Quantum Scalar i6000
Release Notes

Product	Scalar i6000
Firmware Version	800Q.GS25700
Date	July 2022

Contents

About This Release

The Scalar i6000 800Q.GS25700 is a maintenance release for Scalar i6000 libraries.

What's New in this Release?

This release supports the Scalar i6000 library. Fixes in this library include:

- LTO-7 and LTO-8 drive firmware updates (P380).
- LTO-9 drive firmware updates (P372).
- Cloud Based Analytics (CBA) reverse tunnel support added. Reverse tunneling allows a Quantum Service access to the library through a secured connection.
- Remote access user login restriction support added.
- Reduction in RAS ticket generation and improvements to RAS ticket resolutions.
- Library security improvements.
- Drive log collection improvements:
  - Full-Height (FH)/Half-Height (HH) drive prefixes.
  - Drive dump added on ticket alert 19 for LTO-9 0x7475 issues causing drive replacement requests.
  - Drive log collection added when a shorted drive head is first detected.
- Broken user access control/forced browsing fixed.
- LTO-7, LTO-8, and LTO-9 drive firmware updates.
- Bug fixes and enhancements (see).

General Information

- When upgrading library firmware that does not support LTO-9 drives (789Q and below) to firmware that supports LTO-9 drives (791Q and above), you must first upgrade the library firmware. Once the library has completed the upgrade initialization, you can then install the LTO-9 drives.
- The Scalar library Web UI application requires that the browser cache be cleared and the application re-loaded to ensure that all new functionality is implemented.
- 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.

- To help maintain system integrity and for marketing purposes, Quantum regularly collects system information through automatic emails and cloud based telemetric auto support. These emails and auto support telemetric data contain configuration and status information only, and do not contain any customer data stored on the system.

Email Support

> ℹ️ **Note:** This is only relevant if you have an email server (SMTP).

To disable this function:

1. Log on to your library.
2. Select **Notifications** from the **Navigation** menu.
3. Select the check box next to *scalartelemetrics@quantum.com* in the **North Panel**.
4. From the **Operation** panel, select **Reports**.
5. Click the trash can icon next to **Scalar Telemetrics report**.
6. Click **Apply**, then **Close**.

Auto Support (Cloud Based Analytics)

To disable this function:

1. Log on to your library.
2. Select **Notifications** from the **Navigation** menu.
3. Select the check box next to *Auto Support* in the **North Panel**.
4. To disable RAS tickets, select **RAS Tickets** from the **Operation** panel.
5. De-select the **Enable Auto Support Communication** check box.
6. Click **Apply**, then **Close**.
7. From the **Operation** panel, select **Reports**.
8. Click the trash can icon next to **Scalar Telemetrics report**.
9. Click **Apply**, then **Close**.

Library Default Settings

Scalar i6000 software is installed with certain default settings. This section outlines those default settings. Review this section to determine if any of the default settings need to be changed to make your library run more effectively.

WebGUI Path	Option	Default Setting
Library > Settings	Automatic Inventory	Disabled
	Library-Assisted Drive Unload	Enabled
	Logical Drive Serial Number Addressing	Enabled
	Robot Health Check Interval	Once Daily
	Tower Health Check Interval	Once Daily
	Rail Health Check Interval	Once Daily
Network > Connectivity	SSH	Disabled
	XML Interface	Disabled
	ICMP	Enabled
System > Notifications	Email Reports / Auto Support[1]	Enabled
System > Settings	Aisle Lights	Enabled (duration set to 1 hour)
System > SNMP	SNMP v1, v2, and v3	Enabled
User Access > Settings	Remote Service Login	Disabled
	Reverse Tunnel	Disabled

1. The tech support (techsup@quantum.com) and telemetrics (scalartelemetrics@quantum.com) email notifications are enabled by default and active once an email (SMTP) server is configured.

Security Scanners

Quantum tests with the following Security scanners against the library:

- Tenable Nessus Professional Version 10 - Version 10.0.2 (#291) WINDOWS

No high/critical vulnerabilities found against this release using Nessus Profession Security Scanner.

Compatibility and Support

Encryption Key Management Drive Support

While the Scalar i6000 library supports multiple partitions configured for encryption, only a single encryption type can be used.

IBM Drives

Encryption Options	IBM LTO-4	IBM LTO-5	IBM LTO-6	IBM LTO-7	IBM LTO-8	IBM LTO-9
Application Managed Encryption	Yes	Yes	Yes	Yes	Yes	Yes
Q-EKM	Requires EKM License	Requires EKM License	Requires EKM License	No	No	No
TKLM/SKLM[2]	Requires EKM License	Requires EKM License	Requires EKM License	Requires EKM License	Requires EKM License	Requires EKM License
SKM	No	Requires EKM License	Requires EKM License	Requires EKM License	Requires EKM License	Requires EKM License
KMIP Key Manager[1]	No	Requires EKM License	Requires EKM License	Requires EKM License	Requires EKM License	Requires EKM License

1. Only SafeNet/Thales encryption key servers are supported/tested KMIP configurations.
2. Applies to TKLM/SKLM and SGKLM (GKLM) for IPP communication protocol only.

HP Drives

Encryption Options	HP LTO-4	HP LTO-5	HP LTO-6
Application Managed Encryption	Yes	Yes	Yes
Q-EKM	No	No	No
TKLM/SKLM²	No	No	No
SKM	Requires EKM License	Requires EKM License	Requires EKM License
KMIP Key Manager¹	Requires EKM License	Requires EKM License	Requires EKM License

1.Only SafeNet/Thales encryption key servers are supported/tested KMIP configurations.

2.Applies to TKLM/SKLM and SGKLM (GKLM) for IPP communication protocol only.

Web Browser Support

The Scalar i6000 WebGUI supports the following web browsers. Quantum recommends upgrading to the latest version of the browser.

Web Browser	Versions Supported
Internet Explorer	Not supported.
Google Chrome	Version 51 and above.
Mozilla Firefox	Version 55 and above.
Apple Safari	Recommend latest version.
Microsoft Edge	Recommend using Edge version 79 or greater, using the Chromium engine. This resolves issues of slowness found in the older versions of Edge.

Drive Firmware

IBM Drive Types	Latest Firmware Version
IBM LTO-3 (FC) 2 Gb	93GM
IBM LTO-3 (FC) 4 Gb	93GM
IBM LTO-4 (FC) 4 Gb	C7QH

IBM Drive Types	Latest Firmware Version
IBM LTO-5 (FC) 8 Gb	H970[1]
IBM LTO-6 (FC) 8 Gb	KAJ8[1]
IBM LTO-6 (FC) 8 Gb (FIPS)	KAJ8
IBM LTO-7 (FC) 8 Gb	P380[1]
IBM LTO-7 (FC) 8 Gb (FIPS)	P380
IBM LTO-8 (FC) 8 Gb	P380[1]
IBM LTO-8 (FC) 8 Gb (FIPS)	P380
IBM LTO-9 (FC) 8 Gb	P372[1]
IBM LTO-9 (SAS) 12 Gb	P372[1]

[1] Bundled with library firmware.

HP Drive Types	Latest Firmware Version
HP LTO-3 (FC) 2 Gb	L67Z
HP LTO-3 (FC) 4 Gb	M69Z
HP LTO-4 (FC) 4 Gb	H64Z
HP LTO-5 (FC) 8 Gb	I6RZ[1]
HP LTO-6 (FC) 8 Gb	J5WZ[1]

[1] Bundled with library firmware.

Resolved Issues

This release of Scalar 800Q.GS25700 firmware resolved the following issues (bug fixes).

Change Request Number	Service Request Number	Description	Resolution
I6K-33	503248	TLS 1.1 support removed.	Enhancement.
I6K-57	476123	Private key removed on failed certificate upload.	Fixed.
I6K-143	476088	Library attempts to use damaged or expired cleaning tape.	Fixed.

Change Request Number	Service Request Number	Description	Resolution
I6K-191	0501060	Tape that does not contain data causes RAS ticket for non-encrypted tape.	Fixed.
I6K-197		Library configuration report now includes all library component serial numbers.	Enhancement.
I6K-221	0498300	Element status change not immediately reported after inserting a tape in an I/E slot.	Fixed.
I6K-230	511745	Communication issues between encryption server and library.	Fixed.
I6K-290	518259	Library automatically closes "RCS out of Autospecification" RAS ticket.	Fixed.
I6K-294		**Service > Teach > Calibrate** reports success when the library is not in a ready status.	Fixed.
I6K-296		After performing a drive clean operation, the Drive Cleaning report Media Use Count appears to be based on the number of times the media has been used in the library and not the number of times used stored on the CLN media.	Fixed.
I6K-362		SMI-S support disabled.	Enhancement.
I6K-602		Unable to perform a firmware upgrade when a tower is powered off and there are Control Management Blades (CMBs) downstream from the tower or a CMB has failed or been removed.	Fixed.
I6K-917		Tower mode and state modifications initiated by Web Services PUT interfaces are not confirmed by GET interfaces run right after the modification	Fixed.
I6K-1015		The Automatic Inventory library settings is not unchecked by default after a reset to factory default.	Fixed.
I6K-1457		One or more drive sleds are varied off before a firmware update occurs. Drives are varied on and begin to download the updated firmware. Drives are varied off before the update is complete and an error occurs.	Fixed.
I6K-1534	600254	Bad RAS ticket for expired cleaning media incorrectly generates invalid data cartridge RAS ticket.	Fixed.
I6K-1537	601651	Login activity report does not display failed login attempts.	Fixed.
I6K-1597	590725	LUI incorrectly indicates expired or invalid cleaning media.	Fixed.

Change Request Number	Service Request Number	Description	Resolution
I6K-1670	0610646	No data appears in drive utilization report when it is sent via email.	Fixed.
I6K-1672	0604265	Slow WebGUI performance on partitions, drives, and host access pages.	Fixed.
I6K-1904	0660093 621983	Old EDLM sessions cannot be deleted.	Fixed.
I6K-1913		LTO-9 scratch tape goes missing in the library after IVT.	Fixed.
I6K-1985		Drives automatically get varied off if taken from LME/FIPS partition to just LME partition.	Fixed.
I6K-2100		Drive vary off prevented if drive is not idle.	Enhancement.
I6K-2115		Improvements to lost tape recovery.	Enhancement.
I6K-2183		LTO-7 and LTO-8 drive firmware updates (P380).	Enhancement.
I6K-2346		LTO-9 drive firmware update (P372).	Enhancement.
WUI-1105		Gateway field removed from secondary network interface.	Enhancement.
WUI-1107		Remote access user login restriction support added.	Enhancement.
WUI-1216		Expired cleaning tape no longer allowed when manual library cleaning request occurs.	Enhancement.
WUI-1383	653863	WebGUI shows Kerberos menu option under LDAP configuration. Kerberos is not supported.	Fixed.

Known Issues

This release of Scalar 800Q.GS25700 firmware has the following known issues:

Change Request Number	Service Request Number	Description	Workaround
I6K-91		Under rare situations, robot does not initialize after system reboot.	Vary off and vary on the robot.
I6K-109		Encryption key retrieval timeout generates incorrect drive sled RAS ticket.	Disregard and close the RAS ticket.
I6K-295		Both robots used when selecting left or right robot for a robot scanning diagnostic test.	Vary off the robot not selected scanning before running diagnostic test.
I6K-300		Network IPv6 stateless to stateful change results in error.	This error occurs on the first attempt. The change will occur on the second attempt.
I6K-492		HDC default ISR on multiple towers after swapping scanners in towers.	Power cycle the tower. If this does not fix the issue, reset the library.
I6K-848		Under rare situations, LUI locks up when attempting a login.	Login into the WebGUI and restart LMC to unfreeze LUI.
I6K-967		RAS ticket automatically closes when new drive is varied off. It should only automatically close when resolved.	If a newly added drive is automatically varied off by the library, check for RAS tickets that have been verified and look for a "Drive Sled Mismatch" RAS ticket.
I6K-1267		HP LTO-6 drives must remain at drive firmware version J5KZ.	See issue I6K-1369 below.
I6K-1369		EDLM scan fails on WORM media in HP LTO-6 drive. The tape is left in the drive and the drive must be varied off and on in order to unload the drive.	Use J5KZ drive firmware if you attempt an EDLM scan on WORM media in an HP LTO-6 drive. Do not use J5WZ drive firmware.

| Change Request Number	Service Request Number	Description	Workaround
I6K-1611		Reset (not restart/reboot) of library interferes with drives.	Make sure that on library reset, drives are not sled-leveled, tape drive firmware-leveled or reconfigured on bring-up. This will ensure that the drives will not interfere with host connections and I/O operations.
I6K-1649		NTP will not change to 24 hours format.	Disable NTP. Switch to 24 hour format and apply the change. Once the change has been applied, enable NTP.
I6K-1792		Drive Ethernet communication does not recover after a long frame to frame Ethernet outage.	Vary drive off and on.
I6K-1924		LTO-9 media initialization time.	When LTO-9 media is loaded into a drive for the first time, it may take up to two hours for the media to be initialized and calibrated. You should expect delays in media access and unload timing
I6K-1986		RAS ticket report notification is in csv file format, but uses "!" separators instead of "," separators. This causes readability issues when opening the file in Excel.	Change the separator format in Windows: 1. In Microsoft Windows, click the **Start** button, and then click **Control Panel**. 2. Open the dialog box for changing Regional and Language settings. 3. Click **Additional Settings**. 4. Enter **!** in the List separator field. 5. Click **OK** twice.
I6K-1987		A duplicate barcode error occurs if a drive with a stuck tape is removed while varied on and not re-installed into the library.	The removed drive must be re-installed in the library.

Change Request Number	Service Request Number	Description	Workaround
I6K-1933		Cannot access GUI after the library reboots with an open door.	Do not reboot library with when a library door is open.
I6K-2067		On occasion, when library reboots with an open door and the robotics are not ready, LUI shows "Running Library Initialization"	Ignore "Running Library Initialization" message. Enable robotics once you have completed service operations and have closed the door.
I6K-2077		GUI does not show correct known media encryption status.	This issue will be addressed in the next release.
I6K-2298		Error occurs when setting a Control Path configuration in EDLM partitions.	Control Path configurations are not allowed in EDLM partitions.
I6K-2328	667067	Removing active Control Path drive from the library prevents selection of different Control Path drive.	Remove Control Path configuration from drive before removal.
I6K-2371		After an upgrade to 800 library firmware, the WebGUI Drives North Panel displays a phantom drive in location 1,1,5,1,1 with "-???-Unknown" in the type field.	To remove the phantom drive, select the drive and **Vary Off**. Then remove the drive from the assigned partition.
WUI-1273		Drive/Media Issue Timeline does not show all data for selected time frame.	Select larger time frame.
WUI-1071		Control Path Configuration - Unable to add additional SAS drives after initial Multi-Path configuration.	Remove current Multi-Path configuration. Create new Multi-Path configuration and add SAS drives.
WUI-1389		When selecting both robots for a Library Get/Put Test, only a single scratch tape location is requested by the library and the right robot does not move.	Do not select both robots for a Library Get/Put Test.
WUI-1417		The RAS Status icon on the homepage of the WebGUI does not accurately reflect the number of RAS tickets generated by the library.	Go **Status > RAS Tickets** to review the current RAS tickets in the library.

Documentation

All Scalar i6000 documentation is available at the Scalar i6000 Documentation Center: www.quantum.com/Scalari6kDocs

Scalar i6000 documentation includes:

- Site Planning Guide

- Operation Guides

- Repair and Upgrade Guides

- Reference Guides (Web Services, SCSI, SNMP)
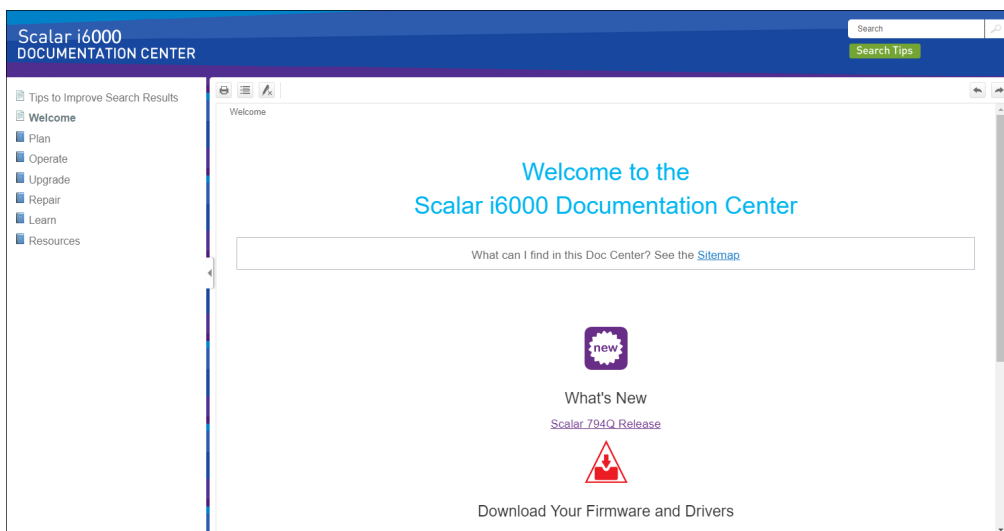
Contacting Quantum

More information about this product is available on the Service and Support website at www.quantum.com/support. 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 Quantum:

Quantum Technical Assistance Center in the USA:	+1 800-284-5101
For additional contact information:	www.quantum.com/support
To open a Service Request:	www.quantum.com/osr