StorNext M330
Release Notes

Product	StorNext M330
Date	June 2011

Contents

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Purpose of this Release

StorNext M330 combines industry-proven Quantum hardware and StorNext software into one convenient, out-of-the-box solution. Your StorNext M330 system has been pre-installed and is ready to operate with a minimum of additional configuration.

This document contains additional information related to your StorNext M330 system.

About This Release

This section contains important things you should know about your StorNext M330 system.

StorNext M330 Metadata Controllers

The StorNext M330 nodes are designed to run the metadata controller file system and, optionally, the Storage Manager. Because StorNext M330 has been designed for this workload, you should not install other software. Specifically, Distributed Data Movers or Distributed LAN Client Servers should be installed on other hosts and *not* on the MDC.

StorNext M330 Hardware Expansion

Although your StorNext M330 system comes with unfilled expansion slots and drive bays, these are reserved for Quantum use. Adding or upgrading hardware in the StorNext M330 is not supported.

Data Replication and Deduplication

The initial offering of the M330 is not designed for deduplication, and the standard StorNext deduplication license is not supported with the M330.

The M330 can support a limited amount of replication, when a replication license is added. Use an M330 for workloads that require no more than 75 MB/s of replication. For more demanding needs, please use software StorNext.

Configuring Clients for StorNext M330

When configuring clients for StorNext M330 use, you must have one client also mount the shared HA file system even though that client is not actually going to do I/O to the file system. Doing this causes the client to vote for the backup MDC to take over if there is an MDC issue, which prevents HA split-brain issues and possible data corruption.

Because the shared file system on the StorNext M330 is on the internal RAID and not visible, you must mount the client using the "`diskless=yes`" option.

On Linux systems, put into the `/etc/fstab` an entry similar to this:

```
shared-02637 /stornext/shared cvfs diskless=yes 0 0
```

(The name "shared-02637" used in the example will vary. The format is "shared-NNNNN")

On Windows clients, use the Mount Options field to add "diskless=yes".

For more information about this procedure, refer to the HA chapter in the *StorNext M330 User's Guide*.

Note: You need to do this on only one client machine.

Linux Device Mapper Multipath Support

StorNext M330 supports the Linux Device Mapper (DM) Multipath driver. This driver provides redundancy and improved I/O performance by taking advantage of multiple paths to storage. If you plan to use the Linux DM Multipath support with StorNext, be aware of the following:

- Not all RAIDs work with the DM Multipath Driver. Check with your storage vendor for compatibility.

- For detailed instructions on installing and configuring the DM Multipath Driver, refer to the SuSE documentation provided with your version of Linux.

- For StorNext to use Linux Device Mapper Multipath devices, you must make three changes to the /etc/multipath.conf file.

  1 Set user_friendly_names to **yes**.

  2 Quantum recommends that the cvfsctl devices not be included as multipath devices. This can be achieved by including the following in the blacklist entry:

     devnode "cvfsctl*"

  3 Current versions of the DM Multipath driver assign a default value of 1000 for rr_min_io, which is too high for most configurations having multiple active paths. Using a smaller value such as 32 will typically result in significantly improved performance. Experimentation may be required to determine the optimal value.

In addition, using the alias attribute in a multipath subsection of the multipath.conf file is not currently supported for devices used by StorNext. Its use can lead to mount failures.

- When migrating from other multipath drivers to DM Multipath, tuning may be required to achieve previous levels of performance. The specifics of this will depend on system configuration details.

- Using the cvpaths file and udev rules configuration files is typically unnecessary with Linux Device-Mapper with StorNext.

- On SuSE Linux Systems: In order to use Linux Device Mapper Multipath with Stornext, /etc/multipath.conf must be used because SuSE Linux does not install a multipath.conf, and Novell recommends against using it.

Although SuSE Linux does not install a multipath.conf file by default, an example file located at:

`/usr/share/doc/packages/multipath/tools/`
`multipath.conf.synthetic`

can be copied to:

`/etc/multipath.conf`

- On RedHat Linux Systems: Red Hat does install a multipath.conf file. By default, Red Hat multipath.conf file blacklists all multipath-capable targets. This means `blacklist { devnode "*"}` must be commented out.

Target Reset and Fiber Channel Tape Support on Qlogic HBAs

The Enable SCSI Bus Target Reset parameter is enabled by default on all Fiber channel HBAs. The parameter exists for disk arrays, but poses a problem for tape drives.

PROBLEM

When the SCSI bus target (the tape drive) is reset when a backup job is running, the backup job may abort. If the tape drive does not receive the rewind and unload commands from the backup job, it leaves the tape in the drive, causing the drive to be seen as not ready, and then be marked offline in the backup application when the next job tries to use the drive.

SOLUTION

To disable Target Resets on the tape SAN port on the StorNext M330, the following commands can be run on each node.

1 Connect to each node via ssh and login using the "stornext" user ID.

2 Change to root user permissions by running "`sudo rootsh`"

3 Disable Target Resets on the tape SAN port by issuing "`/usr/local/bin/scli -n 1 TR 0`"

4 Confirm that the setting is correct by issuing "`/usr/local/bin/scli -c`" and comparing the output for Port 2. It should look like:

```
[root@Acadia1-1 scripts]# scli -c
---------------------------------------------------------------------------
---------------------------------------------------------------------------
HBA Instance 0: QLE2562 Port 1 WWPN 21-00-00-1B-32-9D-4A-8D PortID 00-00-00
---------------------------------------------------------------------------
Connection Options             : 2 - Loop Preferred, Otherwise Point-to-
Point
Data Rate                      : Auto
Frame Size                     : 2048
Hard Loop ID                   : 0
Loop Reset Delay (seconds)     : 5
Enable Host HBA BIOS           : Disabled
Enable Hard Loop ID            : Disabled
Enable FC Tape Support         : Enabled
Operation Mode                 : 0 - Interrupt for every I/O completion
Interrupt Delay Timer (100ms)  : 0
```

```
Execution Throttle          : 65535
Login Retry Count           : 8
Port Down Retry Count       : 30
Enable LIP Full Login       : Enabled
Link Down Timeout (seconds) : 30
Enable Target Reset         : Enabled
LUNs Per Target             : 128
Enable Out Of Order Frame Assembly: Disabled
-----------------------------------------------------------------------------
-----------------------------------------------------------------------------
HBA Instance 1: QLE2562 Port 2 WWPN 21-01-00-1B-32-BD-4A-8D PortID 00-00-00
-----------------------------------------------------------------------------
Connection Options          : 2 - Loop Preferred, Otherwise Point-to-
Point
Data Rate                   : Auto
Frame Size                  : 2048
Hard Loop ID                : 0
Loop Reset Delay (seconds)  : 5
Enable Host HBA BIOS        : Disabled
Enable Hard Loop ID         : Disabled
Enable FC Tape Support      : Enabled
Operation Mode              : 0 - Interrupt for every I/O completion
Interrupt Delay Timer (100ms) : 0
Execution Throttle          : 65535
Login Retry Count           : 8
Port Down Retry Count       : 30
Enable LIP Full Login       : Enabled
Link Down Timeout (seconds) : 30
Enable Target Reset         : Disabled
LUNs Per Target             : 128
Enable Out Of Order Frame Assembly: Disabled
```

Supported Libraries and Tape Drives

Libraries and tape drives supported for use with StorNext M330 are presented in Table 1. Where applicable, minimum firmware levels for libraries are provided.

Table 1 StorNext Supported Libraries and Tape Drives

StorNext M330 Supported Libraries and Tape Drives					
Vendor Library Family	Libraries	Enforced Minimum / Recently Tested Library Firmware Level	Drive Types	Enforced Minimum / Recently Tested Drive Firmware Level	Notes
Quantum / ADIC	Scalar i40 / i80	Minimum: Base (SP5): 105G.GS001 I1 (SP6): 111G.GS003 I2: 120G.GS003	HP LTO-4 FH SAS	A55Z	
			HP LTO-4 FH 4GB FC	H58Z	
			HP LTO-4 HH SAS	U52Z	
			HP LTO-4 HH FC	V52Z	
			HP LTO-5 HH SAS	Z38Z, requires i1	
			HP LTO-5 HH FC	Y23Z, requires i2	
	Scalar 24	Minimum: 107A.GY0002	IBM LTO-1		Not including WORM
			IBM LTO-2		
			IBM LTO-3		
			IBM LTO-4		
	Scalar 50	Minimum: 002A	HP LTO-4		
	Scalar 100	Minimum: 2.05.0003	IBM LTO-1		Not including WORM
			IBM LTO-2		
			IBM LTO-3		NOTE: 2.10.0013 firmware not to be used.
			AIT-2		
	Scalar i500 I5.1 (Quantum, Dell, IBM) I6 (Quantum) I6.1 (See Dell ML6xxx Libraries below) I6.2 (See IBM libraries below)	i5.1: 572G.GS002 i6: Minimum 586G.GS001	IBM LTO-2	I5.1: 8571 I6: A4N0	
			IBM LTO-3	I5.1: 93G0 I6: 93GE	
			IBM LTO-3 WORM		
			IBM LTO-4	I5.1: 94D4 I6: A239	
			IBM LTO-4 WORM		
			IBM LTO-5	I6: A5M0	
			HP LTO-4 FC	I5.1: H46Z i6: H58Z	
			HP LTO-4 SAS	I5.1: A45Z i6: A55Z	
			HP LTO-5 FC	I6: I39Z Support starts in Quantum i6.x	
			HP LTO-5 SAS	I6: X38Z Support starts in Quantum i6.x	
			IBM LTO-5 FC	i6: A5M0	
	Scalar 1000	Minimum: 3.00.0017	IBM LTO-2		Must use SDLC/DAS, SDLC/SCSI Target Mode or Native SCSI
			IBM 3590B1A		
			AIT-1		

StorNext M330 Supported Libraries and Tape Drives (Continued)

Quantum / ADIC	Scalar i2000 / i6000 (i6000 branding started at i2k i8)	Minimum: 120A IBM LTO-3, IBM LTO-3 WORM Minimum: 300A.xxx IBM LTO-4, IBM LTO-4 WORM Minimum 540A.xxx i6.5; 590A i6.6: 595A.01601 i6.7: 596A.GS00301 i8.0(.1): 600A.GS23201 i8.1: 605A.GS07401	IBM LTO-1 FC and SCSI	5AU1	
			IBM LTO-2 FC and SCSI	I6.x: 93T0 I8.x: A4N0	
			IBM LTO-3 (2G and 4G	i6.x: 93G0 i8.x 93GM	
			IBM LTO-3 WORM		
			IBM LTO-4 4G	i6.x: 94D4 i8: A239	
			IBM LTO-4 WORM		
			IBM LTO-5	i8.1: A5M0 requires i8.1 or later	
			HP LTO-3 2G	L67Z	
			HP LTO-3 4G	M69Z	
			HP LTO-3 WORM		
			HP LTO-4 4G	H58Z	
			HP LTO-4 WORM		
			HP LTO-5 FC	I6.x: I24Z i8.0: I39Z I8.1: I3AZ Requires i6.7 or later	
			Quantum DLT-S4	V42	
			Quantum SDLT 320 SCSI	V94	
			Quantum SDLT 600 FC	V53	
	Scalar 10000	Minimum: 110A.00001	IBM LTO-1		Must use SDLC/DAS, SDLC/SCSI Target Mode or Native SCSI
			IBM LTO-2		
			IBM LTO-3	See library firmware requirement	
			IBM LTO-4	See library firmware requirement	
			IBM LTO-3 WORM	See library firmware requirement	
			AIT-2		
			AIT-2 WORM		
			IBM 3592		
	PX500	Minimum: 001A	HP LTO-3		Not including WORM
	PX720 ‡	Minimum 4.00	HP LTO-2		Not including WORM
			HP LTO-3		
			DLT-S4		
	DXI 7500	Minimum: N / A Recently Tested: 05.02.084	Supported emulations include: DLT7000, SDLT320, SDLT600, DLT-S4, Quantum/Certance LTO-2, 3, HP LTO-1, 2, 3, 4, IBM LTO-1, 2, 3, 4		

‡ Before using DLT cleaning with DLT-S4 or SDLT 600 drives, configure the library (Scalar i2000 or PX720) to disable reporting of the media ID. If media ID reporting is not disabled, StorNext will not recognize the cleaning media (SDLT type 1).

StorNext M330 Supported Libraries and Tape Drives (Continued)

Vendor Library Family	Libraries	Enforced Minimum / Recently Tested Library Firmware Level	Drive Types	Enforced Minimum / Recently Tested Drive Firmware Level	Notes
Dell	PV136T	Minimum: 3.11	IBM LTO-2		
			IBM LTO-3		
			IBM LTO-4		
	PowerVault ML6000 (6010, 6020, 6030)	Minimum: 585G.GS003	IBM LTO3FH SCSI IBM LTO3FH FC	Minimum: 93G6	LTO-3, LTO-4, LTO-5 WORM capability supported
			IBM LTO4FH SAS IBM LTO4FH FC	Minimum: A232	
			IBM LTO5FH SAS IBM LTO5FH FC	Minimum: A420	
HP	ESL E Series	Minimum: 4.10 Recently tested: 7.50	HP LTO-3	Recently tested: L68W	
			HP LTO-3 WORM		
			HP LTO-4		
			HP LTO-4 WORM		
			HP LTO-5	Recently tested: I25W	
			HP LTO-5 WORM		
	EML E-Series	Minimum: 1070 Recently tested: 1395	HP LTO-3		
			HP LTO-4		
			LTO-4 WORM		
			HP LTO-5	Recently tested: I25S	
	MSL 6000	Minimum: 5.07	HP LTO-2		MSL 6000 does not support HP LTO-5
			HP LTO-3	Recently tested: L67W	
			HP LTO-3 WORM		
			HP LTO-4		
	MSL G3 Series (2024/4048/8096)	Minimum 2024: 0370 (3.70) Minimum 4048: 0600 (6.00) Recently tested: 7.20 Minimum 8096: 0850 (8.50)	HP LTO-2		
			HP LTO-3		
			HP LTO-3 WORM		
			HP LTO-4		
			HP LTO-4 WORM		
			HP LTO-5		
IBM	TS3500	Minimum: 7422 Recently Tested: A420	IBM LTO-2		
			IBM LTO-3	Minimum 93GE	
			IBM LTO-4	Minimum A239	
			IBM LTO-5	Minimum A6S0	
			IBM 3592 (J1A and E05)		
			IBM TS1120 (E05)		Same as IBM3592 E05
	TS3310	Minimum: 587G.GS003	IBM LTO-3	Minimum: 93GE	
			IBM LTO-4	Minimum: A239	
			IBM LTO-5	Minimum: A6S0	
Qualstar	XLS	Minimum: 0880	IBM LTO-3		
			IBM LTO-4		
Sony	Petasite CSM-200	Minimum: 6.30	IBM LTO-4 drive (T1600)		

‡ Before using DLT cleaning with DLT-S4 or SDLT 600 drives, configure the library (Scalar i2000 or PX720) to disable reporting of the media ID. If media ID reporting is not disabled, StorNext will not recognize the cleaning media (SDLT type 1).

StorNext M330 Supported Libraries and Tape Drives (Continued)

Vendor Library Family	Libraries	Enforced Minimum / Recently Tested Library Firmware Level	Drive Types	Enforced Minimum / Recently Tested Drive Firmware Level	Notes
Spectralogic	T-Series	Recently Tested: 2000	LTO-3	Vendor supported: 93G0	See Bulletin 46 Library firmware is known as BlueScale 11.
			LTO-4	Recently tested: 97F9	
Oracle (Sun / StorageTek) SCSI/FC Libraries	L180/L700/L1400	Minimum: 3.18.02	T9840C		
			T9840C		
			T9840D		
			T10000A	Minimum 1.40	See Note 2
			T10000B	Minimum 1.40	See Note 2
			HP LTO-3		
			HP LTO-4		
			IBM LTO-3		
	SL3000	Minimum: 0235 LTO-5 requires minimum 2.35	T9840C		
			T9840D		
			T10000A	Minimum: 1.40	See Note 2
			T10000B	Minimum: 1.40	See Note 2
			HP LTO-3		
			HP LTO-4		
			HP LTO-5	Recently tested: I2DS	
			IBM LTO-3		
			IBM LTO-4		
			IBM LTO-5		
	SL500	Minimum: 1373 LTO-5 requires minimum 1395	HP LTO-3		
			HP LTO-4		
			HP LTO-5	Recently tested: I2DS	
			IBM LTO-3		
			IBM LTO-4		
			IBM LTO-5		
	9740	Minimum: 2000	Sun/STK 9840		Obsolete

Note 2: When using T10000 drives, the STK library parameter "Fastload" must be set to "OFF".

StorNext M330 Supported Libraries and Tape Drives (Continued)

Vendor Library Family	Libraries	Enforced Minimum / Recently Tested Library Firmware Level	Drive Types	Enforced Minimum / Recently Tested Drive Firmware Level	Notes
Oracle (Sun / StorageTek) ACSLS 7.3 ACSLS 7.3.1 ACSLS 8.0.x Libraries See Note 1	L180/L700/ L1400	Minimum: 3.18.02 Recently tested (L700): 3.18	T9840C		
			T9840D		
			T10000A	Minimum: 1.40	See Note 2
			T10000B	Minimum: 1.40	See Note 2
			HP LTO-3	Recently tested: L6CS	
			HP LTO-4		
			IBM LTO-3		
			IBM LTO-4		
	SL3000	Minimum: 2.35 LTO-5 requires minimum 2.35 Recently tested: 2.35	T9840C		
			T9840D		
			T10000A	Minimum: 1.40	See Note 2
			T10000B	Minimum: 1.40 Recently tested: 1.44.210	See Note 2
			HP LTO-3		
			HP LTO-4		
			HP LTO-5	Recently tested: I2DS	Requires minimum ACSLS 7.3.1
			IBM LTO-3		
			IBM LTO-4		
			IBM LTO-5		Requires minimum ACSLS 7.3.1
	SL500	Minimum: 1373 LTO-5 requires minimum 1395	HP LTO-3		
			HP LTO-4		
			HP LTO-5	Recently tested: I2DS	Requires minimum ACSLS 7.3.1
			IBM LTO-3		
			IBM LTO-4		
			IBM LTO-5		Requires minimum ACSLS 7.3.1
	SL8500	Minimum: 4.14 LTO-5 requires minimum 6.02 Recently Tested: 4.73	T9840C		
			T9840D		
			T10000A	Minimum: 1.40	See Note 2
			T10000B	Minimum: 1.40 Recently tested: 1.44	See Note 2
			HP LTO-3		
			HP LTO-4		
			HP LTO-5	Recently tested: I2DS	Requires minimum ACSLS 7.3.1
			IBM LTO-3		
			IBM LTO-4		
			IBM LTO-5		Requires minimum ACSLS 7.3.1

Note 1: The Sun / StorageTek FC and ACSLS sections have been modified to include drive and library permutations that are "paper certified" based on testing that has been performed and validated by Sun/STK.

Note 2: When using T10000 drives, the STK library parameter "Fastload" must be set to "OFF".

Client Interoperability for StorNext M330

Table 2 indicates previous versions of StorNext SAN clients on certain platforms which can interoperate with a StorNext M330 metadata controller without upgrading the SAN Client.

Table 2 StorNext M330 Client Interoperability

StorNext M330 Client Interoperability	
StorNext SAN Client Version	**Platform**
StorNext 3.1.x	Not compatible
StorNext 3.x	Not compatible
StorNext 4.0 StorNext 4.0.1 StorNext 4.0.1.1 StorNext 4.1 StorNext 4.1.1 ***	For platforms support for clients running these versions, refer to the corresponding release notes for that release.

*** StorNext 4.1.1 clients are bundled and shipped with this release.

StorNext M330 MDC to Xsan Client Interoperability

Table 3 shows interoperability between a StorNext M330 metadata controller and Apple Xsan clients.

Table 3 StorNext M330 MDC and Xsan Client Interoperability

StorNext M330 MDC to Xsan Client Interoperability			
Xsan Client Version	**Platform**	**Compatible**	**Notes**
1.4	x86-32 bit	No	See Notes 1 and 2
1.4.1	x86-32 bit	No	See Notes 1 and 2
1.4.2	x86-32 bit	No	See Notes 1 and 2
2.0	x86-32 bit	Yes	See Notes 1 and 2
2.1	x86-32 bit	Yes	See Notes 1 and 2
2.1.1	x86 32-bit	Yes	See Notes 1 and 2
2.2	x86 32-bit	Yes	
	x86 64-bit	Yes	
2.2.1	x86 32-bit	Yes	
	x86 64-bit	Yes	

[1] Machines running Apple's Leopard operating system run with 32-bit kernel, 64-bit user.

[2] Releases earlier than MacOS X 10.5.5 may have limited Windows Access Control Lists (ACL) functionality.

Known Issues

The following sections list known issues in this release of StorNext, as well as associated workarounds, where applicable:

- StorNext File System Known Issues on page 13
- StorNext Storage Manager Known Issues on page 14
- StorNext GUI Known Issues on page 14
- StorNext HA Known Issues on page 15
- StorNext Platform Known Issues on page 16

Note: CR numbers in parentheses were generated by the platform issue tracking tool, not the software issue tracking tool.

**StorNext File System
Known Issues**

Table 4 lists known issues that are specific to StorNext File System.

Table 4 StorNext File System
Known Issues

Operating System	CR Number	SR Number	Description	Workaround (if applicable)
All	33851 (23435)	n/a	A RAS ticket was incorrectly generated after converting both nodes to HA, creating two file systems, and running I/O from two hosts. The message was similar to the following: 26 Apr 2011 18:02:29 GMT Summary: QUANTUM software : File System component carnage-a-[04/26/11-11:02:29.436] : Failed to allocate disk space Details: carnage-a fsm[PID=19615]: fs "shared-08078": Disk allocation failed [datatoken.c:1209] inode 0x179 hint 0x41 flags 0x2000 retried 1 free 0x83b78f Ticket creation time: 04/26 11:02:29 PDT	If you receive a RAS message similar to this one under these conditions, the message can be safely ignored.

StorNext Storage Manager Known Issues

Table 5 lists known issues that are specific to StorNext Storage Manager.

Table 5 StorNext Storage Manager Known Issues

Operating System	CR Number	SR Number	Description	Workaround (if applicable)
All	33100	1244034	This problem occurred after power cycling a tape library which had been idle over the weekend. A power loss clears all persistent reservations. TSM was not restarted, so the next attempt to use tape drives failed because there were no reservations set.	You can avoid this problem by stopping TSM before power cycling the library, or bouncing TSM after the power cycle. TSM startup re-establishes the persistent reservations.

StorNext GUI Known Issues

Table 6 lists known issues that are specific to the StorNext GUI process.

Table 6 StorNext GUI Known Issues

Operating System	CR Number	SR Number	Description	Workaround (if applicable)
All	(22903)	n/a	Some admin alerts appear incorrectly with html tags displayed.	Admin alerts with html tags can be safely ignored.
	33721	n/a	Double-clicking any button in the StorNext GUI (particularly Cancel or Done) might cause an error message to appear.	The error message can be safely ignored. Refresh the page to remove the message.

StorNext HA Known Issues

Table 6 lists known issues that are specific to HA systems.

Table 7 StorNext HA Known Issues

Operating System	CR Number	SR Number	Description	Workaround (if applicable)
All	(23013)	n/a	During a firmware upgrade initiated through the StorNext GUI, a panic occurred on the secondary node while the primary node continued with the upgrade.	The workaround is to reboot the secondary node, which allows the upgrade process to continue and node boot into the new, upgraded version.
	(23087)	n/a	This condition occurs after power is interrupted on the primary node, and then as failover starts, power is interrupted on the secondary node. The primary node comes up normally, but the secondary node generates an error message: `The /usr/adic/TSM/config/ fs_sysparm system parameter file could not be opened: No such file or directory.` After this error message appears, the secondary node is shown as unavailable and failover cannot be performed again.	This condition occurs because the file `.ha_idle_failed_startup` was not deleted after rebooting. The workaround is to delete this file and then reboot again. Both the primary and secondary nodes should come up.
	(23114)	n/a	Failover to the secondary node failed after a power interruption occurred on the primary node while running I/O.	The issue seems to occur when deleting a file system. To minimize the chances of this issue occurring, try to avoid power interruptions while deleting file systems.
	(23620)	n/a	A core file associated with snhamgr_daemon was produced on the secondary node during I/O operation.	Although a RAS ticket was generated, the system otherwise continued to function normally. No action required.

StorNext Platform Known Issues

Table 6 lists known issues that are specific to the hardware platform.

Table 8 StorNext Platform Known Issues

Operating System	CR Number	SR Number	Description	Workaround (if applicable)
All	33839	n/a	Rebooting with the -f option can result in a panic.	To avoid this situation, do a power cycle rather than rebooting with the -f option.

Operating System	CR Number	SR Number	Description	Workaround (if applicable)
All	33571 (23184)	n/a	When power to an LSI SnowMass array is interrupted during I/O, the primary node resumes operation but the secondary node never reboots.	Follow this procedure to return the StorNext M330 system to normal operation: 1 The SnowMass array losing power will cause the primary MDC to SMITH. Wait for this MDC to finish restarting before proceeding to step 3. 2 After restoring power to the SnowMass array, wait for the LCD status on the back of the chassis to show status "8.5" before proceeding to step 3. 3 Type the following command on the MDC that was running as the secondary to verify that LocalStatus is not "primary": **root => snhamgr status** **LocalMode=default** **LocalStatus=running** **RemoteMode=default** **RemoteStatus=primary** If LocalStatus is "primary", then move to other (secondary) MDC and continue. 4 After verifying that you are working on the secondary MDC, execute the following command to force reboot the secondary MDC: **root => reboot -fn** 5 After the secondary MDC has starting rebooting, go to the other MDC and execute the following command to reboot the primary MDC: **root => reboot** 6 Wait for both MDCs to finish restarting. After restart the StorNext M330 will be operating in its normal, healthy state. After following this procedure, the former secondary MDC will now be the primary MDC, and the former primary MDC will now be the secondary MDC.

Documentation

The following documents are currently available for the StorNext M330:

Document Number	Document Title
6-67220-01	*StorNext M330 User's Guide*
6-67285-01	*StorNext Advanced Reporting Guide*

Contacting Quantum

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

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

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