



Spectra TFinity Library

Release Notes and Documentation Updates



SPECTRALOGIC.COM

Copyright

Copyright © 2006-2016 Spectra Logic Corporation. All rights reserved. This item and the information contained herein are the property of Spectra Logic Corporation.

Notices

Except as expressly stated herein, Spectra Logic Corporation makes its products and associated documentation on an “AS IS” BASIS, WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, BOTH OF WHICH ARE EXPRESSLY DISCLAIMED. In no event shall Spectra Logic be liable for any loss of profits, loss of business, loss of use or data, interruption of business, or for indirect, special, incidental or consequential damages of any kind, even if Spectra Logic has been advised of the possibility of such damages arising from any defect or error.

Information furnished in this manual is believed to be accurate and reliable. However, no responsibility is assumed by Spectra Logic for its use. Due to continuing research and development, Spectra Logic may revise this publication from time to time without notice, and reserves the right to change any product specification at any time without notice.

Trademarks

BlackPearl, BlueScale, CC, Spectra, SpectraGuard, Spectra Logic, TeraPack, TFinity, TranScale, and Verde are registered trademarks of Spectra Logic Corporation. ArchiveGrade, ArcticBlue, Verde DP, and Verde DPE are trademarks of Spectra Logic Corporation. All rights reserved worldwide. All other trademarks and registered trademarks are the property of their respective owners.

Part Number

90940044 Revision AE

Revision History

<u>BlueScale Version</u>	<u>Document</u>		<u>Description</u>
	<u>Revision</u>	<u>Date</u>	
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.
12.6.28-20141016F	S	October 2014	BlueScale12.6.28 updates.
	T		Not publicly released.
12.6.29-20150124F	U	January 2015	BlueScale12.6.29 updates.
12.6.44-20150416F	V	April 2015	BlueScale 12.6.41- 12.6.44 updates.
12.6.44.3-20150509F	W	May 2015	BlueScale12.6.44.3 updates.
12.6.45-20150721F	X	July 2015	BlueScale12.6.45 updates.
12.6.45.1-20150812F	Y	August 2015	BlueScale12.6.45.1 updates.
12.6.45.2-20151002F	Z	October 2015	BlueScale12.6.45.2 updates.
12.6.45.4-20151204F	AB	December 2015	BlueScale12.6.45.4 updates.
12.6.45.5-20160316F	AC	April 2016	BlueScale12.6.45.5 updates.
12.7.00-20160817F	AD	August 2016	BlueScale12.7.00 updates.
12.7.00.02-20161104F	AE	November 2016	BlueScale12.7.00.01 and 12.7.00.02 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.

End User License Agreement

You have acquired a Spectra product that includes software owned or licensed by Spectra Logic from one or more software licensors (“Software Suppliers”). Such software products, as well as associated media, printed materials and “online” or electronic documentation (“SOFTWARE”) are protected by copyright laws and international copyright treaties, as well as other intellectual property laws and treaties.

If you do not agree to this end user license agreement (EULA), do not use the Spectra Product; instead, promptly contact Spectra Logic for instructions on return of the Spectra Product for a refund. Any use of the Software, including but not limited to use on the Spectra Product, will constitute your agreement to this EULA (or ratification of any previous consent).

Grant of License. The Software is licensed on a non-exclusive basis, not sold. This EULA grants you the following rights to the Software:

- You may use the Software only on the Spectra Product.
- **Not Fault Tolerant.** The Software is not fault tolerant. Spectra Logic has independently determined how to use the Software in the Spectra Product, and suppliers have relied upon Spectra Logic to conduct sufficient testing to determine that the Software is suitable for such use.
- **No Warranties for the SOFTWARE.** The Software is provided “AS IS” and with all faults. The entire risk as to satisfactory quality, performance, accuracy, and effort (including lack of negligence) is with you. Also, there is no warranty against interference with your enjoyment of the Software or against infringement. If you have received any warranties regarding the SOFTWARE, those warranties do not originate from, and are not binding on Software suppliers.
- **Note on Java Support.** The Software may contain support for programs written in Java. Java technology is not fault tolerant and is not designed, manufactured, or intended for use of resale as online control equipment in hazardous environments requiring fail-safe performance, such as in the operation of nuclear facilities, aircraft navigation or communications systems, air traffic control, direct life support machines, or weapons systems, in which the failure of Java technology could lead directly to death, personal injury, or severe physical or environmental damage.
- **No Liability for Certain Damages.** Except as prohibited by law, Software suppliers shall have no liability for any indirect, special, consequential or incidental damages arising from or in connection with the use or performance of the Software. This limitation shall apply even if any remedy fails of its essential purpose. In no event shall Software suppliers, individually, be liable for any amount in excess of U.S. two hundred fifty dollars (U.S. \$250.00).
- **Limitations on Reverse Engineering, Decompilation, and Disassembly.** You may not reverse engineer, decompile, or disassemble the Software, except and only to the extent that such activity is expressly permitted by applicable law notwithstanding this limitation.
- **Software Transfer Allowed with Restrictions.** You may permanently transfer rights under this EULA only as part of a permanent sale or transfer of the Spectra product, and only if the recipient agrees to this EULA. If the Software is an upgrade, any transfer must also include all prior versions of the Software.
- **Export Restrictions.** Export of the Software from the United States is regulated by the Export Administration Regulations (EAR, 15 CFR 730-744) of the U.S. Commerce Department, Bureau of Export Administration. You agree to comply with the EAR in the export or re-export of the Software: (i) to any country to which the U.S. has embargoed or restricted the export of goods or services, which as May 1999 include, but are not necessarily limited to Cuba, Iran, Iraq, Libya, North Korea, Sudan, Syria, and the Federal Republic of Yugoslavia (including Serbia, but not Montenegro), or to any national or any such country, wherever located, who intends to transit or transport the Software back to such country; (ii) to any person or entity who you know or have reason to know will utilize the Software or portion thereof in the design, development or production of nuclear, chemical, or biological weapons; or (iii) to any person or entity who has been prohibited from participating in U.S. export transactions by any federal agency of the U.S. government. You warrant and represent that neither the BXA nor any other U.S. federal agency has suspended, revoked or denied your export privileges.

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/documentation

Contents

Introduction **7**

RELATED INFORMATION	7
BlueScale User Interface Screens	7
Additional Publications	8
Discontinued Components	9
TYPOGRAPHICAL CONVENTIONS	10

Library BlueScale Updates **11**

PACKAGE INFORMATION	11
Package Support	11
Update Procedure	12
Package Management	12
FIRMWARE VERSION REQUIREMENTS	12
PACKAGE HISTORY	13
BlueScale 12.7.00.01	13
BlueScale 12.7.00	14
BlueScale 12.6.45.5	18
BlueScale 12.6.45.4	20
BlueScale 12.6.45.2	20
BlueScale 12.6.45.1	21
BlueScale 12.6.45	22
BlueScale 12.6.44.3	23
BlueScale 12.6.44	24
BlueScale 12.6.42	25
BlueScale 12.6.41	27
BlueScale 12.6.29	31
BlueScale 12.6.28	31
BlueScale 12.6.27	32
BlueScale 12.6.26	33
BlueScale 12.6.24	33
BlueScale 12.6.22	36
BlueScale 12.6.3	38
Earlier BlueScale Versions	42

Important Information **43**

PROTECTING THE LIBRARY METADATA	43
Backup the Library Metadata	44
Verify and Protect the Metadata Backup	45
WORKING WITH HARDWARE COMPONENTS	48
Tape Drives	48
Using Drive Expansion Frames	49
Purchasing Additional Accessories and Media	49
Recycling Your Library	49
INTEGRATION TIPS	49

User Guide Updates **50**

BlueScale Toolbar Option Map **50**

Introduction

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

Topic	
Library BlueScale Updates	page 11
Important Information	page 43
User Guide Updates	page 50
BlueScale Toolbar Option Map	page 50

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.spectrallogic.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 TFinity 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 TFinity library and its drives, refer to the following publications.

Spectra TFinity Library

The following documents related to the TFinity library are available on the Spectra Logic website at support.spectrallogic.com/documentation.

- The *Spectra TFinity Library User Guide* provides detailed information about configuring, using, and maintaining your library.
- The *Spectra TFinity 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 TFinity Library BlueScale Toolbar Option Map* provides a quick reference for locating the options and commands available through the BlueScale user interface.
- The *Spectra TFinity Library Site Preparation Guide* provides information about preparing your site for the installation of the TFinity 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 SKLM Encryption key management system. It also provides useful information about encryption best practices and recycling encrypted media.
- The *Spectra Tape Libraries SCSI Developer's Guide* provides detailed information about the SCSI and Fibre Channel commands used in the library.
- The *Spectra Tape Libraries XML Command Reference* provides detailed information about using the XML interface with the TFinity library.
- The *Spectra Tape Libraries Warnings* document provides all of the warnings found in Spectra tape 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 \(LTO-5 and higher\)](#)

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>.

TS11x0 Technology Drives

The following documents provide information that is applicable to TS11x0 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 SKLM Server

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

- [IBM Security Key Lifecycle Manager welcome page](#)

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”.

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 TFinity 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 TFinity 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 TFinity 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 TFinity 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-7:** For use with BlueScale12.6.45 or later, use firmware version FA10 or later.
- **LTO-6:** For use with BlueScale12.4.0 or later, use firmware version C9T4 or later.
- **LTO-5:** For LTFS support with BlueScale12.0.3 or later, use firmware version B6W0 or later.
- **LTO-4:** To prevent a potential hardware failure, use firmware version 97F9 or later.
- **TS1150:** For use with BlueScale12.6.41 or later, use firmware version D3I4_470 or later.
- **TS1140:** For use with BlueScale12.0.4 or later, use firmware version D3I3_524 or later.



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 BlueScale 12.3.1 or 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 SKLM To use Spectra SKLM encryption key management with your library, all LTO-5 drives in the encrypted partition must use firmware version C7RC or later. LTO-6, LTO-7, and TS11x0 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 12.7.00.02

This release includes improvements to High Performance Transporter functionality.

Resolved Issues

Issue	Resolution
inventory.xml?audit fails if a TeraPack magazine is on the top shelf.	This issue no longer occurs.
inventory.xml?audit fails if the library is actively importing or exporting TeraPack magazines.	This issue no longer occurs.
When a TeraPack magazine is inaccessible, the contents of the magazine do not display on the Inventory screen.	The barcode of tapes in an inaccessible magazine display on the Inventory screen
If a drive containing a tape cartridge is removed from or installed into a partition exported by a RIM2, the inventory for the drive may not update correctly.	This issue no longer occurs.

BlueScale 12.7.00.01

Enhancements

This BlueScale release provides the `inventory.xml?audit` and `inventory.xml?getAuditResults` commands. A TeraPack audit compares the database inventory of a TeraPack magazine to the inventory discovered by a barcode scan of the magazine. In the event of a mismatch, the inventory database is updated with the results of the scan. See the [Spectra Tape Libraries XML Command Reference](#) for more information.

Resolved Issues

Issue	Resolution
Tapes encrypted with BlueScale encryption using BlueScale 12.6.45.5 or earlier cannot be read using BlueScale 12.7.00.	This issue no longer occurs.

BlueScale 12.7.00

Enhancements

This BlueScale release improves the speed of the robotic motion control to make it faster, improves TeraPack magazine and tape handling, improves dual robot interaction, and makes the library better able to recover from issues. The release also removes an XSS vulnerability, improves the content of error messages and logs, and adds the new features listed in the table below. Refer to the most current version of the [Spectra TFinity Library User Guide](#) for detailed information about using these features.

Feature	Description
High Performance Transporter (HPT) support	The design of the HPT reduces cycle and tape mount time to provide increased performance, increases mean time to repair, and provides new sensors for enhanced reliability.
New and improved XML commands	New XML command options are available that allow you to resize partitions, collect kernel logs, and see information about the last 10 moves performed by the library. Several memory leaks associated with XML commands were also corrected. See the Spectra Tape Libraries XML Command Reference for more information.
Dual bulk TAP support	Dual bulk TAP support allows the user of a library with a bulk TAP on both ends (left and right bulk TAPs) to run an import or export operation using both bulk TAPs with one single command.
Background moves	A move queue can be processed in the background, allowing some operations to be initiated from the front panel or RLC while the moves take place.

Feature	Description
Package update firmware staging	Auto-staging of library component firmware can be enabled for package updates, decreasing the time required to complete a library update.
QuickScan and FullScan supported on TS11x0 technology drives	The library now supports QuickScan, verifying the data in a single tape wrap, and FullScan, verifying all of the data on a tape, for TS11x0 technology tapes.
MediaIQ	Multiple controllers can be configured to export a partition allowing the data storage software to send multiple moves to the partition, which are stored in a move queue. The library's MediaIQ software then analyzes the move queue and processes the moves in the most efficient order.
Dual AC 2 power module support	The library now supports the dual AC 2 power module, which does not require the power sources for the AC inputs for a frame to be on the same phase.

Resolved Issues

Issue	Resolution
The SCSI command 0x25 (report capacity) may cause a RIM2 to crash and QIP or RIM to not respond to test unit ready in a timely manner.	This issue no longer occurs.
The right bulk TAP does not take advantage of the TeraPack magazine seating feature.	The right bulk TAP rotates in the proper direction to verify that magazines are seated correctly.
A RIM2 may crash when the library is both performing a move and updating its inventory.	This issue no longer occurs.
Using the XML command: <code>traces.xml?action=getQIPLog &name=<Log Name></code> causes a web server crash.	This issue no longer occurs.
When updating a library with RIM2 controllers to BlueScale 12.6.45.5, an error message may display reading, "QIP FRx/DBAx/QIPx at CAN address XXXXX is impaired."	This issue does not occur when updating to 12.7.00.
If an export to a bulk TAP fails, the library displays an error message saying that chamber is full when it is not.	This issue no longer occurs.
The library enters maintenance mode if the physical state of the library at startup finds that the expected contents of the transporter are missing.	When the physical state of the library at startup finds that the expected contents of the transporter are missing, the library accepts the physical findings, and removes the TeraPack magazine from the inventory. It also displays a message that the magazine was not found, and recommends appropriate action.
The library reports an incorrect sense code when the barcode verification feature is enabled and the source slot is empty.	This issue no longer occurs.

Issue	Resolution
The XML command <code>utils.xml?action=resetRobot</code> causes inconsistent behavior.	This issue no longer occurs.
The Reset Inventory Utility may remove partition specific information.	This issue no longer occurs.
Adding more than seven decryption keys to a partition with BlueScale Encryption Professional Edition drive based encryption fails with a "Partition Configuration Error".	The partition wizard now allows the supported eight decryption keys.
Drives incorrectly display good health status after an Auto Drive Clean fails because the cleaning tape is expired.	The drive status remains the same if an Auto Drive Clean fails due to an expired cleaning tape.
Replacing a transporter does not clear a pending move.	The library now recognizes a hardware change and clears a pending move.
A RIM2 may reboot when it receives an invalid allocation length in a Read Element Status request.	This issue no longer occurs.
An "Invalid public key length" error displays when creating a partition with BlueScale drive encryption.	This issue no longer occurs.
Bulk TAP imports during normal operations may lock up the library requiring an RCM reset.	This issue no longer occurs.
Loading an invalid SSL certificate crashes the web server.	An error message displays if you load an invalid SSL certificate.
When updating a library component without also updating the LCM, messages may display indicating that the component disappeared and then reappeared.	This issue no longer occurs.
Drive Port B on LTO drives is not always enabled when the library initializes.	This issue no longer occurs.
The Webserver Port field displays when SSL is enabled.	The Webserver Port field no longer displays when SSL is enabled.
The library occasionally indicates that it will shut down and reboot, but does not.	This issue no longer occurs.
After a library power cycle, the BlueScale version shown in the status bar, on rare occasions, reports as "NONE".	The library now displays the correct BlueScale version.
The MLM Report screen only shows the remaining capacity of the first partition on an LTFS formatted tape.	The MLM Report screen now shows the remaining capacity for the entire LTFS tape.

Issue	Resolution
QuickScan after write will not continue if a tape is exported.	QuickScan will skip the exported tape and then continue with any other tapes that need to be scanned.
Changing the system time on a Spectra PC LCM may generate a system error.	This issue no longer occurs.
Exports to the center TAP could push the door open prematurely.	This issue no longer occurs
Slot to slot moves with the source magazine in one transporter and the destination magazine in the other transporter fail.	This issue no longer occurs.
Upgrading to a BlueScale package that includes updated firmware for both the RCM and a QIP/RIM, may cause inventory corruption if the library is actively processing moves.	Inventory corruption is now less likely, however, Spectra Logic recommends stopping all host moves before performing a package update.
If a TeraPorter cannot pick a magazine from a bulk TAP, the library may display an incorrect warning about a duplicate magazine barcode.	This issue no longer occurs.
The library's BlueScale interface may auto logout during package update.	Auto logout is disabled during a package update until you click Finish .
The error message displayed when a drive fails to unload a tape cartridge incorrectly reads "failed to load".	The message is now correct.

Known Issues

Problem	Workaround
After using the front panel DLM Replace button to replace one generation of drive with another generation drive (for example, LTO-6 with LTO-7), the library displays a message indicating that the, "Replace operation was OK'd but drive was not replaced," and continues to identify the drive by the previous generation on the DLM screen.	Ignore the message. Hosts can see and use the new drive.
When using the XML command <code>mediaExchange.xml?action=clean</code> while the robot is in service, the response to <code>mediaexchange.xml?progress</code> incorrectly indicates that the TAP door is open.	If <code>mediaexchange.xml?progress</code> indicates that the bulk TAP door is open, check to see if the robot is in service.
The response from the XML command <code>libraryStatus.xml</code> lists TransporterType with an initial capital letter.	If programmatically searching the results of <code>libraryStatus.xml</code> , search for TransporterType using an initial capital letter.

Problem	Workaround
Using both bulk TAPs at the same time for imports or exports to different partitions may cause the library to lock up.	Do not use both bulk TAPs at the same time for imports or exports to different partitions. There are no issues when using both bulk TAPs to import or export media to the same partition.
Tapes encrypted with BlueScale encryption using BlueScale 12.6.45.5 or earlier cannot be read using BlueScale 12.7.00. Note: This issue is resolved in BlueScale12.7.00.01.	There is no workaround for this issue.

BlueScale 12.6.45.5

This release includes new XML commands to check the status of a transporter in service, to check the status of RCMs, to reset the robot (RCM), and to reset a RIM or RIM2. See the *Spectra Tape Libraries XML Command Reference* for more information. This release also improves Communication Loss error handling for the TeraPorters.

Resolved Issues

Issue	Resolution
A timing issue during initialization can cause inconsistent WWNs from Drive Expansion frames.	This issue no longer occurs.
The webserver crashes if the robot is reset while the library is in maintenance mode.	This issue no longer occurs.
The EtherLib Status Utility and libraryStatus.xml command may display a bad frame number for the SEM.	The EtherLib Status Utility and libraryStatus.xml command now display the correct frame number for the SEM.
During a single slot barcode scan, the barcode scanner may return multiple barcodes.	This issue no longer occurs.
WWNN/WWPN are not correct when a RIM is replaced by a RIM2 or a RIM2 is replaced by a RIM.	The WWNN/WWPN is now consistent when a RIM is replaced by a RIM2 or a RIM2 is replaced by a RIM.
The LCM appears to lock up when the host issues a move and a front panel or RLC command is done that causes an "inventory update" to occur.	This issue no longer occurs.
Package update fails to complete on upgrade from 12.6.44.x to 12.6.45.4.	This does not occur during the upgrade to 12.6.45.5.

Issue	Resolution
libraryStatus.xml?action=refreshEnvironment allows other commands to obtain progress.	This issue no longer occurs.
The reset inventory utility fails due to a new move being accepted while the TeraPorter is preparing for the reset.	This issue no longer occurs.
If the library finds an unexpected magazine in a TAP during an export operation, the export does not fail correctly.	The move to the TAP now fails if the TAP is unexpectedly full.
If DLM drive test fails on the first pass and then succeeds every other time, the library does not exit drive test.	This issue no longer occurs.
The reset inventory utility may hang the LCM.	This issue no longer occurs.
Exporting a magazine from a damaged or degraded transporter during initialization fails.	The library correctly exports magazines found in a damaged or degraded transporter during library initialization.
The Verify Magazine Barcode utility does not work in all cases.	This issue no longer occurs.

Known Issues

Problem	Workaround
FullScan with encryption enabled on a partition does not send the encryption key to the global spare drive. The FullScan operation fails. All	Use QuickScan, using a drive in the partition, in place of FullScan.
The Delete Robotics Geometry advanced utility incorrectly reports a Fatal System Message.	Ignore the message.
If a TeraPorter cannot pick a magazine from a bulk TAP, there may be an incorrect warning about a duplicate barcode. Note: This issue is resolved in BlueScale12.7.00.	If the library generates an error about a duplicate barcode, investigate whether there is a actually a duplicate barcode. If not, investigate whether the error message was caused by a magazine stuck in the bulk TAP.
The physInventory.xml command does not correctly report the frameNumber, tapeBayNumber, and drawerNumber for TeraPack magazines.	None.

Problem	Workaround
Following a resetRobot.xml command, the command utils.xml?progress provides a status of OK before the library is ready to receive another SCSI command. If a SCSI command is sent too soon, the library returns an error.	After running resetRobot.xml, wait at least 10 minutes after receiving a status of OK from utils.xml?progress before issuing another SCSI command.
When updating a library with RIM2 controllers to BlueScale 12.6.45.5, an error message might display reading, “QIP FRx/DBAx/QIPx at CAN address XXXXX is impaired.”	Check the firmware level for the indicated RIM2. If it is at the correct level, ignore the error. If it is not at the correct level, correct the firmware level.
If a bulk TAP clean fails, the error message may indicate that it failed due to the bulk TAP door being open when there was actually a different error.	If a bulk TAP clean fails and the library displays a message that the bulk TAP door is open, investigate whether there is another cause for the failure, for example the TeraPorter is in service.

BlueScale 12.6.45.4

This release improves the support of LTO-7 drives and power interruption error handling. It also adds a Tape Barcode Verification Mode, a quick scan of the tape barcode with each robotics move. See “displayTapeBarcodeVerificationSetting” and “modifyTapeBarcodeVerificationSetting” in the *Spectra Tape Libraries XML Command Reference* for more information.

Resolved Issues

Issue	Resolution
When a host sends a SCSI Read Element Status command asking for data to fill more than 64K, the RIM2 truncates the data and returns less than requested.	The RIM2 now returns the correct Read Element Status response.
The RIM2 cannot handle multiple simultaneous commands from multiple initiators.	The RIM2 can correctly handle commands from multiple initiators.
Periodically during normal operations, the QIP/RIM disappears.	This issue no longer occurs.

BlueScale 12.6.45.2

This release improves error recovery.

Resolved Issues

Issue	Resolution
The library incorrectly calculates some horizontal moves, requiring a retry of the move.	This issue no longer occurs.

Known Issues

Problem	Workaround
Drive staging only stages four drives at a time. If there are additional drives needing a firmware update, the library displays the message, "Drive firmware did not copy properly for drive(s) [<i>Drive Identifier(s)</i>]. Drive staging will automatically retry sending the firmware. If the operation continues to fail, please contact technical support."	After the first four drives complete firmware staging, the library retries sending the firmware to the remaining drives. The staging should complete, four drives at a time.

BlueScale 12.6.45.1

This release improves the reliability of moves to and from drives.

Resolved Issues

Issue	Resolution
The main frame RCM may fail to initialize after a package update using a USB device.	This issue no longer occurs.
The library occasionally issues an unload command to a tape drive when the tape is not at the mouth of the drive.	Communication between the library and the tape drives was improved to better understand the exact location and position of the tape in the drive.
When a library with multiple drive frames is rebooted, the library may report, "The partition <i>Partition Name</i> is configured with the following components that either are currently missing from the library or non-operational", and provide a list of missing drives, when no drives are missing.	This issue no longer occurs.

Issue	Resolution
The library may hang if a TeraPorter fails a magazine pick while the other TeraPorter is in service.	This issue no longer occurs.
The library may try to push a TeraPorter to service while the transporter is in an unsafe position.	The library makes all axis of the transporter safe before attempting to push the TeraPorter to service and will not try to push a TeraPorter that can not be made safe.

Known Issues

Problem	Workaround
Updating DCM firmware after installing a drive with DCM firmware earlier than what is included in BlueScale12.6.44 may cause an incorrect Read Element Status response.	If you install a drive using DCM firmware earlier than what is included in BlueScale12.6.44, you must reboot the RCM after upgrading the DCM.
If DLM drive test fails on the first pass and then succeeds every other time, the library does not exit drive test. Note: This issue is resolved in BlueScale12.6.45.5.	Reboot the library.

BlueScale 12.6.45

Enhancements

This BlueScale release improves motion control and error handling . It also improves the content of error messages and logs , and adds the new features listed in the table below. Refer to the most current version of the *Spectra TFinity Library User Guide* for detailed information about using these features.

Feature	Description
New XML Commands	New XML commands and options are available that allow you to view and configure certain library settings, get information about commands currently running, and assist in troubleshooting. See the <i>Spectra Tape Libraries XML Command Reference</i> for more information.
EtherLib Status and Refresh	It is now possible to check the status and refresh EtherLib connections from the BlueScale user interface or XML interface.
LTO-7 Support	The library now supports IBM LTO-7 full-height tape drives.

Resolved Issues

Issue	Resolution
The library infrequently hangs during a cartridge import operation while host/ISV operations are occurring.	This issue no longer occurs.
The touchscreen occasionally does not respond to inputs during initial calibration.	The touchscreen driver was updated so that it correctly responds during touchscreen calibration.
Drive test occasionally returns the error message saying, "Lost Communication to Drive (04,89,01) Check cables within drive sled", when there is no problem with the drive sled cables.	This issue no longer occurs.
Drive test fails if you attempt to test a drive using a tape cartridge that is not in the MLM database.	This issue no longer occurs.
Moves to and from a chamber are tried even after the chamber is marked inaccessible.	The library no longer tries moves to or from a chamber that was previously marked inaccessible.
It is sometimes not possible to release the safety door solenoid when a TeraPorter is in the service bay.	You can now release the safety door solenoid and close the safety door when the TeraPorter is in the service bay.
The transporter occasionally fails to calibrate when there are no hardware issues preventing calibration.	This issue no longer occurs.
Occasionally the robotics fails to recover from a failed pick of a tape stuck in drive.	This issue no longer occurs.
When gathering an ASL while moves are occurring, the robotic inventory database may become locked.	This issue no longer occurs.
mediaExchange.xml?progress returns a syntax error.	This issue no longer occurs.
Drive firmware update using Package Update indicates that it is complete, but the drive firmware was not updated.	Package update no longer indicates that drive firmware update is complete when it is not.
Invalid characters in system messages cause a blank screen.	This issue no longer occurs.
The library sometimes rejects valid TeraPack barcodes.	This issue no longer occurs.
A rare sequence of events could result in the power control module unexpectedly powering down the library.	This issue no longer occurs.

BlueScale 12.6.44.3

Resolved Issues

Issue	Resolution
The RCM fails to update when updating the library from BlueScale12.6.2x to 12.6.4x in rare cases in which transporters were swapped between columns in the same library.	This issue no longer occurs.

BlueScale 12.6.44

Resolved Issues

Issue	Resolution
If you insert more tapes than the library can hold when doing a bulk import operation, the library send an incorrect sense code, 2,55,03, to the host.	If you insert more tapes than the library can hold during a bulk import, the library will now report sense code 5,89,24, to the host to indicate the library is full of tapes.
The error message displayed when the VAX belt slips may incorrectly report the distance the belt slipped.	The distance the belt slipped is now reported correctly in a VAX belt slip error message.
When a transporter is replaced, the robot does not recalibrate its sensors.	When a robot comes out of service it is checked for replaced parts and, if detected, the library does appropriate calibrations.
If a put to a chamber on a top shelf fails, the transporter may hit the center rail on the top of the library as it tries to recalibrate.	This issue no longer occurs.
The front panel and XML commands are locked out for long periods of time if a motion trace is requested through XML.	A full motion trace via XML requires Etherlib.
If there is a tape present in the EE port when the initial partition is created, the inventory is not updated correctly when the EE port is opened and closed.	The inventory is now correctly updated when there is a tape in the EE port when a partition is created and then the EE port is opened and closed.
Under rare circumstances, it is possible for the VAX column to run into the bulk TAP during library initialization.	This issue no longer occurs.
It is possible to set the "Scan after time" setting for QuickScan to 0 during partition creation.	The value for "Scan after time" for QuickScan must be 1 or larger during partition creation.

Issue	Resolution
The XML command <code>utils.xml?action=removeAllLibraryPartitions</code> does not remove all partitions.	The XML command <code>utils.xml?action=removeAllLibraryPartitions</code> now works correctly.
The XML command <code>controllers.xml</code> reports the controller port mode as 'automatic' rather than 'auto-negotiate'.	The XML command <code>controllers.xml</code> now correctly reports the control port mode as 'auto-negotiate'.
During a bulk import/export operation, XML commands may timeout.	This issue no longer occurs.
TS11x0 technology drives occasionally power off during initialization.	This issue no longer occurs.
The library may experience problems updating and switching to the redundant library control module (LCM) partition.	The LCM redundant partition is no longer required and is disabled.
When a TS11x0 technology tape cartridge with a barcode longer than 8 characters is loaded into a drive, a system message is generated saying "Reported Barcode in drive xxx doesn't match known MLM Media Barcode" although the barcodes do, in fact, match.	The library can now correctly handle TS11x0 technology tapes with barcodes up to 16 characters.
TS1150 JD media reports as unknown in the MLM database.	The TS1150 JD media is now recognized in the MLM database.
The TS1150 media remaining capacity reports incorrectly in the MLM database.	The TSS1150 media remaining capacity now reports correctly.

Known Issues

Problem	Workaround
After a library power cycle, the BlueScale version will, on rare occasions, report as "NONE". Note: This issue is resolved in BlueScale12.7.00.	Navigate to the Package Update screen, and perform the update to the latest BlueScale package again.
Using PostScan with a Global Spare drive may cause an inventory mismatch if a move is requested for a tape in the process of being scanned.	None.
The front panel may reboot unexpectedly when Drive Performance Monitoring is enabled.	Disable Drive Performance Monitoring if the library is experiencing front panel reboots.

BlueScale 12.6.42

Enhancements

This BlueScale release improves motion error handling and corrects a memory leak. It also adds the features in the following table.

Feature	Description
New XML Command	A new XML command, <code>controllers.xml</code> , provides a list of all controllers in the library with information about controller type, status, firmware, and configuration.
libraryStatus.xml Expanded	The response from <code>libraryStatus.xml</code> now includes the following: <ul style="list-style-type: none"> ▪ controller link up/link down status and controller failover information ▪ bulk TAP location and solenoid pin position information ▪ excessive move failure information
mediaExchange.xml Expanded	The response from <code>mediaExchange.xml?action=getTAPState</code> , provides additional information about bulk TAP rotary position and the status of magazines in the bulk TAP.
New Utility	A new utility, Display TAP Information, displays information about bulk TAP rotary position and the status of magazines in the bulk TAP.
Display Controller Environment Utility Expanded	The Display Controller Environment utility now includes the following: <ul style="list-style-type: none"> ▪ controller link up/link down status and controller failover information ▪ bulk TAP location and solenoid pin position information
New SCSI Read Buffer Command	The SCSI Read Buffer command can provides the IP address of the LCM, the library name, and the partition name. This is especially useful when using the library with a BlackPearl Deep Storage Gateway.

Resolved Issues

Issue	Resolution
Drives disappear from a partition without reason.	This issue no longer occurs.
The BlueScale interface only displays 10 characters of the 12 character TS11x0 technology drive serial number causing host software to be unable to auto-configure the library.	The BlueScale user interface now displays all 12 characters of the TS11x0 technology drive serial number.
Package update through XML does not complete correctly.	Package update through XML completes successfully.

Known Issues

Problem	Workaround
<p>The library may display the message “The library detected that robot (1 or 2)’s VAX belt slipped by <i>xx</i> mils. The robot’s VAX belt needs to be re-tensioned.”</p> <p>Note: This issue is resolved in BlueScale12.6.44.</p>	<p>If the message indicates that the belt slipped by more than 50 mils, contact Spectra Logic Technical Support. If the belt slipped by less than 50 mils, watch for motion failures. If motion failures are not detected, ignore the message. If motion failures are detected, contact Spectra Logic Technical Support (see Contacting Spectra Logic on page 4).</p>

BlueScale 12.6.41

Enhancements

This BlueScale release improves motion control and error handling, including entering and exiting the service bay. It also improves the content of on-screen instructions and error messages, and adds the new features listed in the table below. Refer to the most current version of the *Spectra TFinity Library User Guide* for detailed information about using these features.



Caution

RXT (RAID eXchangeable TeraPack) is not supported by this release. Do not update to BlueScale12.6.41, or later, if your library uses RXT.

Feature	Description
TS1150 Technology Support	The library now supports TS1150 technology tape drives. TS1150 technology drives provides a 360 MB/second native data transfer rate, a 10 TB uncompressed capacity cartridge, and a 237,000 hour Mean Time Between Failures (MTBF). TS1150 technology tape drives cannot be used in the same library with LTO drives and do not support BlueScale Encryption or PostScan.
RIM2	The RIM2 is the next generation Robotics Interface Module. It provides an 8 Gb Fibre Channel interface and support for up to 16 library partitions.
Auto Download for Library Packages	If configured, the library checks the package server once a week for a library update package or drive firmware package newer than what the library is currently running. If a new package is available, the library downloads it, generates a system message, and displays an icon on the status bar to indicate the update is available.
Drive Clean Tracking Notification	If you ignore a cleaning request for too long, the library generates a warning message. Using drives with dirty heads can reduce drive performance, decrease usable tape capacity, and result in read/write failures which can eventually interrupt data storage.

Feature	Description
New XML Commands	New XML commands and options are available that provide more library status information, allow you to reset the LCM, and allow webserver access to functions usually only available on the front panel. See the <i>Spectra Tape Libraries XML Command Reference</i> for more information.
DLM Test Improvements	To correct the most common tape drive problems, the DLM Drive Test now cleans the drive twice.

Resolved Issues

Issue	Resolution
An unknown magazine detected in a chamber causes the robot to go into the service bay.	Magazines missed during an inventory scan are moved to the center TAPs, or the free pool if both TAPs are full, and a message is sent to the front panel.
A McAfee® Vulnerability Manager (MVM) scan may cause the library to hang.	This issue no longer occurs.
Rarely, the transporter fails to detect magazines.	This issue no longer occurs.
Power loss recovery is unable to detect the horizontal location of the robot.	After a power loss, the library is now able to correctly determine the horizontal location of the robot.
The Delete Robotics Geometry utility also deletes the inventory.	This issue no longer occurs.
On libraries with partitions containing more than 1100 tapes and PostScan enabled, the library may hang during initialization.	This issue no longer occurs.
A failed move may leave both source and destination locations in incorrect state.	This issue no longer occurs.
If you use the Advanced Import/Export screen to export magazines and then return to the Advanced Import/Export screen, the export operation may still appear in the move queue. Clicking Go again could cause inventory corruption.	This issue no longer occurs.
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.	The partition creation screens will only allow you to select a Global Spare that matches the generation of the drives it would replace.
Cancelling drive removal results in an 'error' level system message.	This issue no longer occurs.

Issue	Resolution
It is possible to perform an XML package upload with a non-SSL connection when the library has SSL enabled.	It is no longer possible to perform an XML package upload with a non-SSL connection when the library has SSL enabled.
If the Robotics Control Module (RCM) fails to update during a Package Update, no error is presented to the user.	If the Robotics Control Module (RCM) fails to update during a Package Update, the RCM update is retried. If the update fails again an error message is displayed.
If you attempt to change the netmask and/or gateway for a library that is already configured to use static IP addressing, without also changing the IP address, the save fails and the error message, "Failed to update IP Information", displays.	The change succeeds and you no longer receive an error message if you change the netmask and/or gateway for a library without also changing the IP address.
Failing to pick a magazine from a TAP with the TAP door left ajar requires an LCM reset to recover.	This issue no longer occurs.
Trying to create a partition with a space character at the end of the partition name causes the partition creation to fail.	This issue no longer occurs.
When enabling or updating the NTP server, the LCM reboots automatically without confirmation from the user and even if the NTP server entered is invalid.	When an NTP server is enabled or updated, the library validates the NTP server and requires confirmation from the user before rebooting.
If you change the encryption type from BlueScale drive based encryption to Spectra SKLM encryption, in a library with multiple encryption keys installed, it is not possible to deselect the encryption key to use, which causes an error.	This issue no longer occurs.
If the library is busy it displays a generic, "Waiting for another action to complete" message.	The library now reports the specific action for which it is waiting.
It is sometimes not obvious that the library is in Maintenance Mode.	The first screen after an LCM reboot reports Maintenance Mode status.
The XML command <code>traces.xml?traceType=motion</code> fails without an error message.	The command now gathers a motion trace correctly.
ASL generation does not complete when the library is running in degraded mode.	ASL generation now completes when the library is running in degraded mode.
The HHM counters display the same data for both robots.	The HHM counters now display the correct data for each robot.

Issue	Resolution
If a communication loss during a magazine import causes an unscanned magazine to be placed in a partition, and a move is issued for a tape in the magazine, the library will not complete the move and the incorrect sense code 4,4c,80 is returned.	The library now checks for unscanned magazines and scans any that are detected.
Importing a cartridge with an unreadable barcode sometimes causes inventory mismatches.	This issue no longer occurs.
If a slot to drive move places a tape in a TS11x0 technology drive such that the drive cannot detect the tape, the library cannot recover.	The library is now able to recover from this error correctly.

Known Issues

Problem	Workaround
When replacing a RIM with a RIM2, using the "Replace" function, if the Fibre Channel cable is not connected or is connected to the wrong port on the replacement RIM2, then the operation fails with the message, "Error: Replace operation for controller FRx/DBAx/F-QIPx was acknowledged, but original controller was never replaced".	Connect the Fibre Channel cable to the RIM2 before installing it to replace a RIM.

BlueScale 12.6.29

This release adds support features to anticipate problems before they occur and to provide more information for troubleshooting errors.

Resolved Issues

Issue	Resolution
If the library fails to pick a TeraPack magazine from a chamber, or put it in a chamber, and leaves the magazine in the transporter, an attempt to pull a second magazine into the transporter may cause additional motion problems or an inventory mismatch.	This issue no longer occurs.

Known Issues

Problem	Workaround
The library can no longer connect to the Spectra Logic package server. Note: This issue is resolved in BlueScale12.6.41.	The IP address for the Spectra Logic package server has changed to 192.30.190.34. See “Configure a Package Server” in the Spectra TFinity Library User Guide for instruction on editing the configured IP address.
If a tape is replaced with another tape with the same barcode, but different serial number, there will be two entries for the same barcode number in the MLM database. This may cause repeated scans.	Delete the MLM record for the original tape prior to importing a new tape with a previously used barcode.
The MLM Report screen only shows the remaining capacity of the first partition on an LTFS formatted tape. Note: This issue is resolved in BlueScale12.7.00.	Use the host software that created the LTFS partitions (such as the BlackPearl Deep Storage Gateway) to determine the remaining capacity on all partitions on the LTFS formatted tape.

BlueScale 12.6.28

This release adds new actions to the XML `utils.xml` command (see the [Spectra Tape Libraries XML Command Reference](#)) and makes the package update process more robust.

Resolved Issues

Issue	Resolution
Tape drives may come online to hosts before they are ready to receive commands.	This issue no longer occurs.
If a power failure occurs during a TeraPack magazine move, the library places the magazine in the TAP and removes it from inventory.	The library now retains the magazine in inventory.
The LCM configuration information can be lost during heavy CAN traffic.	This issue no longer occurs.
When a QIP or RIM tries to update its inventory and gets a "unit not ready, becoming ready" in response, it fails to respond to TUR and Inquiry commands from the host.	This issue no longer occurs.
Host commands are blocked during large export or exchange operations.	This issue no longer occurs.
Library communication loss during a magazine import results in an unscanned magazine in a partition.	Retries of a move from the TAP now include scanning the magazine.

Known Issues

Problem	Workaround
When updating a library component without also updating the LCM, you may get messages that the component disappeared and then reappeared. Note: This issue is resolved in BlueScale12.7.00.	Ignore the messages.
Periodic library based drive cleanings can erroneously report a 2,4,2 error when the drive cleaning completed successfully.	Ignore the message.

BlueScale12.6.27

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.

BlueScale12.6.26

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.

Issue	Resolution
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.
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.

BlueScale12.6.24

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.

Issue	Resolution
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).
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.
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 <code>partition.xml?action=autoCreate</code> does not correctly create TS1140 technology partitions.	The <code>partition.xml?action=autoCreate</code> 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.
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.

Issue	Resolution
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.
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 resolved in BlueScale12.6.24.	Reset the secondary controller. The correct WWN for the secondary controller displays.
Note: When viewing the current firmware versions installed on the library, the SCM indicates it's firmware file is missing. Note: This issue is resolved in BlueScale12.6.41.	Ignore the error. The SCM firmware file has been 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 TFinity 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.
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.
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.
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.

Issue	Resolution
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.
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.
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 <code>driveList.xml</code> command reports information for a Global Spare after it released.	Information for drives not assigned to a partition is not reported by the <code>driveList.xml</code> 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".

Issue	Resolution
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 <code>packageUpload.xml</code> command fails when the library has SSL enabled.	The <code>packageUpload.xml</code> command no longer fails when SSL is enabled.
The <code>resetRobot.xml</code> command can be executed by an operator.	The <code>resetRobot.xml</code> 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.
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.
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.
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. Note: This issue is resolved in BlueScale12.6.41.	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. Note: This issue is resolved in BlueScale12.6.41.	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.
Adding more than seven decryption keys to a partition with drive based encryption fails with a “Partition Configuration Error”. Note: This issue is resolved in BlueScale12.7.00.	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.

Issue	Workaround
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.

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.

Topic	
Protecting the Library Metadata	this page
Working with Hardware Components	page 48
Integration Tips	page 49

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 TFinity 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 TFinity 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 TFinity 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 TFinity 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 TFinity 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 46](#) 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.


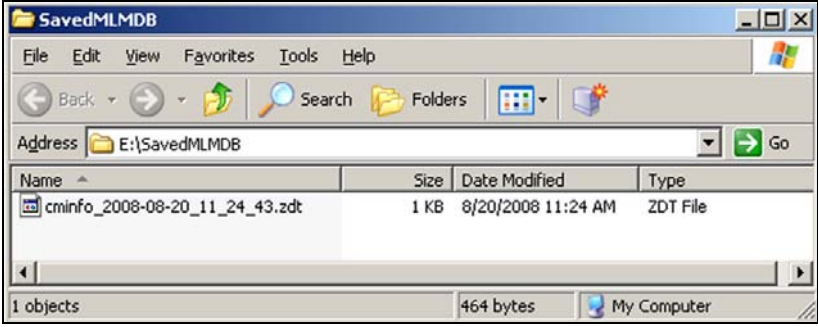
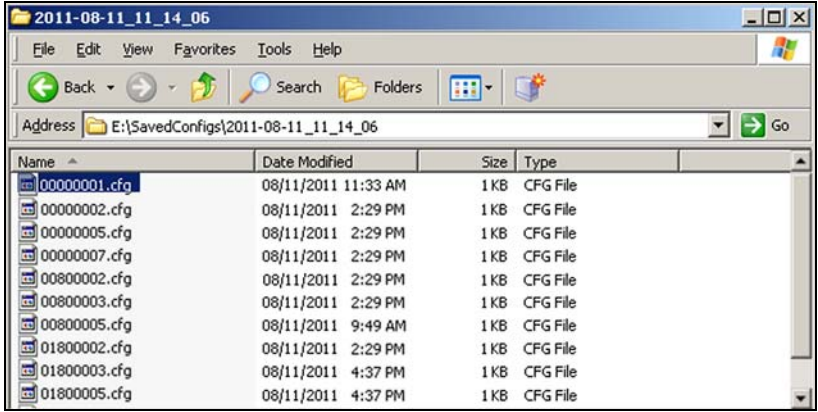
Saved Configuration Files

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 TFinity 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 <i>name</i> .bsk or <i>name</i> .bss, where <i>name</i> is the moniker you assigned to the key when you created it	An attachment containing a key file named <i>name</i> .bsk or <i>name</i> .bss
Auto-saved configuration	Automatic weekly backups saved to the LCM compact flash and emailed	A zip file named <i><date-time>cfg.zip</i> in a folder called \autocfgsave, where <i>date-time</i> is the time stamp for the backup files	An attachment containing a zip file named <i><date-time>cfg.zip</i>
Library configuration	BlueScale interface: Maintenance ... Tools ... Utilities ... Save Library Configuration	Multiple configuration (.cfg) files in the SavedConfigs\ <i><date-time></i> 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_ <i><date-time></i> .zdt or xmlinfo <i><date-time></i> .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_ <i><date-time></i> .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	 <p>Note: In this example, the file is called T950_SF2.bsk. The screen shown here also includes the SavedMLMDB and SavedConfigs folders.</p>
MLM and DLM Data	 <p>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.</p>
Configuration data	 <p>Note: The files are located in the \SavedConfigs\<<date-time> folder, where <date-time> in this example is 2011-08-11_11_14_06.</p>

WORKING WITH HARDWARE COMPONENTS

This section provides information about hardware components associated with the TFinity 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 TFinity 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 TFinity 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 TFinity 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 TFinity 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 TFinity Library User Guide* is current as of the release of BlueScale12.7.00.02.

BlueScale Toolbar Option Map

The *Spectra TFinity BlueScale Toolbar Option Map* is current as of the release of BlueScale12.7.00.02.