



Quantum Scalar i6000

Release Notes

Product	Scalar® i6000, Firmware Version i12.4.8.2
Firmware Version	745Q.GS00200
Operating Systems (Standalone LMC Client)	Microsoft Windows Ubuntu x86/ia64 Red Hat Linux x86/ia64
Supported Web Browsers (Java GUI)	Firefox Internet Explorer versions 7 and higher
Supported Web Browsers (WebGUI)	Firefox Chrome
Required Java Runtime Environment (JRE)	JRE version 6 (1.6) and higher
Date	September 2017

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Purpose of This Release

The Scalar i6K i12.4.8.2 maintenance release details bug fixes described in the [Resolved Issues](#) section.

Visit <http://www.quantum.com> for additional information about the Scalar i6000 and prior releases.

New Features and Enhancements

This release contains the following new features or enhancements:

Product Enhancements

- No product enhancements in i12.4.8.2.

Web Services Enhancements (refer to the RESTful Web Services API guide to find the command details)

Note: Revised RESTful Web Services API guide will be available in July.

- Support Web Services API and underlying code functionality to allow a move to nearest empty slot (see **POST aml/media/operations/moveMedium** command)
- Add parameter to **/operations/moveMedium** to prevent drive unload from being issued (See **POST aml/media/operations/moveMedium** command)
- Need a means to query individual element objects to obtain element status (See **GET aml/physicalLibrary/elements?coordinate=1,1,4,1,1,2** command)
- Deprecate any voltage sensor reporting (See **GET aml/system/sensors?type=voltage** command)
- Consider adding an element to the media object to provide accessibility status (See **GET aml/media** command)
- WS is returning incorrect information in which an empty drive is reported as having media (See **GET aml/drives** command)
- Implemented a sequence of commands for drive unload and eject operations (See **POST aml/drive/{serialNumber}/operations/powerCycle** and **POST aml/drive/{serialNumber}/operations/eject** commands)

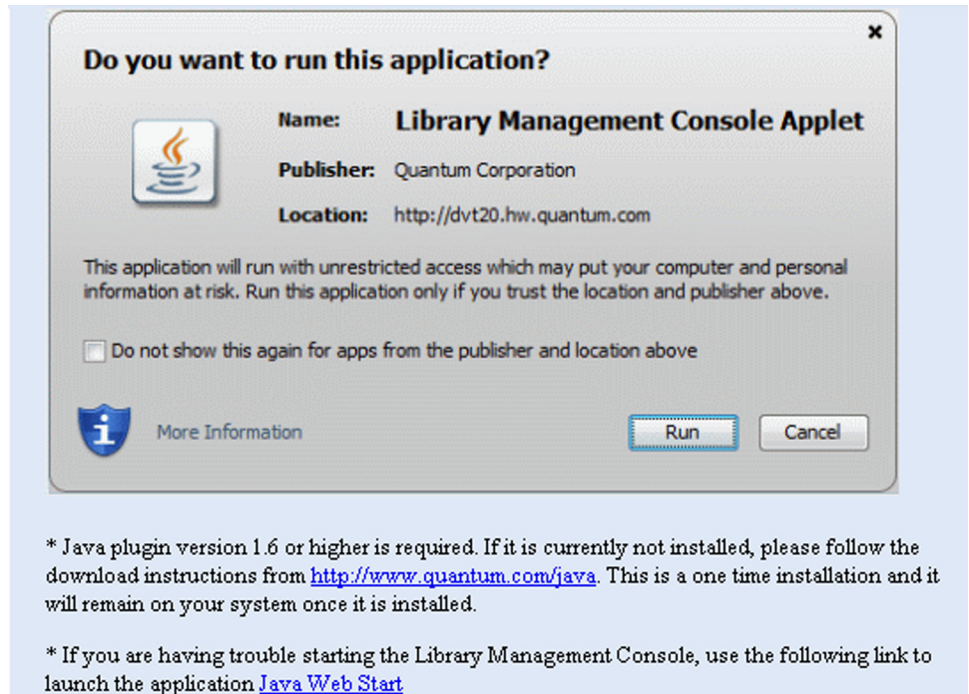
General Information

- With the i12.4.4 release, OpenSSH has been updated to version 7.3p1 to address any potential vulnerabilities.
- To prevent any firmware upgrade failures, make sure you are running either JRE 32 bit or 64 bit.
- HTTPS and, if enabled Secure SMI-S, are configured to only support 128-bit or above keys, and TLS 1.0 or above. SSLv3 and below is turned off.
- If media is encrypted on an IBM drive using Library Managed Encryption (LME), the library will initially report the media as being unencrypted when it is actually encrypted. The encryption status of the media will be properly reported once the media is re-mounted in the drive.
- To help maintain system integrity and for marketing purposes, Quantum regularly collects system information through automatic emails. These emails contain configuration and status information only, and do not contain any customer data stored on the system. To disable this function:
 - 1 Log on to your library.
 - 2 Go to **Setup > System Setting > Physical Library**.
 - 3 In the **Send Usage Statistics** area, select the **Disable** radio button.
 - 4 Click **OK**.
- 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.

Special Instructions - Web Browsers

If your browser no longer supports Java, like Google Chrome, you can use **Java Web Start** to run the remote GUI.

- 1 In your browser, type the IP address or Library name in the address field and press **Return**. The following screen displays.



- 2 At the bottom of the screen, click the **Java Web Start** link. Your browser will download and launch an application that will allow you to use the remote GUI.

Security Scanners

Quantum runs the following Security scanners against the library:

- Nessus Professional v. 6.10.5 by Tenable
- Nexpose 6.4.37 by Raid7, Inc.

Compatibility and Support

Encryption Key Management Drive Support

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

Encryption Option	HP LTO-4	IBM LTO-4	HP LTO-5	IBM LTO-5	HP LTO-6	IBM LTO-6	IBM LTO-7
Application Managed Encryption	Supported	Supported	Supported	Supported	Supported	Supported	Supported
Q-EKM	Not Supported	Requires EKM License	Not Supported	Requires EKM License	Not Supported	Requires EKM License	Not Supported
SKM	Requires EKM License	Not Supported	Requires EKM License	Requires EKM License	Requires EKM License	Requires EKM License	Requires EKM License
KMIP Key Manager ¹	Requires EKM License	Not Supported	Requires EKM License	Requires EKM License	Requires EKM License	Requires EKM License	Requires EKM License
¹ - Only SafeNet and Thales encryption key servers are supported KMIP configurations							

Firmware Compatibility Matrix

The following table shows information on drive compatibility with this release of Scalar i6000. This information is current as of this product release. For the most up-to-date information on the latest qualified firmware, please visit: <http://www.quantum.com>.

Drive Types	Minimum Firmware Version ¹
IBM LTO-3 (FC) 2 Gb	93GM
IBM LTO-3 (FC) 4 Gb	93GM
IBM LTO-4 (FC) 4 Gb	C7QH
IBM LTO-5 (FC) 8 Gb	G9N4
IBM LTO-6 (FC) 8 Gb	G9P4
IBM LTO-7 (FC) 8 Gb	G9Q4
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
HP LTO-6 (FC) 8 Gb	J5KZ
1. Check with Quantum Support for the latest firmware.	

Backup Software Compatibility

To view a list of backup software packages that have been tested for interoperability with the Scalar i6000, refer to the Quantum Software Compatibility Guide at <http://www.quantum.com/swcompguide.aspx>.

Resolved Issues

This release of Scalar i6000 firmware resolved the following issues:

Change Request Number	Service Request Number	Description	Resolution
55202		When upgrading from i11.x to i12.x, all ticket suppression filters will not be restored. Restoring a configuration back to i11.3 will also not restore the filters.	Fixed.
54884	3522766	During a library snapshot, the HDC may go offline.	Fixed.
52884		Nessus incorrectly reports that the remote Apache web server is affected by the Apache web server chunk handling vulnerability.	An i6000 library does not use Apache. No action needed.
62502	3702952, 3730822	Health test on the towers and the robotic rail test is reporting a false robot failure.	Fixed.
62601		Robot doesn't seek proper positioning at towers when first two (2) tries indicate a slot may be full.	Fixed.
62394		TDM Process failures.	Fixed.
63028		RAS ticket error message is incorrect in move to varied off drive.	Fixed.
63228	0320052	Scalar i6000 library is no longer collecting HP drive statistics after upgrade to i12.4.3.	Fixed. Scalar i6000 is again collecting HP drive statistics.
62671		RCU does not time out or monitor drive unload/eject request, blocking MCB for ten (10) minutes.	Fixed.
62936		Following a tower or tower scanner error the library posts two (2) RAS tickets.	Fixed. Tower is now reporting only one (1) ticket.
62948		i6000 HDC Ethernet Communication Failure while taking extended snapshot via Web Services.	Fixed.
62952		Tape alert drive dumps get created for suppressed tape alerts but not saved.	Fixed. The library now pulls drive logs for even suppressed tape alerts.
63508		Drive auto-leveling fails for a replacement drive.	Fixed.
63207		MCB running out of disk space, can no longer get snapshots.	Fixed.

Change Request Number	Service Request Number	Description	Resolution
63481		Unable to vary on drive that shows as varied off.	Fixed.
63508		Tapes in storage slots of left parking module inaccessible, yet movable.	Fixed.
62755	312047	Drive Logs deleted when RAS ticket is closed.	Fixed. Drive logs are no longer deleted when RAS tickets are closed.
63186		Media inventory is not being reported correctly or consistently when media is in a tape drive that is varied off.	Fixed.
63079		SNMP restarts due to changes in SNMP settings via Web Services.	Fixed.
62957		Element Status, with respect to elements such as drives being installed and/or accessible, is not being reported correctly.	Fixed.
62823, 62694		False reporting of data path failover when a host is reset.	Fixed. Removed reporting RAS tickets associated to these Errors.
64619		Setting SNMP as disabled is not working properly.	Fixed.

Known Issues

This release of i6000 i12.4.8.2 firmware has the following known issues.

Change Request Number	Service Request Number	Description	Workaround
42325		If a SafeNet key server(s) in a cluster is not reachable during key requests, encryption keys issued by other key servers in the cluster will not automatically replicate to the unreachable server(s) afterwards.	Users need to sync the key server cluster manually.

Change Request Number	Service Request Number	Description	Workaround
43012		When the library has an issue importing encryption keys, an error message erroneously informs users that there was a communication issue with the key server.	Verify that communication to the key server is operational (perform Path Diagnostics). If communication with the key server is not impacted, the issue is that the keys cannot be imported due to being wrapped with a certificate (public key) that does not match the server's private key.
43149		In some instances, during a drive firmware update and associated drive reboot, a diagnostic ticket reporting the drive has been removed may be generated.	The drive should come back online after the firmware update is complete and the diagnostic ticket will auto close. If not, follow the directions on the diagnostic ticket to troubleshoot.
50514	1647282, 1647440	MICA should only inform of multi-initiator conflicts, not just multi-initiator operation without reservations.	If multi-initiator operation without reservations is being reported, you can filter the diagnostic tickets. From the GUI, configure the library to enable diagnostic ticket filtering (Setup > Notifications > Tickets Filter).
51721		When canceling an IVT during an Alignment sub-test, the test result shows an Unknown SCSI error.	Ignore, no action needed.
52434	3382082, 3399088	If an open door is detected, the library may report the wrong door as open.	<ul style="list-style-type: none"> • Check to ensure that all doors are closed properly. • Check the lance (small metal piece in door lock) to see if it is damaged. Repair if possible and close door.
54220		If the control path drive fails over during an import, any media in the picker will not be discovered by TSM on AIX.	From the TSM/AIX console: <ol style="list-style-type: none"> 1 Run checkin libvolume search=yes to pickup missing media 2 Then rerun the checkin libvolume search=bulk to import remaining media in I/E.
54580		A Series 3 control module may show the presence of two CMBs even though there is only one.	There is no negative effect to library functionality. The second CMB listed is actually the MCB.
61680		There is a compatibility issue between SafeNet versions above 8.1 and Quantum firmware.	Downgrade your SafeNet to version 8.1.

Documentation

The following documents are currently available for the Scalar i6000.

Document Number	Document Title
6-66879-xx	Scalar i6000 User's Guide
6-66882-xx	Scalar i6000 Planning Guide
6-01847-xx	Quantum Encryption Key Manager User's Guide
6-01884-xx	Quantum Encryption Key Manager Release Notes
6-66532-xx	Scalar Key Manager Quick Start Guide
6-66531-xx	Scalar Key Manager User's Guide
6-66572-xx	Scalar Key Manager Safety Information by IBM
6-66535-xx	Scalar Key Manager Open Source License Agreement
6-68185-xx	RESTful Web Services API Guide
6-00423-xx	Scalar Intelligent Libraries SCSI Reference Guide
6-01159-xx	Scalar i6000 Basic SNMP Reference Guide

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

For the most updated information on Quantum Global Services, please visit: www.quantum.com/support