firmware level."	TS1140 technology drives now successfully complete the Drive Firmware Staging Update process.
The `driveList.xml` command reports information for a Global Spare after it released.	Information for drives not assigned to a partition is not reported by the `driveList.xml` command.
The library requires cleaning media to have an "L" or a "J" as the second to last character of the barcode.	The only requirement for the barcode on cleaning media is for it to start with "CLN".
If the TAP is ajar when the library attempts to move a TeraPack to it, the move fails.	The library now requests that you close the TAP and then it re-attempts the move.
The `packageUpload.xml` command fails when the library has SSL enabled.	The `packageUpload.xml command` no longer fails when SSL is enabled.
The `resetRobot.xml` command can be executed by an operator.	The `resetRobot.xml` command can no longer be executed by an operator.
The library occasionally fails to pick TeraPack magazines in bottom row chambers in a TS1140 technology library.	The library can now pick TeraPacks magazines from the bottom row in a TS1140 Technology library.
If the MLM server stops working and needs to be restarted, the MLM database no longer updates.	The MLM database continues to update after the MLM server stops working and is restarted.
If host based moves are issued while an import or export using a bulk TAP is in process, the inventory may not be updated.	The inventory is updated correctly for host based moves during a bulk TAP import or export.
After using the Drive Firmware Update Utility, the library may indicate that "firmware did not change" even though the update was successful.	This no longer occurs.
Importing or exporting TeraPack magazines while the host is issuing move commands can cause failures.	TeraPack magazines can be imported or exported while the host is issuing move commands.
When trying to enable a Global Spare to replace a drive, the library may display the warning, "Drive configuration failed to set the World Wide Name or serial number," and fail to spare the drive.	Using a Global Spare now works correctly.
Some drive sled status LEDs do not flash the correct color when a replace drive operation is initiated, making it difficult to locate the correct drive.	When a replace drive operation is initiated for an LTO-5 or later generation tape drive, the library will cause the status LED on the appropriate drive sled to alternate flashing green and red/orange.

Issue	Resolution
A robotic motion restart during bulk TAP operations causes future bulk TAP moves to fail.	This no longer occurs.
With some camera installation brackets, the TeraPorter could hit the camera when moving to certain chambers.	The TeraPorter moves the transporter to a zone that is safe for all camera installations before moving.
If a RIM is configured as the primary controller in a failover pair, adding or deleting a partition that uses the RIM as the robotic control path causes communication from the host to the RIM to fail.	This no longer occurs.
The PostScan option can be selected when configuring a partition with TS1140 technology drives although this combination is not supported.	It is not possible to select PostScan options if the partition is configured to use TS1140 technology drives.

Known Issues

Issue	Workaround
If you select the **Mail Results To** check box, a message indicating the success or failure of the utility is not sent to the selected mail user.	Use the BlueScale interface to see the results of the utility.
When adding a controller by selecting **Configuration ···⠿ Controllers** and clicking **ADD**, the library may generate a system message saying "QIP FR1/DBA1/F-QIP1 appeared unexpectedly. To avoid this message in the future, use the Controllers screen when adding a QIP to the library."	Ignore the message. The controller was added correctly.
The library allows you to use invalid characters in the NTP hostname. Once an invalid NTP hostname is set, you are not able to set a new hostname.	Do not include !@#$^&*()< or > in the NTP hostname. If the NTP hostname has been set to an invalid name, you must set the library to factory defaults to be able to reset it.
The partition creation screens allows you to select a Global Spare drive that does not match the generation of drives it would replace. For example, it allows you to select an LTO-4 drive to replace an LTO-5 drive.	Select a Global Spare drive that matches the generation of the drives it would replace. For example, only use an LTO-5 drive as a spare for an LTO-5 drive.
The Staged Drive Firmware Update Results screen displays "Package Update Completed Successfully" when staging starts.	Ignore the message and follow the rest of the instructions on the screen.
When using NTP, the read/write time in the MLM database might not be correct.	None.
The library frequently reports that adding a RIM failed, but the RIM is added.	Ignore the failure message.

Issue	Workaround
If a partition is added, deleted, or edited after a QIP failover pair is configured, the failover does not occur in the event of a master QIP failure. **Note:** This issue is resolved in BlueScale12.6.24.	Disable failover before creating, editing, or deleting partitions. Once you are done changing the configuration of your library, re-enable the failover pair.
Adding more than seven decryption keys to a partition with drive based encryption fails with a "Partition Configuration Error".	Do not attempt to assign more than seven decryption keys to a single partition using drive based encryption.
If you replace a QIP with a RIM while the library is powered on, the drives in the same DBA as the RIM may power off when the RIM is added to the library.	Wait approximately 5 minutes for the drives to power on.
If several partitions are receiving move commands from the host when an ASL is requested, the ASL generation may take a long time or not complete.	Pause host moves before generating an ASL.
The DLM Drive Test wizard fails for TS1140 technology drives with the error "---Error: Media generation does not match drive generation; cannot run FTest." **Note:** This issue is resolved in BlueScale12.6.22.	Use ITDT to test suspect TS1140 technology drives.

BlueScale12.4.17

This release adds a robot status section to the libraryStatus.xml command, improves library communication, and improves recovery from robotic stalls.

Resolved Issues

Issue	Resolution
The TeraPorter can take up to 30 minutes to resume operation after coming out of service.	A TeraPorter coming out of service resumes operation quickly.
A failing sensor on one TeraPorter can cause the library to go to degraded mode.	When the broken sensor is detected, the library now completes the move successfully and then sends the TeraPorter to service.

BlueScale12.4.15

Resolved Issues

Issue	Resolution
Communication problems with TS1140 technology drives can cause long waits or drives being marked as powered off.	The library now handles TS1140 technology communication failure better.
The Delete Robotics Geometry advanced utility does an unnecessary full inventory scan.	The Delete Robotics Geometry advanced utility no longer does a full inventory scan.
The library resets during a bulk import or export.	The library no longer resets during a bulk import or export.

BlueScale12.4.14

Resolved Issues

Issue	Resolution
In libraries running BlueScale12.4.11, the transporter could contact something at the top and back of the library.	This no longer occurs.
The library fails to pick a tape from a slot but does not recognize the failure and tries to put it into a drive.	The library now verifies that the tape was successfully picked before trying to move it to a drive.

Known Issues

Issue	Workaround
When the library is configured with multiple partitions and the capacity display is changed to Broadcast Hours, only the first partition displays capacity in broadcast hours.	None.
Using the Inventory screen to move a tape from **TAP** to **Cleaning** (a slot in a cleaning partition), causes the library web server to crash.	Use the Import/Export TeraPack Cases screen to import cleaning cartridges into a cleaning partition.

BlueScale12.4.12

This release improves communication error recovery.

Resolved Issues

Issue	Resolution
If the library receives a host-based move while using the bulk TAP to import or export magazines, the library may skip one or more magazines.	Imports and exports using the bulk TAP are handled correctly when interrupted by host-based moves.
Move errors can occur if a move request is made while the magazine containing the requested tape is in the process of being put in a chamber.	Errors no longer occur if a tape is requested while the magazine containing the tape is being put in a chamber.

Known Issues

Issue	Workaround
When attempting to commit drive firmware to a TS1140 technology drive after drive firmware staging, you may receive the error "Update failed, drive firmware doesn't match staged firmware level." **Note:** This issue is resolved in BlueScale12.6.3.	The update was successful. Reseat the dive that was just updated to clear the error message.
You cannot set a static IP and enter DNS settings at the same time.	Configure either the static IP or DNS settings and click **Save**. Click **Previous** to return to the Network screen. Configure the other setting and click **Save**.
When the library is configured with multiple partitions and the capacity display is changed to Broadcast Hours, only the first partition displays capacity in broadcast hours.	None.

BlueScale12.4.11

This BlueScale release improves recovery from a bad sensor.

Resolved Issues

Issue	Resolution
Using the front panel to end service on a TeraPorter causes the LCM to hang.	The TeraPorter should successfully re-initialize, but you need to reset the LCM. Reset the LCM as described in the *Spectra T-Finity Library User Guide*.

BlueScale12.4.10

This BlueScale release improves overall reliability.

Resolved Issues

Issue	Resolution
When sending a TeraPorter to service with a TeraPack in the transporter, the cartridges in the TeraPack still display in the front panel inventory. If you try to export or move the cartridges using the front panel, the move fails.	The cartridges are now removed from inventory and the TeraPack is put in the center TAP so that it can be reimported into the correct partition.
Hardware Health Monitor (HHM) counters do not increment after moves.	This issue no longer occurs.
Failover to the second robot does not happen correctly if the first robot fails to pick from a drive.	The second robot correctly completes a pick from a drive when the first robot fails.
When picking from drives that are unable to push the tape all the way out, the robot fails to pick the tape and recalibrate on the drive.	The robot now adjusts when a drive does not push the tape all of the way out, and is able to complete the pick from the drive.
BlueScale updates occasionally fail with the error message, "Update of component FR8/RCM failed: ----Error: Unknown sense information 02,04,99,0C (cmd 0D, dst 17B, state 0001273F)".	The RCMs in drive expansion frames now update correctly.

Known Issues

Problem	Workaround
When a TeraPorter goes into service with a TeraPack magazine in the transporter, the magazine is put in the center TAP when the TeraPorter comes out of service and the system message "CAN ID 322. ID-124" is generated. The TAP does not automatically open to allow removal of the magazine.	On the Import/Export TeraPack Cases screen, select the center TAP and click **Import**. When the TAP opens, remove the magazine and then cancel the import operation.
The Drive Performance metrics for TS1140 technology drives are incorrect.	None.
If you configured your library to use SSL and you try to connect via RLC using an address header of "**http://**", a link informing you that SSL is configured displays with an incorrect IP address. **Note:** This issue is resolved in BlueScale12.6.3.	Use "**https://**" and the library's IP address to connect over RLC.
Using the Inventory screen to move a tape from the TAP to a slot in a cleaning partition causes the library web server to crash.	Use the Import/Export TeraPack Cases screen to import cleaning cartridges into a cleaning partition.

BlueScale12.4.6

This BlueScale release improves overall reliability.

⚠️ **Important** You must use the **Update RCM controllers using USB device** option in Package Update when updating to BlueScale 12.4.6. Failure to do so might cause complications with future BlueScale updates.

Resolved Issues

Issue	Resolution
The library indicates that a bulk TAP frame is present when it is not.	This issue no longer occurs.
When ending service for a robot, the library software can incorrectly leave the TeraPorter marked "busy". This disables the TeraPorter.	This issue no longer occurs.
Upgrading from 12.0.1xx to 12.4.x may cause an error in the motion database.	This issue no longer occurs.

Known Issues

Problem	Workaround
BlueScale updates occasionally fail with the error message, "Update of component FR8/RCM failed: ----Error: Unknown sense information 02,04,99,0C (cmd 0D, dst 17B, state 0001273F)". **Note:** This issue is resolved in BlueScale12.4.10	Call Spectra Logic Technical Support for assistance. See Contacting Spectra Logic on page 4.
When sending a TeraPorter to service with a TeraPack in the tranporter, the cartridges in the TeraPack still display in the front panel inventory. If you try to export or move the cartridges using the front panel, the move fails. **Note:** This issue is resolved in BlueScale12.4.10	Remove the TeraPack from the transporter in service and reimport it using the front panel Import/Export screen.
If you change the name of an existing partition, any tapes in the partition continue to report the old partition name in the first/last read/write MLM data.	None.
When selecting TKLM encryption, encryption monikers that apply only to drive based encryption can still be selected.	The encryption monikers for drive based encryption have no effect on TKLM encryption.

BlueScale12.4.2

This BlueScale release corrected issues with using TS1140 technology drives.

Resolved Issues

Issue	Resolution
TS1140 technology drives fail the Force Sense command.	This issue no longer occurs.

BlueScale12.4.1

Enhancements

This BlueScale release improves overall reliability and adds the new features listed in the table below. Refer to the most current version of the *Spectra T-Finity Library User Guide* and *Spectra Encryption User Guide* for detailed information about using these features.

Feature	Description
LTO-6	The library now supports IBM LTO-6 full-height tape drives. Refer to the *Spectra T-Finity Library User Guide* for further information about the LTO-6 drive.
EtherLib	Multi-frame libraries using Spectra LS modules can take advantage of the BlueScale EtherLib feature to reduce the time for some library tasks. After installing Ethernet cables and a switch, tasks such as firmware updates and trace gathering complete much faster.
Staged Drive Firmware	For LTO-5 and later generation tape drives, drive firmware can be downloaded and staged in a background process which does not affect library operations. Once staging is complete and the firmware is committed, the drives are quickly updated in parallel.
Tape Generation in Read Element Status	The Read Element Status command now returns the tape and tape drive generation in its response. ⚠ **Important:** Some software using Read Element Status will need to be updated to handle the additional data provided.
Spectra TKLM Encryption Key Management	BlueScale software configures library access to Spectra TKLM servers and configures partitions with LTO-5 and later generation drives or TS1140 technology drives to use Spectra TKLM for encryption key management. Spectra TKLM encryption is not compatible with BlueScale encryption.
Drive Traces	Drive traces for LTO-5 and later generation drives can be easily generated and retrieved using the Drive Traces button on the Drives screen.
Support for bulk TAP expansion frame	The bulk TAP expansion frame contains chambers for magazine storage and a bulk TAP carousel which can move up to fourteen magazines into or out of the library in a single operation.

Resolved Issues

Issue	Resolution
Drive CAN address may be impaired after a power cycle.	This issue no longer occurs.
CAN overrun issues are not handled well by the CE CAN driver.	This issue no longer occurs.
The secondary QIP incorrectly fails over for the working primary QIP.	Improved coordination between primary and secondary failover pair.
RCM periodically stops receiving CAN commands.	Fixed low level CAN protocol issue so LogLib reliably receives CAN commands.
The library occasionally generates invalid warning messages when a checksum calculation does not match the checksum stored in the MAM.	These messages are usually unnecessary and can be ignored. They are now recorded in the MLM log, and do not produce warnings.
The **Recycle Encryption Media** button is available on the Import/Export screen when logged in as an operator.	The **Recycle Encryption Media** button is now only available on the Import/Export screen when logged in as an administrator or superuser.
A move can fail if you are using C3 media, MLM, BlueScale Encryption, and NetBackup due to the MAM being full.	Unnecessary manufacturing information is erased from the MAM to prevent exceeding the MAM capacity.
When using the **Email Motion Traces** utility, some zipped files may become corrupted.	This issue no longer occurs.
After exporting multiple tapes from the library, the MLM database does not always show all of the tapes as exported.	The library now consistently updates the MLM Database after a cartridge is exported.
After running Recycle Encryption Media on a group of cartridges, you may encounter backup errors caused by some tapes not being properly recycled.	The Recycle Encryption Media process now works correctly with groups of cartridges.
The library may fail to restore an MLM database when using the **Restore MLM Database from USB** utility.	This issue no longer occurs.
During normal operations, a bus reset may occur unnecessarily.	This issue no longer occurs.
Using the shortcut button to go to the end of the MLM database can take several minutes.	There is no longer a delay after clicking the button to move to the end of the MLM database.
While running the DLM Drive Health Verification wizard from the web interface, the library may log you out.	You are no longer logged out of the library when running the DLM Drive Health Verification wizard from the remote web interface.
The library sometimes reports the error message, "Error: SQL returned error: SQL logic error or missing database."	This issue no longer occurs.

Issue	Resolution
When running PostScan, if the tape being scanned is requested for use by the host, the system may report a move failure stating that the cartridge move to slot failed.	The library no longer incorrectly reports a move failure when a tape in the process of PostScan is requested for use by the host.
AutoSupport Log creation defaults to "Create new Hardware Health Monitor ticket" when no HHM triggers have been met.	AutoSupport log creation now defaults to "Create new support ticket".
When viewing the Drives screen, clicking **Detail** next to one of the drives occasionally redisplays the Drives screen instead of the Drive Details screen.	This issue no longer occurs.
The bulk TAP diagnostic does not display error messages when it fails.	The bulk TAP diagnostics now displays errors correctly.
Lengthy library inactivity leads to communication loss.	This issue no longer occurs.
When a partition using a bad drive is created or edited, the library reports that the drive is configured when it should report that the drive is bad.	When a partition using a bad drive is created or edited, the library reports that the drive is bad.
Moving robot out of service cycles 24V.	This issue no longer occurs.
The library does not recognize that the robot has moved out of service and the frame's external orange lights stay on.	This issue no longer occurs.
The library reports power consumption metrics incorrectly.	The library now more accurately measures and reports power consumption.
If an attempt to display the Drive Performance metrics for a partition fails, clicking **Previous** on the system message screen that describes the failure redisplays the system message. The system message continues to be displayed whenever the Metrics page is accessed.	Clicking **Previous** on the system message screen when displaying the Drive Performance metrics for a partition now works correctly.
Following a BlueScale software update, system messages may indicate that one or more components did not upgrade.	BlueScale software updates complete correctly.
When a drive is configured as a Global Spare but not actively in use, the library posts system messages indicating that the Global Spare appeared/disappeared during power-up.	The library no longer posts messages that a Global Spare appeared and disappeared during power-up.
The Administrator user cannot delete partitions.	The Administrator user can now correctly delete partitions.
The library continues to use expired cleaning media causing the cleanings to fail.	The library no longer attempts to use expired cleaning media.

Issue	Resolution
After removing a drive from a partition, it cannot be added back. The library may post a message that the "type is not the same as spare type" even if the partition is not configured to use Global Spares.	Drives can be added back after being removed from a partition.
After performing a BlueScale software update, the library occasionally fails to reboot after you click **Finish**.	The library reboots updated components, when necessary, after a BlueScale software update.
Updating the RCM firmware using the **Update RCM controllers using USB device** option fails if the user clicks **Continue** too soon.	You no longer have to wait before clicking **Continue**.
The DLM Drive Test wizard fails when Drive Performance monitoring is enabled.	You can run the DLM Drive Test wizard when Drive Performance monitoring is enabled.

Known Issues

Problem	Workaround
If you use the Advanced Import/Export screen to export TeraPacks and then return to the Advanced Import/Export screen, the export operation might still appear in the move queue. Clicking **Go** again could cause inventory corruption.	Clear the move queue before attempting anymore exports.
The LCM occasionally fails to reboot if a USB drive is inserted.	Remove all USB drives before rebooting the LCM or the library.
If the data center uses the class B network (172.16.x.x), then there may be IP address conflicts and the EtherLib feature will not work. **Note:** This issue is resolved in BlueScale12.6.3.	Disconnect the cables and do not use the EtherLib feature.
A cleaning tape incorrectly displays as expired when there are fewer than 10 cleans remaining on the tape. **Note:** This issue is resolved in BlueScale12.6.3.	Use the MLM report to determine the number of cleans remaining on the tape.
Adding more than one tape to the manual PostScan queue fails and results in an error message. **Note:** This issue is resolved in BlueScale12.6.3.	Add only one tape to the manual PostScan queue.
If you click **Test** under the name of a mail user on the Mail Users screen, the test fails and a confusing error message is generated. **Note:** This issue is resolved in BlueScale12.6.22.	Ignore the error message. Test emails cannot currently be sent using this button. To confirm an email recipient can receive emails from the library, generate an ASL file through AutoSupport and select the mail user you want to test as the recipient.

Problem	Workaround
HHM (Hardware Health Monitor) counters do not increment after moves. **Note:** This issue is resolved in BlueScale12.4.10.	None.

BlueScale12.0.114

This release contains a corrected Spectra PC operating system and improvements to library component communication.

Resolved Issues

Issue	Resolution
TeraPorters do not reinitialize if 24 volt power is lost and then restored.	The TeraPorters reinitialize correctly after an interruption to the 24 volt power.

Known Issues

Problem	Workaround
If MLM is disabled, the **Drive Reset** button on the Drives screen is grayed out and inaccessible. **Note:** This issue is resolved in BlueScale12.6.3.	Enable MLM or use the advanced utility Reset Controller to reset the drive. 5. Select **Maintenance ⋯⋮ Tools**. 6. Select **Utilities**. 7. Click **Advanced Utilities** and acknowledge the warning about advanced utilities use. 8. Select **Reset Controller**, the screen refreshes to show the details of the utility. 9. Select the drive you want to reset from the drop-down menu. 10. Click **Run Utility**.
The **Display Full Trace** check box on the System Traces screen only applies to selections made in the **LCM Trace** list, not selections made in the **Component Trace** list. If you select **Display Full Trace** when you generate a component trace, the trace might be corrupted. **Note:** This issue is resolved in BlueScale12.6.24.	Do not select **Display Full Trace** when you are collecting a trace specified in the **Component Trace** list.

BlueScale12.0.112

This release improves error recovery for an uncommon library communication issue.

BlueScale12.0.111

This release improves robotic communication.

Resolved Issues

Issue	Resolution
A Media Auto Discovery or PreScan move to a drive that currently has a tape loaded can cause the drive to go into a not ready state.	Media Auto Discovery and PreScan no longer cause a drive to incorrectly report a not ready state.

BlueScale12.0.108

Resolved Issues

Issue	Resolution
PreScan can cause the library to report that TS1140 technology drives disappeared and reappeared.	The library no longer sends false messages that TS1140 technology drives disappeared and reappeared.
The Service Frames screen and Service Frame lights can indicate that a robot is in the service frame when it is not.	The Service Frame screen and Service Frame lights no longer indicate that a robot is in the service frame when it is not.

BlueScale12.0.107

Resolved Issues

Issue	Resolution
Library messages incorrectly report a bad robot if the library fails to get information from a robotic controller board.	The library verifies robot status before reporting the robot as bad.

Known Issues

Issue	Workaround
PreScan can cause the library to report that TS-1140 technology drives disappeared and reappeared. **Note:** This issue is resolved in BlueScale12.0.108	Ignore the messages.
The Service Frames screen and Service Frame lights can indicate that a robot is in the service frame when it is not. **Note:** This issue is resolved in BlueScale12.0.108	Ignore message and lights.
The library continues to use expired cleaning media causing the cleanings to fail. **Note:** This issue is resolved in BlueScale 12.4.1.	Export expired cleaning cartridges.
A Media Auto Discovery or PreScan move to a drive that currently has a tape loaded can cause the drive to go into a not ready state. **Note:** This issue is resolved in BlueScale12.0.111	Don't enable PreScan while there is host-side activity to drives.

BlueScale12.0.106

This BlueScale release improves overall reliability and performance.

BlueScale12.0.105

This release reduces power cycle times.

BlueScale12.0.104

This BlueScale release improves overall reliability and performance.

Known Issues

Problem	Workaround
After running Recycle Encryption Media on a group of cartridges, you may encounter backup errors caused by some tapes not being properly recycled. **Note:** This issue is resolved in BlueScale12.4.1.	Rerun Recycle Encryption Media on tapes that fail to load with an error message indicating that the tape requires a key with the moniker that was just deleted from the tape.
After clicking **Stop Update** on the Drive Firmware Update screen, the left hand menu bar may disappear.	Use the front panel soft keyboard to restart the web browser. **1.** Display the soft keyboard. **2.** Change the keyboard to display the number keypad. **3.** Press and hold the 2 key for 10 seconds to restart the library's built-in web browser.
The Drive Firmware Update screen does not automatically refresh and continues to show that the upgrade is in progress.	To show the correct status of the upgrade, navigate away from the Drive Firmware Update screen and then return. The screen displays the current status.
Trying to create a partition with a space character at the end of the partition name causes the partition creation to fail.	Do not use a space at the end of the partition name.
Using the MLM shortcut to go to the end of the database can take several minutes. **Note:** This issue is resolved in BlueScale12.4.1.	Scroll through the list rather than jumping to the final page.
Clicking **Update** on the DLM Details screen for a drive returns a confusing error message. **Note:** his button was removed in BlueScale12.4.	This feature is currently unavailable. Ignore the message.
When you enable or disable MLM, a Feedback Required screen warns that drives may reset, and asks you to click **OK** or **Cancel**. After clicking **OK**, the Feedback Required screen continues to display.	Wait up to 2 minutes for the operation to complete. Do not click **OK** or **Cancel**.
When running Reset Inventory with a magazine in the transporter, the magazine is removed from the partition and placed in the free pool. **Note:** This issue is resolved in BlueScale12.6.3.	Do not run Reset Inventory when there is a magazine present in the transporter.
While running the DLM Drive Health Verification wizard from the web interface, the library may log you out. **Note:** This issue is resolved in BlueScale12.4.1.	Log back in to the library and check the Drives screen for a green check mark indicating that the test passed or a red X indicating that the test failed.

Problem	Workaround
After exporting multiple tapes from the library, the MLM database does not always show all of the tapes as exported. **Note:** This issue is resolved in BlueScale12.4.1.	None.
Physically removing the secondary RIM in a failover pair causes the primary RIM to stop functioning. **Note:** This issue is resolved in BlueScale12.6.3.	Edit the partition configuration to remove the failover pairing before physically removing a failover-configured RIM.
The library will not report an error message if the **saveLibraryConfiguration** parameter is blank in the `partition.xml?action=new` command.	Manually save the configuration after the partition creation if desired.
NTP is only updating the time at LCM bootup and not on an hourly basis. **Note:** This issue is resolved in BlueScale12.0.106.	Is necessary, manually update the time on the System Setup screen as described in the *Spectra T-Finity Library User Guide*.
The General Status screen sometimes reverts to displaying capacity instead of broadcast hours when additional partitions are created.	Reset the Convert to Broadcast Hours option after all partitions are created.
If you click **Delete Selected** on the Delete MLM Records screen without first selecting a record from the MLM list, the left hand side menu disappears. **Note:** This issue is resolved in BlueScale12.6.24.	Select any record from the MLM list and then click **Cancel**. The left hand side menu redisplays.
The PostScan option can be selected when configuring a partition with TS1140 technology drives although this combination is not supported. **Note:** This issue is resolved in BlueScale12.6.3	Do not select the PostScan option for a partition with TS1140 technology drives.
The Service Frames screen and library status light can indicate that a robot is in the service frame when it is not. **Note:** This issue is resolved in BlueScale12.0.108	Ignore the message.
If there is an error moving to a Bulk TAP chamber, the error message displays the chamber number as zero based on the front panel. **Note:** This issue is resolved in BlueScale12.6.3	Add 1 to the bulk TAP drawer number when determining the chamber location.
The SEM disappearing (caused by removing the SEM or the SEM becoming unresponsive) is not reported on the front panel. **Note:** This issue is resolved in BlueScale12.6.3	None.
The Package Update screen indicates that the SCM firmware needs an upgrade even though the package level displayed is correct. **Note:** This issue is resolved in BlueScale12.6.3	Ignore the message.

Problem	Workaround
If the Reset Geometry advanced utility is run with the left SCM missing, the complete geometry of the library is not discovered.	Only run this utility with both SCMs installed.
The library sometimes reports the error message, "Error: SQL returned error: SQL logic error or missing database." **Note:** This issue is resolved in BlueScale12.4.1.	Save the MLM database (see Back Up the MLM and DLM Databases on page 40) and contact Spectra Logic Technical Support (see Contacting Spectra Logic on page 4).

Earlier BlueScale Versions

Contact Spectra Logic Technical Support if you need information about earlier BlueScale versions.

Important Information

This section provides information that is essential for ensuring that your data is accessible at all times and ensuring optimal operation of your library.

> **Note:** To make sure you have the release notes for the most current version of the BlueScale software, log on to the Spectra Logic Technical Support portal at support.spectralogic.com.

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PROTECTING THE LIBRARY METADATA

Library metadata includes the library configuration data, the Media Lifecycle Management (MLM) database, the Drive Lifecycle Management (DLM) database, and all BlueScale encryption-key related data. Having backups of your library metadata is *very* important in the case of disaster recovery and other situations where you need to restore the library.

⚠️ **Caution** Losing metadata can have catastrophic effects—as can losing keys in any encryption key management system, especially when related to encrypted data. If you lose all copies of all metadata:

- Your encrypted data is lost—you will be unable to decrypt encrypted data without the encryption keys.
- You will need to completely reconfigure your library.
- You will lose stored data about your media that will be time-consuming to recover.

To ensure the availability of your library and encrypted data, protect library metadata as described in this section.

Backup the Library Metadata

To ensure the availability of your library and encrypted data, protect library metadata as described in this section.

Back Up All BlueScale Encryption Keys

Use the BlueScale **Export Key** option to export BlueScale encryption keys to a USB device as soon as you create them. The exported keys are encrypted and password protected. See the *Spectra Encryption User Guide* for instructions.

⚠️ **Caution** As a matter of best practice, Spectra Logic recommends exporting BlueScale encryption keys to a USB device instead of using email.

Although emailing BlueScale encryption keys is supported by the library, doing so presents security issues, including the following:

- Copies of encryption keys may be left on the email servers used for sending and receiving email and are thus subject to compromise.
- The difficulty in verifying where all the copies of emailed encryption keys may be located can make security audits more challenging.

Automatically Email the Auto Configuration Save File

Configure the **Auto Configuration Save** feature to automatically email a backup of the library configuration, the MLM database, and the DLM database to a preconfigured mail recipient once a week and whenever you create or modify a library partition. See the *Spectra T-Finity Library User Guide* for instructions.

Notes:
- The Auto Configuration Save feature creates a backup file once a week and every time you create or modify a partition. It does not automatically create a backup when you make other configuration changes to the library.

- If the MLM database contains a large number of MLM and DLM records, writing the Auto Configuration Save file can take several minutes.

- The backup configuration can only be restored to the library that saved the configuration. The configuration is tied to the Hardware ID of the library and cannot be transferred to another library.

Back Up the MLM and DLM Databases

Use the **Save MLM Database** advanced utility to export the MLM database to a USB device and also email the exported database to a preconfigured mail recipient. See the *Spectra T-Finity Library User Guide* for instructions. The file created by the utility also includes the DLM database.

> **Note:** The Auto Configuration Save operation performed by the library also backs up the MLM and DLM databases. See the *Spectra T-Finity Library User Guide* for information.

Back Up the Library Configuration Regularly

Use the **Save Library Configuration** utility to save the updated library configuration data to a USB device or to email the updated library configuration data to a preconfigured mail recipient. See the *Spectra T-Finity Library User Guide* for instructions.

The partition wizard gives you the option to save the library configuration whenever you create or modify a partition. You can choose to save the updated library configuration data to a USB device or email it to a preconfigured mail recipient. See "Confirming and Saving the Partition Settings" in the *Spectra T-Finity Library User Guide* for detailed information about saving the library configuration when you create or modify a partition.

> **Note:** The backup configuration can only be restored to the library that saved the configuration. The configuration is tied to the Hardware ID of the library and cannot be transferred to another library.

Verify and Protect the Metadata Backup

To ensure that your metadata is protected and available when you need it:

1. As soon as you create and export the backup files, check the exported data to make sure the correct files are present and accessible. Refer to the table in Saved Configuration Files on page 41 for a list of the files to look for and to see examples of the file lists you might see.

   ▪ Plug the USB device into a computer or laptop and check the data.

   ▪ If you emailed the metadata (the data is sent as an attachment), save the data to a USB device, then check the data in the email attachment and the data on the USB device.

2. Store at least one USB device off-site. After you have several weeks of backups stored off-site, rotate back through them.

3. When you perform disaster recovery exercises, use metadata from both your USB devices and email attachments in the rebuild.
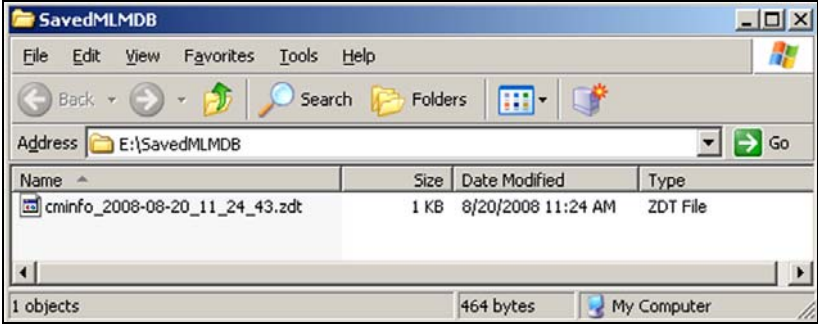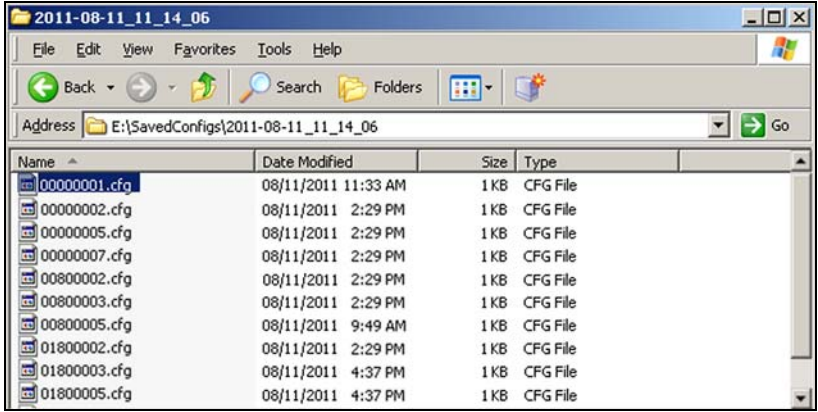
Saved Configuration Files

The following table summarizes the method for creating each type of backup and the file names and locations of the metadata saved during the backup operation. See the *Spectra T-Finity Library User Guide* for detailed instructions.

Saved data	Method	Files on USB devices	Email
Exported BlueScale encryption keys	BlueScale interface: **Security ⋯⟩ Encryption ⋯⟩ Export Key**	A key file named *name*`.bsk` or *name*`.bss`, where *name* is the moniker you assigned to the key when you created it	An attachment containing a key file named *name*`.bsk` or *name*`.bss`
Auto-saved configuration	Automatic weekly backups saved to the LCM compact flash and emailed	A zip file named `<`*date-time*`>cfg.zip` in a folder called `\autocfgsave`, where *date-time* is the time stamp for the backup files	An attachment containing a zip file named `<`*date-time*`>cfg.zip`
Library configuration	BlueScale interface: **Maintenance ⋯⟩ Tools ⋯⟩ Utilities ⋯⟩ Save Library Configuration**	Multiple configuration (.cfg) files in the `SavedConfigs\<`*date-time*`>` folder	An attachment that is a zip file containing the entire set of configuration files
MLM and DLM databases	BlueScale interface: **Maintenance ⋯⟩ Tools ⋯⟩ Utilities ⋯⟩ Show Advanced ⋯⟩ Save MLM Database**	A file named `cminfo_<`*date-time*`>.zdt` or `xmlinfo<`*date-time*`>.db` If the backup file was saved to a USB drive, it is located in a folder called `\SavedMLMDB.`	An attachment that is a zip file named `cminfo_<`*date-time*`>.zdt`, which contains the entire media lifecycle management database

Examples of Saved Configuration Files

The following figures show examples of the files that display when you check your USB memory device/email.

Saved Data	Details
BlueScale encryption key	 **Note:** In this example, the file is called T950_SF2.bsk. The screen shown here also includes the SavedMLMDB and SavedConfigs folders.
MLM and DLM Data	 **Note:** In this example the file has a .zdt extension. The file will be named `xmlinfo<date-time>.db` if you did not choose to zip the file when you created it.
Configuration data	 **Note:** The files are located in the \SavedConfigs\<date-time> folder, where <date-time> in this example is 2011-08-11_11_14_06.

WORKING WITH HARDWARE COMPONENTS

This section provides information about hardware components associated with the T-Finity library.

Tape Drives

Updating the Drive Firmware

⚠ **Caution**   Before updating drive firmware, make sure that your library is idle and that the tape drive does not contain a tape (loaded or ejected). Attempting to update the firmware while the library is busy or while a tape is in the drive will result in the update failing and may result in failed backup jobs. It may also result in equipment being permanently damaged.

If you previously attempted to update the drive's firmware with media loaded, unload the tapes, and retry the operation.

⚠ **Important**   The drive firmware files are only available on the Spectra Logic Technical Support Portal. You must first create an account on the portal by following the instructions at support.spectralogic.com.

After you update your library software and firmware, confirm that your tape drives are using the correct firmware version and update the drive firmware if necessary (see the *Spectra T-Finity Library User Guide* for instructions).

Spectra Logic recommends that you:

- Use the IBM Tape Diagnostic Tool (ITDT) to update the LTO tape drive firmware. ITDT and its related documentation can be downloaded directly from IBM's website at http://www-933.ibm.com/support/fixcentral/. See the Knowledge Base article *Downloading and installing ITDT (IBM Tape Diagnostic Tool)* and "Download and Install ITDT" in the *Spectra T-Finity Library User Guide* for detailed instructions.

  Notes: ▪ Make sure you install ITDT on a computer that has access to the library's tape drives.

  ▪ If you cannot use ITDT, see "Updating Drive Firmware" in the *Spectra T-Finity Library User Guide* for more options.

- Use the correct firmware versions for your IBM LTO tape drives. See Firmware Version Requirements on page 12 for all drive firmware requirements.

  Check the Tape Drive Firmware page on the Spectra Logic Technical Support portal for the currently recommended firmware version. Refer to the *Spectra T-Finity Library User Guide* for detailed information about accessing the Technical Support Portal.

Drive Status Reporting for Tape Drives

The LED status information shown on the Drive Details screen always indicates that the LED is off. If you need to determine the state of the LED, use the IBM Tape Diagnostic Tool (ITDT).

Using Drive Expansion Frames

You must have at least one device (a RIM or a drive) installed in each drive expansion frame. Removing all devices from a drive expansion frame renders the frame inaccessible. To make the frame accessible again, simply install a RIM or a drive in the frame.

Purchasing Additional Accessories and Media

To purchase additional accessories for your library, or to purchase additional TeraPack cases, media, and barcode labels, visit Spectra Logic's website at: spectralogic.com/shop.

For your convenience, MLM Media, like all Spectra Logic Certified Media, is available pre-labeled with sequential barcode labels. Optional custom barcode sequences can be ordered, if desired.

Recycling Your Library

For information on recycling your Spectra library, check the Spectra Logic website at spectralogic.com/environment.

INTEGRATION TIPS

Refer to the websites for the individual manufacturers for product updates and drivers.

For the most up-to-date compatibility matrices, visit the Spectra Logic Technical Support portal at:
support.spectralogic.com/documentation/compatibility-matrices/.

User Guide Updates

The *Spectra T-Finity Library User Guide* is current as of the release of BlueScale12.6.26.

No updates are necessary for BlueScale12.6.27.

Site Preparation Guide Updates

This section contains updates to the *Spectra T-Finity Library Site Preparation Guide*. This information will be added to the guide when it is next updated.

Grounding Requirements

Due to electromagnetic interference (EMI) filtering in each dual AC power supply, the leakage current for main frames and drive frames is such that they require a secure connection from the chassis of the unit to an earth ground.

Use one or more of the following methods for securing a ground connection when installing a main frame or drive frame:

- Add cord lock brackets (Spectra Logic part number 5497) to all drive frames. See Installing Cord Locks in the *Spectra T-Finity Library User Guide* for more information.

- Use a cord with locking connectors at both ends, such as L6 20P to locking C19 (Spectra Logic part number 9594).

- Use a dedicated external ground wire (Spectra Logic part number 91017013) from the chassis screw lug to the building's earth ground.

  Note: Cord lock brackets and cords with locking connectors are not compatible and cannot be used simultaneously.

Spectra T-Series Libraries SCSI Developer's Guide Updates

This section provides updates to the *Spectra T-Series Library SCSI Developer Guide*. This information will be added to the guide when it is next updated.

SCSI COMMAND INFORMATION

Read Buffer Command

You can use the READ BUFFER command to retrieve the library's serial number:

3C 02 01 00 00 00 00 00 10 00

where:
3C – Specifies the Read Buffer command
02 – Sets the Mode to Data Only
01 – Specifies the Buffer ID
00 00 00 – Specifies the Buffer Offset
00 00 10 – Specifies the Allocation Length

The 16-byte response returned by the library is the library serial number, left justified with trailing zeros (0).

Move, Read Element Status, Mode Sense, and Mode Select Commands

The recommended timeout for these commands is 20 minutes or 1200 seconds.

Read Element Status

Import/Export Element Descriptor

Field Name	Value Returned	Meaning
ExEnab	1	The import/export element supports movement of media out of the location.
	0	The import/export element does not support movement of media out of the location.