



Release Notes

Product	Scalar i2000® i6.3.1 575A.GS00101
Operating Systems (Remote LMC Client)	Microsoft™ Windows®, AIX®, HP-UX™, Solaris™, and Red Hat® Linux
Date	October 2008

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Purpose of This Release

The Scalar i2000 i6 through i6.3.1 releases include new features and enhancements that extend its capabilities. These release notes describe these new features and enhancements, as well as currently known issues and issues that were resolved for this release of the product. These notes also provide drive and auxiliary firmware compatibility information. Visit <http://www.quantum.com> for additional information about Scalar i2000 and previous releases.

New Features and Enhancements

Scalar i2000 i6.3.1 / i6.3 i6.2 Release

HP LTO-4 FC Drive Support

The Scalar i2000 supports HP LTO-4 FC drives. The LTO-4 drive increases capacity and performance levels from the previous LTO-3 generation.

The HP LTO-4 drive provides industry standard encryption capabilities and incorporates native encryption, but the HP LTO-4 does not support Quantum Encryption Key Manager software.

Resolved Issues

The Scalar i2000 i6 through i6.3.1 releases address previously identified issues. For more information about issues corrected in this release, see [Resolved Issues](#) on page 4.

Scalar i2000 i6.1 Release

Encryption and Quantum Encryption Key Manager (Q-EKM)

The Scalar i2000 i6.1 release supports the licensable Quantum Encryption Key Manager (Q-EKM) software application.

The Scalar i2000 library currently supports encrypting LTO-4 tape media using LTO-4 Fibre Channel drives, but currently only the IBM LTO-4 FC drives are compatible with the Q-EKM application.

To use the Q-EKM software application, you must purchase a Q-EKM license and provide a server or servers on which to install Q-EKM. Q-EKM does not currently support encryption on other tape drive types or manufacturer brands, even if they are assigned to a partition selected for encryption.

The document, *Encryption and Using Q-EKM on the Scalar i2000* (6-01244-04) describes the new Q-EKM menu options on Scalar i2000 library. For more information concerning Q-EKM, see the *Quantum Encryption Key Manager User's Guide* (6-01847-01). For information concerning the Q-EKM release, see the *Quantum Encryption Key Manager Release Notes 2.1_007* (1884-01).

Scalar i2000 i6 Release

Required Upgrade

All libraries operating on i5.1 or i5.2 firmware versions must be upgraded to i6 firmware or higher.

Improved Hardware Capacity and Performance

The Scalar i2000 i6 release provides 7404 4GB I/O blade performance improvements.

IBM LTO-4 FC Drive Support

The Scalar i2000 supports IBM LTO-4 FC drives. The LTO-4 drive provides industry standard encryption capabilities and incorporates native encryption. LTO-4 increases capacity and performance levels from the previous LTO-3 generation.

Compatibility and Support

Encryption and Q-EKM Drive Support

Encryption Option	HP LTO-4	IBM LTO-4
Application Managed Encryption	Supported	Supported
Q-EKM	Not Supported	Requires License (Requires per drive license)

Compatibility Matrix

See the following table for information on drive and auxiliary firmware compatibility with this release of Scalar i2000. This information is current as of this product release. For the most up to date information on Quantum Global Services, please visit:

www.quantum.com/support

Drive Firmware i6.3.1 Release Library Firmware: 575A.GS00101	
Component	Firmware Version
LMC Remote Client	1.6.4 ³
AMC Server and San Manager Client	4.6.2 ⁴
Drive Types	
Quantum SDLT 320 (SCSI)	v94 ¹
Quantum SDLT 600 (FC)	v51 ¹
Quantum DLT-S4	v40 ²
IBM LTO-1 (SCSI)	5AU1
IBM LTO-1 (FC)	5AU1
IBM LTO-2 (SCSI)	8571
IBM LTO-2 (FC)	8571

Drive Firmware i6.3.1 Release Library Firmware: 575A.GS00101	
Component	Firmware Version
IBM LTO-3 (FC) 2 Gb	85P8
IBM LTO-3 (FC) 4 Gb	85P8
IBM LTO-4 (FC) 4 Gb	7BG2 ⁵
HP LTO-3 (FC) 2 Gb	L63Z
HP LTO-3 (FC) 4 Gb	M23A
HP LTO-4 (FC) 4 Gb	H37Z
UDS-3 Drive Sled i2000	561A.02
1. Logical serial number addressing (drive spoofing) is not supported. It is recommended that all customers move to the latest drive firmware. 2. Check with Quantum Customer Service for the latest firmware. 3. Install the LMC remote client from the Quantum website. 4. Install the AMC 4.6.2 Server and SAN manager remote client from the Quantum website. 5. You cannot downgrade the IBM LTO-4 (FC) brick code to previous code levels without following specific instructions for this process. If you must downgrade, escalate to appropriate support team.	

Resolved Issues

This release of Scalar i2000 firmware resolved the following issues:

Change Request Number	Service Request Number	Description
575A.GS00101		
20554	832244	AIX 6404 IOB SDLT600 in i2k i6.3 Aborts and TRG RESETS.
573A.GS00801		
18029	748978	6404: Blade needs to log more detail for SDRAM ECC unrecoverable multiple bit errors.
18271		Link interruption during data transfer causes all vps mapped hosts to loose devices, blade reboot required to recover.
18329		Stale sense data from alternate cmd returned to host.
18346		7404: Simple release status not returned to host when persistent reserve present on target.
18351		SRR handling fails and can cause I/O lockup or I/O failure.
18359		Devices stopped responding to host (all cmds timed out) following port reset.

Change Request Number	Service Request Number	Description
19617		6404: Simple release status not returned to host when persistent reserve present on target.
19816	841772 837614	6404: IOB Reboot Reason ExcHnd - Exception Occured in Interrup Contextt
19834	839406 841132	6404: Blade can reset by Watchdog Timer if many obj timeouts occur consecutively.
19872		Build script fails to deliver vxworks image when binserv is not available.
19948		Write buffer cmd with FCP_DL=0 never returns status to host.
20019		SRR offset is not used to resend data, LSI request for max data fails.
20150	836594	SCSI status lost on SRR for partial block read causes command timeout.
20343		Write buffer cmd with FCP_DL=0 never returns status to host.
20387		Report Luns command used during device discovery does not clear last 2 bytes of CDB.
20388		RES stress test with binary data compare fails.
71100	786790 786650	During upgrade, a RAS ticket is produced: Top Reach assembly of the picker robotics operation has Failed.
71285	765442	If auto inventory is enabled, the library should not actually scan the library barcode labels on IES or IESWR command.
71289		Picker rotates into the motor during get hunt recovery.
71347	777004 790778	The library should be able to infer which media type a magazine is if it finds barcodes in a spot where it did not find a barcode for a magazine
71375	765442	Need to change the error E_GRP_SLOT_FULL from sev 1 to sev 3
71400		A drive unload failure should not produce a RAS event.
71480	841132	StatusMonitor process fails during blade swaps
71507		SNMP is no longer updating SANMgr tables after blade swap .
71549	809384	Need to change the error E_GRP_PROF_STORAGE_GET_SLOW_EMPTY from Critical to Warning
71630		Drive brick firmware auto-update settings are being reset by the MCB after an auto-update.
71686		Library hangs and/or RAS tickets appear for kernel oops and out of memory errors.
71693		Remote GUI hung while getting snapshot.
71720		Heavy library scsi stress and library snapshot caused kernel 'OOPS'
71726		LLM process killed on overnight multi-initiator stress test, all SCSI commands rejected with 44/00 asc/ascq.
71731		Library doesn't respond to RES request - failed two stability libraries
71762		VCM looping on an aborted SCSI command slows the library down.

Change Request Number	Service Request Number	Description
572A.GS00101		
18429		The I/O blade does not support recovery when the Confirmed Completion Allowed in PRLI is not flagged by the host.
571A.GS00100		
70130		SFPs with VPD information should be reported as present and allow I/O speed adjustment from GUI.
70273		In relation to 6404, SPI/SPO cmds are not supported by FC blade for LTO-4 drive.
70274		Persistent Reserve Out/Persistent Reserve In (PRO/PRI) support is required to ensure that the 6404 and 7404 Persistent Reserve function similarly.
70887	753198	UDS2 labels are not found during configuration scans.
70919	729014	FC Task Management LUN reset causes the following command (inquiry) to hang for six minutes and the loss of target connections.
70936	735538	Library placed in Logical SN mode after upgrade to i6.1 build 11. The GUI (Setup > Physical Library) shows Logical SN set to <i>OFF</i> .
70942		I/O blades are not visible on all Scalar i2000 GUI screens
70958		SPIN cmd is rejected when allocation length is greater than 255 bytes - Blocks BE Encryption.
70964	768532	Automatic drive cleaning is not working.
70985	757014	Snapshots are taking over an hour to complete on Scalar i2000 libraries with multiple hosts attached
70995	757874	M2.1 picker replacements fail to initialize and will not autolevel if the library has been powered down.
70998		RCU versioning-mismatch routines are inconsistent.
71024		CommVault 7 SP1 Application Managed Encryption (AME) does not work with 6404 FCB.
71026	759420	Automatic drive cleaning fails if the host unloads the tape before a move.
71034	768878	HPUX host direct connected to 7404 (in loop configuration) registers duplicate devices (ghosts)
71040		FCB 'eventlog' file format changed. Reaper cannot process them.
71046		6404 attached library fails to respond to persistent reserve out with preempt and abort service action code
71207	798646	6404 blade rejects Reserve(6) command as illegal if LUN field of CDB is non-zero.

Change Request Number	Service Request Number	Description
560A.GS011		
69069		AMC web browser stops responding
69465	708126	Cleaning magazine assignments are not persistent across reboots
70066	722142	FC data transfer residue calculation can be incorrect
70298		Hosts are not available for configuration in the GUI, and/or GUI runs very slowly
70427		Login fails in host SIDs differ by only the least-significant byte
70703	722886	Read Element Status returns 83/02 cartridge status on non-standard volsers when media type checking is disabled
70808		Drives lost. FCP RW bits are conflict with CDB msg in loggerDump
540A.GS006		
Persistent reserve command issues:		
68350	625728	Free memory issue when Persistent Reservations is released.
68564		High GET retry rates from drives.
68612	631872	Persistent Reserve failure.
68758	611722 620448	The "Library Interface Disabled" message displays on the local touch panel.
68760	631872	Persistent Reserve In and Out commands issues.
68856		Calibration failures for some edge cases.
68857	630884	Intermittent drive communication errors.

Known Issues

This release of Scalar i2000 firmware has the following known issues. This list contains cumulative information for all previously released Scalar i2000 library versions.

Change Request Number	Service Request Number	Description	Workaround
20409		During upgrade, a Sev 1 RAS ticket is produced: The pivot assembly of the picker robotics (Scanner of the picker robotics) operation has Failed.	Disregard and close the RAS ticket.
71752		RES binary data compare fails with allocation length >2MB	Do not use allocation lengths >2MB.
71101	769416 773424	Due to firmware issues, the var/log partition is filling up, thus causing incomplete snapshots and other file system issues.	No applicable workaround is available. This requires a Customer Service Engineer to correct.
71098	779394	DHL - GUI becomes nonresponsive.	Do not log on using the GUI with more than one user at a time. If the issue occurs after I/E station operations, import/export fewer cartridges at one time.
71049		HRS is not working with 6404.	No applicable workaround is available.
71007		Library rejects valid a Read element status command with an allocation length > than 0x1ffff.	Host/HBA dependent. Do not send RES commands with the allocation lengths > 0x1FFFF.
70980	724681 732246 737466	Logical Serial Number (SN Spoofing) was lost after being enabled.	Serial number settings are applied at the time of a reboot, reboot the library again to resolve the issue.
70983		Tools > Drives > Connection Options <i>Loop</i> is hard setting HP LTO-4 drive to F-Port not L-Port.	If a loop connection is desired, set the drive to <i>Loop Preferred</i> instead of <i>Loop</i> .
70943		When removing and adding drives from/to an EKM partition, you may receive an error indicating insufficient licenses when there are actually sufficient licenses to make the change.	Modify the partition in two steps: First, remove the undesired drives from the partition and apply changes. Second, add the new drives to the partition.
70938		Cannot connect to a library with SSL enabled at an HTTPS address.	Use regular HTTP address. Data is still encrypted.
70801		The Modify Partitions function on large systems succeeds, but does not indicate the correct number of slots, drives, or I/E stations.	Reboot the library after modifying partitions on large systems. Do NOT attempt to modify the partition again before rebooting.

Change Request Number	Service Request Number	Description	Workaround
70621		The 7404 GUI reboot operation is slow (approximately 20 seconds).	No applicable workaround is available. Let the reboot process complete.
70638		Installing EKM with IBM Java disables functioning Sun Java plug-in and i2000 RMI interface does not function after EKM install.	Since the Mozilla Firefox Java plug-in is not impacted by the EKM installation, it is recommended to use Firefox if there are issues.
70591		Q-EKM enabled systems with more than 36 LTO-4 drives may fail with key/ASC/ASCQ: 4/ee/e. This type of failure only occurs during extremely high amounts of key requests (or move medium commands).	Restart back-up through host application.
69075		Drives failed to autolevel to specified firmware image during library bundle upgrade.	Do not upgrade drive brick firmware using the Tools > Upgrade Software menu option, but perform the upgrade after successfully updating the software library, using Tools > Update Drive Firmware menu option.
69061		Error connecting to server after software upgrade	When managing multiple libraries, do not use the same host for different GUIs at the same time.
69021		Devices stopped responding to host (all cmds timed out) following port reset.	Before pulling cables from the FC blades, verify that no I/O data is being written or read from the drives.
68949		Modifying a one-partition library to remove magazines from the partition does not remove all magazines selected upon completion. If the user attempts to create a partition using the available magazine, two partitions checker board the library.	Delete all partitions, and then use the Expert mode to create both partitions.
66625		Long erase fails with BUE 11d w/HP LTO3; semaphore timeout after 6 hours.	Device drivers from several different vendors, such IBM LTO and Adaptec SCSI HBA, have had to made changes to address LTO erase timeout issues. At minimum user needs to check and update to latest version of the device drivers for their system. Then if necessary, either run tape long erase operation one at a time or install IBM LTO 6.0.8.2 driver.
66379		7404 HPF requires reboot of SUSE 9 UD4 server.	Reboot SUSE 9 host.
65583		7404 HPF: the active port setting is not persistent, and a reboot can set it back to a failing port.	This functions as designed.

Change Request Number	Service Request Number	Description	Workaround
64283		SDLT 320 fails firmware update using FUP tape	This is only a problem with SDLT 320 drives with firmware V82 and older. Update the drive manually.
63936		SDLT 600 drives fail to upgrade using AMC.	If the upgrade fails, restart the library, and then perform the upgrade using AMC (making sure the previous version is identified as the drive firmware level). An alternative is to use the FUP tape without restarting the library.
63687		Changed mapping, but host continued to send commands to old devices.	Rescan library devices on the host (cycle host's SCSI front-end driver).
63649		6404/LUN mapping window doesn't update when a host is Online/Offline when FC cable is removed from host.	Rebooting the IOBlade refreshes the entries.
62736		MCB SCSI with AHA39320 scan does not report chger LUN - timeout error	This is a BIOS scan issue. Disable scanning from the BIOS, if possible, or reboot the library and perform rescan.
62692		When interrupting a move from the cleaning tape back to the cleaning slot, the library does not place media in cleaning slot.	Manually remove the tape from the picker.
62417		FRU id "rollup report" graph labels are unreadable	Reduce scope of query.
57762		When generating a Tape Alerts report graph, the serial number and barcode overwrite each other in the graphical display.	Select a smaller query set, or set the label to one item, for example, Media ID.
57687		AMC installs with errors when home directory is specified as link folder.	Do not specify home directory for link folder when logged in as root.
57578		Receive a Java error when installing the AMC software in c:	When an additional directory is specified under C:\ at install, for example - C:\AMC, then the client launch is successful.
48014	432530	Disable service port login, except for service port access.	When service login is disabled, you are unable to login via service port when multiple IP addresses are available to the client. Make certain there is only one valid IP available on the client (disable wireless connections).
42342		FUP update through the GUI failed, but the FUP update was successful manually.	Retry the update, and if the update still fails, try updating using the manual method.

Change Request Number	Service Request Number	Description	Workaround
42326		While performing Update Software, the library hung during power up.	Cycle power on the library. If the problem persists, contact technical support.
33779	304086 312136	AMC should use 802.3 standard to determine valid external IP and gateway addresses	As long as a valid IP is entered, there are no issues.
33714	304492	FCB eVPS map was corrupted.	Due to lack of data and inability to reproduce the problem, no applicable workaround is available.
33306		Reservations not transferred when host port fails over.	When the FC ports fail over the host needs to re-login (PLOGI + PRLI) to the FCB. Re-login requires that reservations be re-established.
28929	210302	No logging exists to identify when the software clock is brought into sync with the hardware clock. Also, there is no ability to identify or generate an issue ticket if a clock is running fast.	No applicable workaround is available.
25095	232590	If an MCB is removed from its original library and used on a new library, a ticket may be generated indicating a library serial number mismatch.	Contact technical support to escalate the issue.
22186		After setting Host Type to HP_UX and doing LUN Mapping at the same time, HP-UX host requires a reboot for it to see and communicate with the devices attached to the I/O blade.	Reboot the HP-UX host.
21446		Legacy mount and read/write statistics are still displayed when partitions are deleted and recreated.	This is designed function this way to track drive / media issues.
14920		LMC appears to hang for up to five minutes while trying to change drive SCSI ID/LTO-2 settings in one partition while other partitions are online and in use. The resulting changes are intermittent.	Take the physical library offline before changing the drive SCSI ID or LTO-2 settings.
12496		When issuing Vary On or Vary Off commands too quickly back-to-back, the commands are not executed.	Pause at least one minute between issuing Vary On or Vary Off commands. Observe the behavior of the drive to ensure the command is executed.
12246		The library SCSI port does not properly terminate when the library is connected via a string of drives.	Do not terminate a string of SCSI drives at the MCB.

Change Request Number	Service Request Number	Description	Workaround
12051	210522	The library does not support Domain Name System (DNS) for either Setup > Network Configuration or Setup > Email Configuration .	Use the physical IP of the library in the Setup > Network configuration dialog and the IP of the network mail server in the Setup > Email Configuration dialog.
11265		Timeout definition required for Logical Library. Applications have varying time-outs for Move Medium, with the minimum, non-configurable timeout being 300 seconds. Thus each logical library (LL) has an absolute time budget of 300/#LLs to "spend" on a move. If an LL knows in advance that it will be unable to perform a move, the LL can return Busy to the application. If one LL consumes the entire 300 seconds doing recovery, all the other LLs will timeout.	No applicable workaround is available.

Documentation

The following documents are currently available for the Scalar i2000.

Document Number	Document Title
6-00418-11 Rev A	Scalar i2000 Planning Guide
6-00421-11 Rev A	Scalar i2000 User's Guide
6-00274-14 Rev A	ADIC Management Console 4.4 Release Notes
6-00064-08 Rev A	ADIC Management Console 4.4 User's Guide
6-01244-04 Rev A	Encryption and Using Q-EKM on the Scalar i2000
6-01847-01 Rev A	Quantum Encryption Key Manager User's Guide
6-01884-01 Rev A	Quantum Encryption Key Manager Release Notes 2.1_007

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:

Global Call Handling	+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