



Release Notes

Release	Scalar i500 Library i8.3 (660.GS007)
Supported Web Browsers (Remote Web Client)	<ul style="list-style-type: none">• Microsoft® Internet Explorer 8.0 and 9.0• Mozilla Firefox™ 16 and later versions
Date	February 2015

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Purpose of this Release

The Scalar i500 Library i8.3 (660.GS007) release includes bug fixes. These release notes describe these bug fixes, as well as currently known issues. These notes also provide tape drive and auxiliary firmware compatibility information. Visit <http://www.quantum.com> for additional information about i500.

New Features and Enhancements

Scalar i500 Library i8.3 (660.GS007) includes bug fixes introduced in Scalar i500 Library i8.3.

General Usage Notes

The following are important items not covered in the Known Issues section of this document.

- **Internet Browser "Back" Button** — The library Web client does not support using the Internet browser "back" buttons. Instead, use the **Back** and **Cancel** buttons provided in the user interface.
- **Internet Browser Menus** — The Web browser may intermittently fail to display menus properly. Alternatively, some elements on a few of the pages may obscure some menu items when viewing in Internet Explorer.
- **Library Configuration Changes Upon Downgrade** — After a firmware downgrade, library configuration (partition names, slot counts, I/E station slot count, etc.) may change. With each successive firmware release, new features are supported and represented in the current configuration file that may not be backward-compatible to previous releases. A necessary part of firmware downgrade is to automatically reset the unit to the default configuration. The library must be reconfigured to the user-defined settings when the firmware downgrade is complete.
- **Upgrading Library Firmware** — When planning to upgrade library firmware, upgrade drive firmware first before upgrading the library firmware. If you are planning to downgrade the library firmware, downgrade the drive firmware first before downgrading the library firmware.

- **SNMP MIB** — SNMP MIB walks on large library configurations (like a 41U) may time out at 5 seconds, but will pass at 10 seconds. When performing an SNMP MIB walk, make sure that your utility retrieves MIB information using a timeout of at least 10 seconds.
- **EDLM and StorNext Partitions (StorNext)** — Library partitions configured for EDLM and the StorNext Application Programming Interface (SNAPI) plug-in need to configure the partition Media Barcode Format to “Standard” (report media barcode label without the media identifier) so that any library-initiated media copy operations can succeed.
- **Changing the time or time zone by more than 2 hours** — If you change the time or time zone on the library by more than 2 hours from its current setting, it is recommended that you reboot the library. There are timers in the library firmware that are not updated by the time change and can cause unexpected behavior if large time changes occur without restarting the library.
- **Planning a Drive Firmware Upgrade** — When updating IBM LTO-6 tape drive firmware, the update process can take at least 2 hours to complete. Do not stop or interrupt the firmware upgrade process; plan your firmware upgrade accordingly.
- **Cookie Placement for Login** — The Web client places a cookie on the user’s computer to provide the last user’s credentials upon login. The cookie only collects the user’s credentials to facilitate login, and does not collect any other user data.

Security Scanners

Tenable Network Security® Nessus® version 6.2.0 security scanner was run against the library firmware and found no critical issues.

Compatibility and Support

This section provides information on firmware and software compatibility.

Encryption Key Management Tape Drive and Media Support

The library supports the following encryption systems:

Encryption System	Supported Tape Drives	Supported Media
Quantum Encryption Key Manager (Q-EKM)	IBM LTO-4 FC IBM LTO-4 SAS IBM LTO-5 FC IBM LTO-5 SAS IBM LTO-6 FC IBM LTO-6 SAS You must be running Q-EKM version 2.0 (or higher) to support IBM LTO-5 or LTO-6 tape drives.	LTO-4, LTO-5, and LTO-6 tape cartridges only
Tivoli/Secure Key Lifecycle Manager (TKLM/SKLM)	IBM LTO-4 FC IBM LTO-4 SAS IBM LTO-5 FC IBM LTO-5 SAS IBM LTO-6 FC IBM LTO-6 SAS Encryption key management is supported via the IBM proprietary protocol (IPP) and not the KMIP communication protocol.	LTO-4, LTO-5, and LTO-6 tape cartridges only
Scalar Key Manager (SKM)	HP LTO-4 FC HP LTO-4 SAS HP LTO-5 FC HP LTO-5 SAS HP LTO-6 FC HP LTO-6 SAS IBM LTO-5 FC IBM LTO-5 SAS IBM LTO-6 FC IBM LTO-6 SAS	LTO-4, LTO-5, and LTO-6 tape cartridges only

Encryption System	Supported Tape Drives	Supported Media
KMIP-compliant key managers*	HP LTO-4 FC	LTO-4, LTO-5, and LTO-6 tape cartridges only
	HP LTO-4 SAS	
	HP LTO-5 FC	
	HP LTO-5 SAS	
	HP LTO-6 FC	
	HP LTO-6 SAS	
	IBM LTO-5 FC	
	IBM LTO-5 SAS	
	IBM LTO-6 FC	
	IBM LTO-6 SAS	

* The Key Management Interoperability Protocol (KMIP®) is a specification developed by OASIS®. Its function is to standardize communication between enterprise key management systems and encryption systems. The Scalar i500 library provides a KMIP version 1.2 compliant encryption solution.

Firmware Compatibility

The following table provides information about tape drive firmware compatibility with Scalar i500 Library i8.3 (660.GS007). This information is current as of the publication date of these release notes. For the most recent firmware versions, check www.quantum.com. For the most up to date information on Quantum Global Services, please visit: www.quantum.com/support.

i Note: Scalar i500 libraries with IBM LTO-5 and LTO-6 tape drives must be at library code version i8.2.3 (648G.GS005) before installing the IBM LTO-5 E6Q0 and/or LTO-6 E6R0 tape drive firmware.

Drive Type	Firmware Version
HP LTO-4 FC	H64Z
HP LTO-4 SAS	A65Z
HP LTO-5 FC	I6GZ
HP LTO-5 SAS	X6CZ
HP LTO-6 FC	J53Z
HP LTO-6 SAS	O53Z
IBM LTO-2 FC	A4N0

Drive Type	Firmware Version
IBM LTO-2 SCSI	A4N0
IBM LTO-3 FC	93GM
IBM LTO-3 SCSI	93GM
IBM LTO-4 FC	C7QH*
IBM LTO-4 SAS	C7QH*
IBM LTO-4 SCSI	C7QH*
IBM LTO-5 FC	E6Q0
IBM LTO-5 SAS	E6Q0
IBM LTO-6 FC	E6R6
IBM LTO-6 SAS	E6R6

* Due to security features, you cannot downgrade the IBM LTO-4 drive firmware to versions prior to 82FB without following specific instructions. If you must downgrade, contact Quantum Support for assistance.

Software Compatibility

To view a list of backup software packages which have been tested for interoperability with the Scalar i500 Library i8.3 (660.GS007), see the Quantum Software Compatibility Guide at <http://www.quantum.com/swcompguide.aspx>.

Resolved Issues

This release of Scalar i500 Library i8.3 (660.GS007) firmware resolved the following issues.

Change Request Number	Service Request Number	Description	Solution
51697	SR3369784	The CBC mode ciphers had a security vulnerability and should be removed.	Resolved.

Change Request Number	Service Request Number	Description	Solution
52080, 53681	SR3396986, SR3445462	SSL server allows anonymous Authentication Vulnerability per the Poodle Vulnerability.	Resolved.
52297	SR3404188	The RC4 ciphers had a security vulnerability and should be removed.	Resolved.
53302	SR3445462	Update open source software openssl-1.01j to resolve open security vulnerabilities.	Resolved.
53407	SR3449340	User's LDAP password is presented as text in the Remote User Interface log.	Resolved.
53470		The diskspaceclean script was running when the user viewed the Update Library Firmware page instead of when the user actually updates the library firmware.	Resolved.
54068		Update open source software OpenSSH_6.7p1 to resolve open security vulnerabilities.	Resolved.

Known Issues

This release of Scalar i500 Library i8.3 (660.GS007), firmware has the following known issues.

Change Request Number	Service Request Number	Description	Workaround
22967		When upgrading a library with a Model 2 robot to firmware version 570G, the library may generate RAS ticket T124 - Robotics Hardware Error - RCB .	<p>Explanation: The problem has been fixed in code versions 570G and later, but because the problem resides in previous code versions, you may encounter this issue when upgrading from a previous version to version 570G.</p> <p>Workaround: Leave the library powered on for 20 minutes after the ticket was posted to allow the picker to recover. If you open a library door or power cycle the library during this time, the picker may become inoperable and require replacement.</p>
25651		If a tape drive firmware update fails when using a firmware update method other than autoleveling, the library may incorrectly generate RAS ticket T112 - Invalid Tape Drive Firmware Image in addition to correctly generating RAS ticket T109 - Tape Drive Firmware Update Failure .	Ignore T112 , and follow the resolution steps for T109 .
25964	SR1070246	If a library is upgraded and fails to initialize upon reboot, the snapshot name will be incorrect.	Snapshot information is correct other than the name. Correct the hardware issue that is causing library not to initialize.
27092		Occasionally the FC I/O blade serial number is reported incorrectly on the Tools - FC I/O Blade Information screen (Tools > FC I/O Blade Info).	If the serial number ends with invalid characters, ignore the invalid characters. The rest of the serial number is correct.

Change Request Number	Service Request Number	Description	Workaround
28047		Cleaning counts are reported inconsistently when cleaning tape is used in tape drives from multiple vendors.	The problem only occurs if you use the same cleaning tape in both IBM and HP tape drives because each vendor reports cleaning count differently.
28408		IBM LTO-5 FC drives failed firmware upgrade on a library that had an FC I/O blade installed. Some of the drives that failed the upgrade were connected to the FC I/O blade.	Try the firmware upgrade operation again.
29140		E-mailing Advanced Reports via the Web client fails to complete. This only happens when you first "save" the report and then immediately try to "e-mail" the report using the Save and E-mail buttons in the report viewer.	There are two workarounds. Either: <ul style="list-style-type: none"> • E-mail the report before saving it. or • Once you save the report, leave the report viewer page and go to another page in the Web client. Return to the report viewer page and then click the E-mail button to e-mail the report.
29297	SR1148738	Picker issues cause the operator panel to remain in the "working" state.	Log on to the Web client, capture a snapshot, and contact Quantum Support for assistance.
31724		Cannot change drive topology setting after disabling data path failover.	Refresh the web browser page before attempting to change topology.
32239		EKM Path Diagnostics fails when you change the DNS host name of a primary or secondary EKM server (Setup > Encryption > System Configuration). This occurs when changing the DNS host name to another host name, or when changing an IP address to a DNS host name.	After you change the host name, restart the library.

Change Request Number	Service Request Number	Description	Workaround
32278		If both FC I/O blades and Ethernet Expansion blades are in the library, when you perform an operation that reboots all installed FC I/O blades, it will also reset all installed Ethernet Expansion blades. The EE blade reset may generate a RAS ticket T177 - EEB lost Ethernet/CAN connectivity .	Close the EEB RAS ticket. Verify that no other related RAS tickets were generated.
32352		Changing the library's internal IP address in the midst of a host-initiated backup/restore operation may cause the backup to fail.	Do not change the library's internal IP address during backup/restore operations. It is recommended practice to reboot the library after changing the internal IP address. Additionally, you may receive RAS tickets for loss of drive communication if you change the internal IP address. If this occurs, resolve any related RAS tickets, and then reboot the library.
37926		After restoring to a previous release version and then upgrading to i8, the following RAS messages were generated: <ul style="list-style-type: none"> • T084 - Missing Cleaning Tape • T085 - Unknown Cartridge In Cleaning Slot 	Export all cleaning tapes and re-import them back into configured cleaning slots.
41384		On library firmware upgrades it is possible to see ticket T074 – Drive Sled Auto-Leveling Failure .	Close RAS ticket T074 – Drive Sled Auto-Leveling Failure . Power cycle the library.
48262/40715		After upgrading the library from version i8.1.1 to i8.2, the library may display an error when accessing pages from the Web client menu.	Reboot the library.

Change Request Number	Service Request Number	Description	Workaround
50737		Using an invalid cleaning tape for Automatic Cleaning does not generate errors on the library.	Verify that only valid cleaning tapes are used for cleaning operations.
54573		With Vision 4.3.2 or older, monitored Scalar libraries may move into a connection failed () status after a firmware upgrade. This change of status may also occur with newly discovered Scalar libraries if they are running a new firmware version..	Updated Vision 4.3.3 to correctly monitor Scalar libraries with new versions of firmware. We recommend upgrading your Vision software to Vision 4.3.3.

Firmware Versions

The table below lists firmware code for the last several releases.

Release	Scalar i500 Library Firmware	Board Support Package (BSP)	UDS Firmware	Fibre-Channel I/O Blade Firmware
i8.3	660G.GS007	8.64	777Q.GU002 with 430A.GU001 boot	5.12.01.33
i8.2.3	648G.GS005	8.4	777Q.GU002 with 430A.GU001 boot	5.12.01.33
i8.2.2.1	646G.GS002	8.37	776Q.GU001 with 430A.GU001 boot	5.12.01.33
i8.2.1.1	643G.GS002	8.32	745Q.GU007 with 430A.GU001 boot	5.12.01.33
i8.2	640G.GS007	8.32	745Q.GU007 with 430A.GU001 boot	5.12.01.33
i8.1.2	636G.GS003	8.14	740Q.GU033 with 430A.GU001 boot	5.12.01.33
i8.1.1	635G.GS005	8.13	740Q.GU033 with 430A.GU001 boot	5.12.01.33
i8	630G.GS003	8.09	740Q.GU033 with 430A.GU001 boot	5.12.01.33
i7.3	620G.GS010	7.90	723Q.GU024 with 430A.GU001 boot	5.12.01.08
i7.2	607G.GS004	7.66	713Q.GU004 with 430A.GU001 boot	5.10.08.07

Release	Scalar i500 Library Firmware	Board Support Package (BSP)	UDS Firmware	Fibre-Channel I/O Blade Firmware
i7	600G.GS004	7.42	710Q.GU012 with 430A.GU001 boot	5.10.08.07
i6.1	585G.GS003	6.86	655Q.GU005 with 430A.GU001 boot	5.10.02.01
i6	580G.GS003	6.80	650Q.GU014 with 430A.GU001 boot	5.10.02.01
i5.1	571G.GS002	6.73	630Q.GU008 with 430A.GU001 boot	5.09.05.01
i5	570G.GS025	6.73	630Q.GU008 with 430A.GU001 boot	5.09.05.01
i4	520G.GS003	6.66	610Q.GU005 with 430A.GU001 boot	5.08.08.01
i3.1	500G.GS004	6.53	591Q.GU004 with 430A.GU001 boot	5.08.02.01
i3	500G.GS002	6.52	590Q.GU001 with 430A.GU001 boot	5.08.02.01
SP4.2	420G.GS005	6.42	570Q.GU002 with 430A.GU001 boot	5.07.11.01
	420G.GS006	6.42	570Q.GU002 with 430A.GU001 boot	5.07.11.02
SP4	410G.GS007	6.39	550A.GU003 with 430A.GU001 boot	5.07.09.01
i2	400G.GS010	6.32	530A.GU004 with 430A.GU001 boot	5.07.05.04

Documentation

Documentation pertaining to this product is located at:

<http://www.quantum.com/ServiceandSupport/SoftwareandDocumentationDownloads/SI500/Index.aspx#Documentation>

Document Number	Document Title
6-01733-05	Scalar i500 Site Planning Guide
6-01210-06	Scalar i500 User's Guide
6-01741-04	Scalar i500 Getting Started Guide
6-67926-01	Scalar i500 Repackaging Instructions
6-01370-10	Scalar i500 Basic SNMP Reference Guide

Document Number	Document Title
6-00423-13	Quantum Intelligent Libraries SCSI Reference Guide
6-01317-10	Quantum Intelligent Libraries SMI-S Reference Guide
6-01739-08	Scalar i500 Library Firmware Upgrade Instructions
6-01740-07	Scalar i500 Tape Drive Firmware Upgrade Instructions
6-01844-03	Library Service Utility Installation Instructions
6-00618-11	System, Safety, and Regulatory Information Guide

Documentation pertaining to the StorNext AEL500 product is located at:

<http://www.quantum.com/ServiceandSupport/SoftwareandDocumentationDownloads/AEL500/Index.aspx>

Document Number	Document Title
6-67853-02	StorNext AEL500 Mini Essentials Guide

Contacting Quantum

More information about this product is available on the Service and Support website at <http://www.quantum.com/ServiceandSupport/Index.aspx>. The Service and Support Website contains a collection of information, including answers to frequently asked questions (FAQs). You can also access software, firmware, and drivers through this site.

For further assistance, or if training is desired, contact the Quantum Customer Support Center:

Region	Support Contact
United States	1-800-284-5101 (toll free) +1-720-249-5700
EMEA	+800-7826-8888 (toll free) +49-6131-3241-1164
APAC	+800-7826-8887 (toll free) +603-7953-3010

For worldwide support:

<http://www.quantum.com/serviceandsupport/index.aspx>