



StorNext 5.x M440 Metadata Appliance Release Notes

StorNext 5 Releases Supported	Release Notes Date
StorNext 5.4.1	May 2018
StorNext 5.4.0.4	August 2017
StorNext 5.4.0.2	December 2016
StorNext 5.4.0.1	November 2016
StorNext 5.3.2.1	July 2016
StorNext 5.3.1	March 2016
StorNext 5.3.0	November 2015
StorNext 5.2.2	August 2015
StorNext 5.2.1	June 2015
StorNext 5.2.0.1	March 2015
StorNext 5.2.0	February 2015
StorNext 5.1.1	November 2014

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StorNext 5 Releases Supported	Release Notes Date
StorNext 5.1.0	July 2014
StorNext 5.0.1	March 2014
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Contents

About the Xcellis Foundation SystemaiWARE for Xcellis aiWARE for Xcellis Embedded (DAE) SystemStorNext M440 Metadata Appliance	3
About aiWARE for Xcellis Standard and High Performance Systems	3
Training and Documentation Resources	5
About StorNext 5	5
What StorNext Releases are compatible with my system?	5
Upgrade StorNext Software and System Firmware	5
Quantum Appliance Licenses	6
General Notes	6
Fixed Issues, Enhancements and Notes – StorNext 5.x	6
Known Issues	15
Known Issues Workarounds	24
Contacting Quantum	29

About the Xcellis Foundation SystemaiWARE for Xcellis aiWARE for Xcellis Embedded (DAE) SystemStorNext M440 Metadata Appliance

aiWARE for Xcellis Embedded (DAE) systems are dual-server appliances based on the Xcellis Workflow Director system, with the aiWARE/Vertione feature enabled, that supports the aiWARE virtual environment for media asset processing.

The system utilizes the artificial intelligence (AI) cognitive analytics technology of Veritone's aiWARE software and the data management capability of StorNext to create a powerful set of tools to derive additional value from your data.

The aiWARE software is designed for on-prem deployment, and operates behind enterprise firewalls, enabling you to exploit Veritone's cognitive engine ecosystem and applications to extract intelligence from content residing on local and private cloud storage.

By combining StorNext with the aiWARE software, the result is a solution that has the ability to search and analyze huge amounts of digital assets quickly, accelerate indexing and metadata tagging of audio and video content while providing near real-time processing for both new and archival content. This solution also reduces errors and labor by leveraging programmatic indexing of video and audio content and dramatically increase the types of metadata tagged to further monetize assets for sponsors and advertisers.

The aiWARE feature support is limited to the speech recognitions processing engine.

The server operates as a StorNext client, includes a StorNext GUI, hosts StorNext Connect, and is supported by the StorNext Connect Install App. Installation is performed by Quantum or Quantum partners only.

For additional information about aiWARE for Xcellis Embedded (DAE) systems, see [About the Xcellis Workflow Director System](#) on quantum.com, since this server is based on the Xcellis Workflow Director system.

About aiWARE for Xcellis Standard and High Performance Systems

aiWARE for Xcellis Standard and High Performance systems are single server appliances that support the aiWARE virtual environment for media asset processing.

The system utilizes the artificial intelligence (AI) cognitive analytics technology of Veritone's aiWARE software and the data management capability of StorNext to create a powerful set of tools to derive additional value from your data.

The aiWARE software is designed for on-prem deployment, and operates behind enterprise firewalls, enabling you to exploit Veritone's cognitive engine ecosystem and applications to extract intelligence from content residing on local and private cloud storage.

By combining StorNext with the aiWARE software, the result is a solution that has the ability to search and analyze huge amounts of digital assets quickly, accelerate indexing and metadata tagging of audio and video content while providing near real-time processing for both new and archival content. This solution also reduces errors and labor by leveraging programmatic indexing of video and audio content and dramatically increase the types of metadata tagged to further monetize assets for sponsors and advertisers.

Similar to Xcellis Workflow Extender (R630) systems, the server operates as a StorNext client, but has no StorNext GUI, and does not host StorNext Connect, and is also not supported by the StorNext Connect Install App. Installation is performed by Quantum or Quantum partners only.

For additional information about aiWARE for Xcellis Standard and High Performance systems, see [About aiWARE for Xcellis \(Standard and High Performance\) Systems](#) on quantum.com.

The Quantum Xcellis Foundation system is an affordable, easy-to-install, simple-to-manage scale-out NAS storage appliance that provides the capacity and performance you need for both today and tomorrow. It is a turnkey solution with the features, performance, and scalability of an enterprise-grade system, sized and priced for smaller workgroups and organizations. Integrated storage tiering efficiently moves less-frequently used data to the cloud or other archive tiers to drive down the cost of long-term storage and preserve valuable free space in Xcellis Foundation.

For more information about the Xcellis Foundation system, see [About the Xcellis Foundation System](#) on quantum.com.

The StorNext M440 offers the powerful file-sharing capabilities of StorNext in an optimized appliance package. The appliance includes a pair of MDC (metadata controller) nodes in a High Availability (HA) configuration and a high-performance metadata/data array, which is available with HDDs, or in a configuration using a combination of both SSDs and HDDs. An optional disk expansion kit adds additional disks to the base metadata array for additional file systems, performance and capacity.

The M440 models include:

- StorNext M441D
- StorNext M445D SSD
- StorNext M441Q
- StorNext M445Q SSD

The M440 also has an available 10 GbE NIC Card. With the 10 GbE NIC card installed, the models become the M441D w/10GbE and the M445D SSD w/10GbE.

i Note: At times this document uses M440 as a generic term that applies to the StorNext M441D, M441Q, and the StorNext M445D SSD, M445Q SSD, M441D w/10GbE, and M445D SSD w/10GbE models. When information pertains only to a specific model, those differences are noted.

Training and Documentation Resources

[Xcellis Foundation training and documentation](#)

[aiWARE for Xcellis training and documentation](#)

[M440 training and documentation](#)

About StorNext 5

StorNext 5 is a new generation of Quantum StorNext that performs faster, scales farther, and expands flexibility. StorNext 5 has been built from the ground up with a new architecture designed to meet the needs of today's evolving digital workflows.

The complete list of documentation for StorNext 5, including the StorNext 5 Release Notes, can be found here:

<http://www.quantum.com/sn5docs>

What StorNext Releases are compatible with my system?

See the [StorNext Release Compatibility](#) page of the [Appliance InfoHub](#) on quantum.com for further information.

Upgrade StorNext Software and System Firmware

Before upgrading your system, refer to [Known Issues – StorNext 6.x](#). This section contains important information you need to know before upgrading.

See [Upgrade the System \(Upgrade Firmware\)](#) for the steps necessary to upgrade to the latest StorNext release and hardware firmware for your system.

Quantum Appliance Licenses

See [Quantum Appliance Licenses](#) on the [Quantum Appliances InfoHub](#).

General Notes

Refer to the [General Notes](#) section of the [Quantum Appliances InfoHub](#) for important information you should know about your system.

Fixed Issues, Enhancements and Notes – StorNext 5.x

This section lists the fixed issues that affect M440 for different StorNext Releases.

StorNext 5 Releases:

[Fixed Issues, Enhancements and Notes for StorNext 5.4.1](#)

[Fixed Issues, Enhancements and Notes for StorNext 5.4.0.4](#)

[Fixed Issues, Enhancements and Notes for StorNext 5.4.0.3](#)

[Fixed Issues, Enhancements and Notes for StorNext 5.4.0.2](#)

[Fixed Issues, Enhancements and Notes for StorNext 5.4.0.1](#)

[Fixed Issues, Enhancements and Notes for StorNext 5.3.2.1](#)

[Fixed Issues, Enhancements and Notes for StorNext 5.3.2](#)

[Fixed Issues, Enhancements and Notes for StorNext 5.3.1](#)

[Fixed Issues, Enhancements and Notes for StorNext 5.3.0](#)

[Fixed Issues, Enhancements and Notes for StorNext 5.2.2](#)

[Fixed Issues, Enhancements and Notes for StorNext 5.2.1](#)

[Fixed Issues, Enhancements and Notes for StorNext 5.2.0.2](#)

[Fixed Issues, Enhancements and Notes for StorNext 5.2.0.1](#)

[Fixed Issues, Enhancements and Notes for StorNext 5.2.0](#)

[Fixed Issues, Enhancements and Notes for StorNext 5.1.1](#)

[Fixed Issues, Enhancements and Notes for StorNext 5.1.0](#)

[Fixed Issues, Enhancements and Notes for StorNext 5.0.1](#)

[Fixed Issues, Enhancements and Notes for StorNext 5.0](#)

Fixed Issues, Enhancements and Notes for StorNext 5.4.1

This release only changes the base StorNext software. Because there is nothing new or fixed specifically related to your system hardware, there is nothing else to report for this release.

See the [StorNext 5.4.1 Release Notes](#) for information about StorNext software enhancements and fixed issues for this release.

Fixed Issues, Enhancements and Notes for StorNext 5.4.0.4

This release only changes the base StorNext software. Because there is nothing new or fixed specifically related to your system hardware, there is nothing else to report for this release.

i Note: In order to upgrade firmware to StorNext 5.4.0.4, your system must be running StorNext 5.4.0.x.

See the [StorNext 5.4.0.4 Release Notes](#) for information about StorNext software enhancements and fixed issues for this release.

Fixed Issues, Enhancements and Notes for StorNext 5.4.0.3

i Note: StorNext 5.4.0.3 is obsolete and replaced by 5.4.0.4. However, the Fixed Issues, Enhancements and Notes for the StorNext 5.4.0.3 still apply.

See the [StorNext 5.4.0.3 Release Notes](#) for information about StorNext software enhancements and fixed issues for this release.

Fixed Issues, Enhancements and Notes StorNext 5.4.0.2

This release provides an iDRAC firmware upgrade to version 2.41.40.40. This update prevents motherboard failures that, in very rare cases, could occur during a StorNext software upgrade on systems with an iDRAC version earlier than 2.30.30.30. (To determine your system's current iDRAC version, the easiest way is to look at `/opt/DXi/hwdetect/FirmwareReport.txt` and search for the iDRAC string. Another way is to run the command `racadm getversion`)

The following table lists the fix for this StorNext release.

Table 1: Fixed Issues for StorNext 5.4.0.2

CR Number	SR Number(s)	Description
65688	n/a	Update iDRAC firmware to 2.41.40.40.

This release was an enhancement for your hardware only. Because this release did not change the base StorNext software, there are no StorNext software Release Notes for this release.

Fixed Issues, Enhancements and Notes for StorNext 5.4.0.1

i Note: StorNext 5.4.0.1 is no longer supported for upgrades. Upgrade to 5.4.0.2 or 5.4.0.4 instead.

- **Capture State** enhancements to the StorNext GUI, to enhance the method and information captured in various log files for the system. See **Service > Capture State** in the *StorNext User's Guide*, and the online help on the **Capture State** page.

The following table lists the fixed issues/enhancements for this StorNext release.

Table 2: Enhancements for StorNext 5.4.0.1

CR Number	SR Number(s)	Description
63526	n/a	Add upgrade status messages from the upgrading node to be displayed in the limited mode GUI on the running node. See Monitoring upgrade progress - the "Firmware Upgrade Status" page .

See the [StorNext 5.4.0.1 Release Notes](#) for information about StorNext software enhancements and fixed issues for this release.

Fixed Issues, Enhancements and Notes for StorNext 5.3.2.1

i Note: StorNext 5.3.2 is obsolete and replaced by 5.3.2.1.

i Note: Upgrades to StorNext 5.3.2.1 require StorNext 5.3.1 or 5.3.1.1 to be installed prior to the upgrade.

i Note: All Fixed Issues and enhancements that applied to StorNext 5.3.2 also apply to 5.3.2.1 for M440.

The following table lists the fixed issues/enhancements for this StorNext release. See also [Fixed Issues, Enhancements and Notes for StorNext 5.3.1 on the next page](#).

Table 3: Fixed Issues/Enhancements for StorNext 5.3.2/5.3.2.1

CR Number	SR Number(s)	Description
63928	3711106	The <code>/etc/ld.so.conf.d/cvfs.conf</code> file is now included on the system after fw upgrade to StorNext 5.3.2.1.
62454	3701100	On upgrades to StorNext 5.0 to 5.3.x from StorNext releases prior to 5.0 on HA systems (for M440 Metadata Appliances), the directory <code>/usr/adic/wsar_agent/tmp</code> is created on the nodes during the upgrade process.

See the [StorNext 5.3.2 Release Notes](#) for information about StorNext software enhancements and fixed issues for this release.

Fixed Issues, Enhancements and Notes for StorNext 5.3.2

i Note: StorNext 5.3.2 is obsolete and replaced by 5.3.2.1. However, the Fixed Issues, Enhancements and Notes for the StorNext 5.3.2 still apply.

See the [StorNext 5.3.2 Release Notes](#) for information about StorNext software enhancements and fixed issues for this release.

Fixed Issues, Enhancements and Notes for StorNext 5.3.1

The following table lists the fixed issues/enhancements for this StorNext release.

Table 4: Fixed Issues/Enhancements for StorNext 5.3.1

CR Number	SR Number(s)	Description
62017	n/a	Update <code>glibc</code> for systems to take a CentOS fix for CVE-2015-7547.
61779	n/a	Enhanced R520 systems to honor AC power recovery settings when set manually in system BIOS.
61388	3619338	Enhanced log collection scripts to include additional NAS logging
61157	n/a	Updated NAS version to NAS 1.2.1.
61089	n/a	Enhanced the upgrade process to ensure custom <code>innodb_buffer_pool_size</code> memory settings for MySQL are preserved after firmware upgrades.
61082	n/a	New <code>quantum_connect</code> RPM included with this release.

CR Number	SR Number(s)	Description
62017	n/a	Update glibc for systems to take a CentOS fix for CVE-2015-7547.
61075	n/a	Enhanced log collection scripts to include StorNext Connect logs.
61073	3565236	Fixed an issue where hwmnd previously didn't catch a failed PSU if the return string contained the extra words "Failure detected".
61070	n/a	Fixed minor spelling errors in the Service Menu
61068	n/a	Fixed an issue which could have caused the firmware upgrade process to fail.
60814	3635792	Fixed an issue where, when hosted applications were run on a server node and active inside a SNFS file system, StorNext services restarts or stops (e.g. service cvfs stop) no longer result in blocked processes, fail overs now occur correctly, and both no longer require a power cycle of the primary server node to rectify the situation.
60744/ 55220	n/a	NFS version 4 is now disabled on CentOS 7 systems, during NAS 1.2.1 installation.
57627	n/a	<p>After the system was booted, if NICs were present in slots that previously contained NICs with different speeds (Example: 10 GbE vs. 1 GbE), the system would use the same Ethernet alias names defined for the network interfaces as previously-installed NICs.</p> <p>The ethernet alias names shown in the StorNext Metrics GUI page now reflect the change in network device type representing the alias.</p>

See the [StorNext 5.x Release Notes](#) for information about StorNext software updates.

Fixed Issues, Enhancements and Notes for StorNext 5.3.0

The following table lists the fixed issues/enhancements for this StorNext release.

Table 5: Fixed Issues/Enhancements for StorNext 5.3.0

CR Number	SR Number(s)	Description
57840	3563534 and 3563300	Improved the firmware upgrade process: <ul style="list-style-type: none"> If one node of the HA pair is not available, the upgrade will be prevented. Upgrade failures now terminate immediately on errors instead of timing out after 3600 seconds.
57842	3448264, 3531452, 3558590, and 3568266	Added routing section to the Configuration > System > Network page of the StorNext GUI where users can configure static routes for a given alias.
38291	n/a	Fixed an issue where, after an HA failover, an Admin Alert was previously issued if the MDC node acting as primary attempted to initiate an fs_fmover process on the MDC node acting as secondary while the secondary MDC node was rebooting. This situation applies to all StorNext 5 releases prior to 5.3.0.

See the [StorNext 5.x Release Notes](#) for information about StorNext software updates.

Fixed Issues, Enhancements and Notes for StorNext 5.2.2

The following table lists the fixed issues/enhancements for this StorNext release.

Table 6: Fixed Issues/Enhancements for StorNext 5.2.2

CR Number	SR Number(s)	Description
56290	n/a	Updated metadata array firmware to 08.20.09.00.
56291	n/a	Upgrade CentOS to version 6.6 when the StorNext 5.2.2 appliance firmware upgrade is applied.
56583	n/a	Added a way to insert global variables into smb.conf through the command line.
56717	n/a	Added /var/log/sa contents to support bundle file-list for SAR reports.

See the [StorNext 5.x Release Notes](#) for information about StorNext software updates.

Fixed Issues, Enhancements and Notes for StorNext 5.2.1

The following table lists the fixed issues/enhancements for this StorNext release.

Table 7: Fixed issues/Enhancements for StorNext 5.2.1

CR Number	SR Number(s)	Description
54949	n/a	Files systems can now be used for both SMB and SAN or LAN client access. Accessing the same files via SMB client and SAN or LAN clients now produces consistent file attributes and supports concurrent SMB and SAN/LAN client access to the same file system.
55553	1628792	Updated the default <code>innodb_buffer_pool</code> size for appliances. This change improves Storage Manager performance for systems running the previous defaults. The new default value is: M440 - 10GB
55567	3511046, and 3512842	Changed the sar log time format to improve compatibility with sar graphing tools.
55568	3488100	Added a “screen” utility to the StorNext appliance code to aid troubleshooting and configuration.
55585	3515176	Added the Ubuntu client to the client download drop-down menu in the StorNext GUI.
55593	n/a	The default gateway is now set correctly when no DNS server is specified when configuring the network settings in the Service Menu .
55709	n/a	ADATA USB drives are now properly recognized when plugged into an appliance.

See the [StorNext 5.x Release Notes](#) for information about StorNext software updates.

Fixed Issues, Enhancements and Notes for StorNext 5.2.0.2

See the [StorNext 5.x Release Notes](#) for information about StorNext software updates.

Fixed Issues, Enhancements and Notes for StorNext 5.2.0.1

See the [StorNext 5.x Release Notes](#) for information about StorNext software updates.

Fixed Issues, Enhancements and Notes for StorNext 5.2.0

In addition to the fixed issues and enhancements listed below, as of StorNext 5.2, the 10GbE NIC card for M440 Metadata Appliances to enable access to Lattus Object Storage as a storage destination in StorNext is now supported.

The following table lists the fixed issues/enhancements for this StorNext release.

Table 8: Fixed Issues/Enhancements for StorNext 5.2.0

CR Number	SR Number(s)	Description
51295	n/a	Fixed issue where the upgrading the G300 from the MDC would not work.
53765	n/a	Eliminated erroneous RAS tickets generated during the upgrade process.
54039	n/a	Fixed Ghost vulnerability in Linux glibc (CVE-2015-0235).

See the [StorNext 5.x Release Notes](#) for information about StorNext software updates.

Fixed Issues, Enhancements and Notes for StorNext 5.1.1

The following table lists the fixed issues/enhancements for this StorNext release.

Table 9: Fixed Issues/Enhancements for StorNext 5.1.1

CR Number	SR Number(s)	Description
48140	n/a	Upgrade CentOS to version 6.5 when the firmware is upgraded to StorNext 5.1.1.
48823	n/a	Improved boot times by launching many boot tasks in the background.
48839	n/a	Added platform support for StorNext Connect.
48880	n/a	Updated controller firmware and added support for new Tahoe RAID controller for the metadata array.
49358	n/a	Fixed issue where SNMP traps may not have been propagated.
49360	n/a	Updated iDRAC firmware.
49502	n/a	The Metadata Appliance upgrade now always attempts to make Node 1 the primary node after the upgrade is complete. i Note: This will only occur on Metadata Appliances with StorNext Connect installed and enabled. On Metadata Appliances without StorNext Connect installed and enabled, this extra failover will not take place.
50859	n/a	Bash security vulnerability found with environment variables CESA-2014:1293.

See the [StorNext 5.x Release Notes](#) for information about StorNext software updates.

Fixed Issues, Enhancements and Notes for StorNext 5.1.0

The following table lists the fixed issues/enhancements for this StorNext release.

Table 10: Fixed Issues/Enhancements for StorNext 5.1.0

CR Number	SR Number(s)	Description
48639	3398958, and 3342200	Optimized MDC node boot speed by reducing log level during bootup.
47343	n/a	Added a capacity check for the HA shared file system to ensure sufficient disk space is available for the upgrade.
47344	n/a	Added new checkpoints within the upgrade process to increase the robustness of the upgrade in the event of an error.
47358	n/a	Placed rootsh logs under logrotate control and compression to avoid unnecessary disk usage.
47379	n/a	Updated the firmware levels for the metadata controller nodes.
47408	n/a	Updated the multipath.conf.quantum file.
47565	n/a	Add version table support for 5.1 upgrades on all appliances.
47854	n/a	Resolved an issue during upgrade where the upgrade could hang if the secondary node was manually rebooted.
48000	n/a	Resolved an issue where ALUA support may not be correctly detected during the upgrade process.

See the [StorNext 5.x Release Notes](#) for information about StorNext software updates.

Fixed Issues, Enhancements and Notes for StorNext 5.0.1

The following table lists the fixed issues/enhancements for this StorNext release.

Table 11: Fixed issues/Enhancements for StorNext 5.0.1

CR Number	SR Number(s)	Description
35600	n/a	Add ALUA support on the M-Series arrays.
36891	1634032, and 3352678	Updated metadata array multipath settings for optimal performance and reliability.

See the [StorNext 5.x Release Notes](#) for information about StorNext software updates.

Fixed Issues, Enhancements and Notes for StorNext 5.0

The following table lists the fixed issues/enhancements for the initial release of StorNext 5.0.

Table 12: Fixed issues/Enhancements for StorNext 5.0

CR Number	SR Number(s)	Description
29296	n/a	Log message: syncha.pl[24735]: Relocating shared: 'SRVCL0G/logs/srvcLog' no longer repeats after a SAS failover on the metadata array.
34846	n/a	Upgrade CentOS to version 6.4 when the StorNext 5.0 appliance firmware upgrade is applied.
34847	n/a	Upgrade output log files are now consolidated into a single file during software upgrades.
34860	n/a	Fixed Retina scanner test failures by enhancing security to allow passing status from the Retina security scanning tool.
35536	n/a	StorNext 5 appliance firmware upgrade includes the latest component-level firmware.
35602	n/a	HA failover no longer causes both nodes to be down during an upgrade. Changed the upgrade behavior to a "no client downtime" upgrade when upgrading from 4.7 (and later) to StorNext 5.0.
35612	n/a	Network restarts from the metadata appliance Service Menu no longer cause bond0 to not start up.
35652	n/a	Custom network bonding configurations are now preserved when upgrading from CentOS6 and CentOS5 platforms.
35839	n/a	RAS messages are no longer generated when a health check is called on a system with no configured managed file systems.

See the [StorNext 5.x Release Notes](#) for information about StorNext software updates.

Known Issues

This section lists the known issues that affect Quantum Appliances.

CR Number	SR Number	Description	Workaround (if applicable)
70207		<p>The upgrade code currently does not upgrade the gateway client for M440 systems, when the is configured as a StorNext gateway, for releases prior to 6.0.6.</p> <hr/> <p>i Note: This has been fixed for StorNext 6.0.6 and later releases. See 70207 in the StorNext 6.x Release Notes for your particular appliance. To find the 6.x release Notes for your system, visit the Quantum Appliance InfoHub, on the Identify My System, and Access Training and Documentation page, and navigate to the section specific to your system.</p>	<p>Upgrade to StorNext 6.0.6.1.</p> <p>OR</p> <p>Upgrade the gateway client software manually.</p>

CR Number	SR Number	Description	Workaround (if applicable)
70178		Custom-configured settings entered in the <code>/etc/multipath.conf</code> file are overwritten when the system firmware upgrade is applied. The upgrade code prior to StorNext 6.0.6 added required multipath settings to the file for SAS-attached NetApp metadata arrays. For StorNext releases 5.3.1 to 6.0.5.x, the upgrade process creates a backup of the file as <code>/etc/multipath.conf.bak</code> .	<p>Upgrade to StorNext 6.0.6.1.</p> <p>If you don't upgrade, here are two ways to restore your multipath settings:</p> <ol style="list-style-type: none">1. If there isn't a backup of your <code>multipath.conf</code> file, you will have to add the settings into the file using a command-line editor like <code>vi</code>.2. If the firmware upgrade created a backup settings (like <code>/etc/multipath.conf.bak</code>), or you have created your own backup, copy your custom multipath settings into the current <code>multipath.conf</code> file using a command-line editor like <code>vi</code>. <p>For releases prior to 5.3.1, create a backup copy of your custom <code>/etc/multipath.conf</code> file, for future use. Here's one way:</p> <pre>cp /etc/multipath.conf /etc/multipath.conf.bak</pre>

CR Number	SR Number	Description	Workaround (if applicable)
70125	367627	<p>In certain situations, the StorNext GUI will appear to finish upgrading, but a "Firmware upgrade in progress" state message is displayed and does not go away. The secondary server node upgrade fails, and you will not be able to access that server node. Because the upgrade did not complete, the upgrade is also not complete on the primary server node which appears to have completed its upgrade.</p> <p>This can occur with upgrades to StorNext to 5.2.2 or later, since those releases upgrade the NetApp metadata array firmware to 8.20.09 (see StorNext Release Compatibility for which StorNext releases are supported on your appliance). Do one of the following:</p> <ul style="list-style-type: none"> • See the "StorNext Appliance Upgrade Matrix" section of the StorNext Compatibility Guide) for upgrades to StorNext 5.x releases. • See the "StorNext Appliance Upgrade Matrix" section of the StorNext 6.x Compatibility Guide) to StorNext 6.x releases prior to 6.0.6. 	<p>If your system exhibits this issue, see Resolve "Firmware Upgrade in Progress"/Stuck Upgrade on page 24.</p>
68096	n/a	<p>There is currently a known issue in CentOS6 where a restart of the NAS services may delay <code>rsyslogd</code> restarts. This appears to be caused by a failed StorNext share mount, which in turn causes NAS services to not fully complete startup until the StorNext share is mounted. This can result in system logging to be lost while the <code>rsyslogd</code> is not running.</p>	<p>Verify all expected StorNext file systems are mounted. If not, manually mount any file systems needed by NAS.</p>
68095	n/a	<p>If NAS Clustering is enabled with NFS, and one or more of the SNFS file systems do not mount when StorNext services are restarted, then the automatic startup of the NAS services could hang indefinitely until that mount point is restarted and remounted.</p>	<p>Manually mount the file system and restart NAS. (See Restart the controller.)</p>

CR Number	SR Number	Description	Workaround (if applicable)
n/a	n/a	If you upgrade the system to StorNext 5 Release 5.2.2 or later (which upgrades the metadata array firmware to the Kingston release [v. 08.20.09] on the array), LUNs created for the Expansion Unit will be 5 GB smaller than LUNs created from systems running older StorNext releases.	There currently is no workaround for this issue. LUN sizes cannot be adjusted.

CR Number	SR Number	Description	Workaround (if applicable)
62454	3701100	<p>On upgrades to StorNext 5 Release to 5.3.x from StorNext releases prior to 5.0, the directory <code>/usr/adic/wsar_agent/tmp</code> is not created on the nodes during the upgrade process. Because of this, async web services will not function correctly.</p> <p>A log message similar to the following will be displayed in the <code>wsar_agent.log</code> file:</p> <pre>> [0328 13:05:35.878] 0x7f36b1346700 ERR [wsarutils.c:107] [wsar_run_ cmd] [22] wsar_run_cmd: req_ id=22: failed to open (/usr/adic/wsar_ agent/tmp/wsar.22.out), errno 2</pre>	<p>To create the <code>/usr/adic/wsar_agent/tmp</code> directory on both nodes:</p> <ol style="list-style-type: none"> 1. Open an SSH connection to the appropriate server and use the IP address assigned to the node on the Management or LAN Client network, or use the Service Port IP address, if connected to the Service Port. <p>Service Port IP addresses (if used):</p> <ul style="list-style-type: none"> Note: Node 2 is the server node sold with single-node (non-HA) Workflow Director and Artico systems. <ol style="list-style-type: none"> 2. Log in to the server node with the following credentials: <ul style="list-style-type: none"> • User name: stornext • Password: <stornext user accountpassword> <ul style="list-style-type: none"> Note: password is the default password for the stornext user account. If the password has been changed, use the current password. 3. Enter sudo rootsh to gain root user access. 4. Enter the password for the stornext user account again. 5. Verify the directory exists on the server node: <pre>cd /usr/adic/wsar_</pre>

Note: This was fixed in 5.3.2.1 (see [Fixed issues, enhancements and notes for StorNext 5 Release 5.3.2.1](#)).

CR Number	SR Number	Description	Workaround (if applicable)
			<pre data-bbox="1089 296 1453 369">agent/tmp</pre> <p data-bbox="1040 411 1442 516">6. If the directory does not exist, you will see a message similar to the following:</p> <pre data-bbox="1089 558 1453 726">bash: cd: /usr/adic/wsar_agent/tmp: No such file or directory</pre> <p data-bbox="1040 768 1442 810">7. If needed, create the directory:</p> <pre data-bbox="1089 852 1453 989">mkdir /usr/adic/wsar_agent/tmp</pre> <p data-bbox="1040 1031 1442 1104">8. Repeat the previous steps for the other server node.</p>
60814	3635792	<p data-bbox="472 1136 1008 1583">This was fixed in Stornext 5 Release 5.3.1 (see Fixed Issues, Enhancements and Notes for StorNext 5.3.1 on page 9). When hosted applications are run on a server node and are active inside of an SNFS file system, StorNext service restarts may hang, requiring the server node to be rebooted. Also, stopping StorNext services (using service cvfs stop) on a node currently acting as primary previously can result in blocked processes that prevent fail overs from occurring, and require a power cycle of the primary server node to rectify the situation.</p>	<p data-bbox="1024 1136 1469 1583">Workaround: Any applications running locally on the server node acting as primary must be stopped prior to any other operations that may result in StorNext being stopped or restarted. This includes rebooting the server node, exiting HA Config Mode, or upgrading firmware.</p>

CR Number	SR Number	Description	Workaround (if applicable)
60774/ 55220	n/a	<p>i Note: This issue was fixed by way of the NAS 1.2.1 release and StorNext 5.3.1. See 60744/55220 on page 10.</p> <p>(NAS-only issue) NFS version 4 is not supported and must be disabled.</p>	<p>There currently is no workaround for NFS v4 support prior to StorNext 5.3.1/NAS 1.2.1. See How to Disable NFS v4 on page 26. If you are running StorNext NAS and export NFS shares, you must disable NFSv4 .</p>
60614	n/a	<p>Your system, and all other Connect-managed Linux StorNext SAN clients must have the latest Connector installed so that statistics can be passed to StorNext Connect. If a system is managed by StorNext Connect and you upgrade the firmware on that system to StorNext 5 Release 5.3.0 firmware PRIOR to upgrading the StorNext Connect Connector, the Volume Storage widget on the StorNext Connect Dashboard will display no data for those systems.</p>	<p>For steps to take to update the Connect Connector(s) before upgrading system firmware, see Update the StorNext Connect Connector before doing a firmware upgrade. For steps to take if you have already upgraded firmware but did not first update the Connector(s), see Repair a StorNext Connect System After Firmware Upgrades.</p>
56135	n/a	<p>The StorNext GUI does not show the RHEL7 and SLES12 clients in the list of clients available for download.</p> <p>i Note: This issue only affects systems running StorNext 5 Release 5.2.1.</p>	<p>To manually download the client installers for RHEL7 and SLES12:</p> <ol style="list-style-type: none"> 1. Open an SSH connection to one of the server nodes (either node will work) using the IP address assigned to that node on the Metadata network. Manually copy the Redhat7 or SuSE12 .bin file from /usr/cvfs/CLIENTS to an external USB thumb drive or copy over the network to the client system. 2. Continue with the installation procedure for the client for your operating system as described in the <i>StorNext Installation Guide</i> or the StorNext online help.

CR Number	SR Number	Description	Workaround (if applicable)
55384	n/a	If dmnfsthreads is not set on mount, nfsds may be over-committed when there are many NFS processes waiting for offline files.	For managed file systems serving NFS, Quantum recommends using the "dmnfsthreads=16" mount option. This setting ensures that NFS remains responsive when Storage Manager is retrieving data from an archive tier.
55318	n/a	Strange UID on ACL when file created on non ads client.	All systems accessing the StorNext SAN or LAN clients, or the NAS clients, must be part of the same identity domain. Accessing StorNext from different identity domains can result in inconsistent file ownership attributes, as well as potential access problems.
55220	n/a	(See CR 60774/55220 on the previous page)	
54451	n/a	StorNext supports case-sensitive file names. For configurations with different client types, such as Windows and Mac sharing the same files, the default case type may be different.	There currently is no workaround for this issue. SMB is operating as expected.
55993/ 54445	n/a	(NAS-only issue) Setting Unix permissions on a Mac Samba client sometimes silently fails. This problem occurs when: <ol style="list-style-type: none"> 1. The Samba mount is done using sysadm credentials. 2. Active Directory is not used. 3. Local Mac credential authentication is used when creating files. 	To make sure the Mac Samba client does not fail, make sure User ID used for the Mac Samba client matches the User ID used for the NAS gateway server. File creation and permission setting changes done while using Active Directory and an active Mac Samba client will now work as expected.
47041		Adding new index to tierfiles tables can delay first TSM start up following system StorNext upgrades to 5.0.1	See TSM Indexing Delay for Large Databases in the Before You Upgrade Firmware section for the workaround.

CR Number	SR Number	Description	Workaround (if applicable)
45702	n/a	If you replace an HDD drive with an SSD or vice versa, the StorNext GUI will show a status of "Missing" and an equivalent RAS ticket instead of displaying an "Incompatible" status.	Replacement drives must be the identical type of drive removed. HDDs can only use HDD spares, and SSDs can only use SSD spares. Replacement drives must also be the same size or larger than the failed drive. The array controller will generate errors if an incompatible drive is used as a replacement.
38128	1395540	Using the GUI while a large Media import is kicked off via the command line can cause the StorNext GUI to timeout or crash.	Wait until a bulk load from tape is finished prior to opening the StorNext GUI.
37916	n/a	Admin alerts are generated for network or FC ports that are disconnected but are configured in the system.	The only way to prevent these alerts from displaying is to remove the network or FC ports that are disconnected from your configuration, unless the ports will only be down temporarily.

Known Issues Workarounds

Resolve "Firmware Upgrade in Progress"/Stuck Upgrade

If it is suspected that the system has completed the upgrade or aborted the upgrade but left files on the system causing the upgrade to stop, the following steps should be run.

1. Determine if the upgrade process is complete on both nodes, since the upgrade could abort on either node:
 - a. Log in to the command line of one of the server nodes and check to see if either of the upgrade processes are still running. Enter:

```
ps -ef|grep -i upgrade
```

- b. At this point, do one of the following:
 - i. If you don't see output that shows the `upgradecomplete.sh` or Upgrade process is still running for the server node you are currently logged into, continue to Step C.

OR

- ii. If you see either of those processes is still running, the upgrade is still in process and you should wait until these processes are complete. Re-run the grep command until you don't see either of those processes running. Once you no longer see the upgrade processes running, continue to Step C.
- c. Log in to the command line of the other server node, and check to see if either of the upgrade processes are still running:

```
ps -ef|grep -i upgrade
```

- d. At this point, do one of the following:
 - a. If you don't see output that shows the `upgradecomplete.sh` or Upgrade process is still running for the server node you are currently logged into, continue to Step 2.

OR

- b. If you see either of those processes is still running, the upgrade is still in process and you should wait until these processes are complete. Re-run the grep command above until you don't see either of those processes running and continue to Step 2.
2. Open a browser and log in to the StorNext GUI again. The "Firmware upgrade in progress" message should no longer be displayed. If this is still displayed on the GUI, continue to Step 3.
 3. Look for the files that are not allowing the StorNext GUI to return to the normal operating state. Enter:

```
cd /usr/adic/HAM/shared/
```

The `upgrade_checkin.PRIMARY.no_reboot` and `upgrade_checkin.SECONDARY.no_reboot` should not be in that directory. If they are, continue to Step 4. Otherwise, please contact Quantum support for help to resolve the issue.

4. Delete the following:

```
rm upgrade_checkin.PRIMARY.no_reboot
```

AND/OR

```
rm upgrade_checkin.SECONDARY.no_reboot
```

5. Enter `y` to confirm the file deletion.
6. Reboot **both** server nodes. From the command line of each server, enter:

```
/sbin/reboot
```

7. Open a browser and launch the StorNext GUI. The "Firmware upgrade in progress" message should no longer be displayed.
8. Restart the firmware upgrade process. See the [Upgrade Procedure](#) section of the Appliance InfoHub.
9. The system will reboot.

The upgrade process should complete. Otherwise, please contact Quantum support for help to resolve the issue.

How to Disable NFS v4

To disable NFSv4 on M440 systems, perform the following on node 2:

Edit the nfs File

1. Open an SSH connection to the appropriate server and use the IP address assigned to the node on the Management or LAN Client network, or use the Service Port IP address, if connected to the Service Port.

Service Port IP addresses (if used):

i Note: Node 2 is the server node sold with single-node (non-HA) Workflow Director and Artico systems.

2. Log in to the server node with the following credentials:
 - User name: **stornext**
 - Password: **<stornext user accountpassword>**

i Note: **password** is the default password for the stornext user account. If the password has been changed, use the current password.

3. Enter **sudo rootsh** to gain root user access.
4. Enter the password for the **stornext** user account again.
5. Edit **/etc/sysconfig/nfs** file. (See [Example: Use vi to Edit the nfs File on the next page](#))
6. Change the value for **RPCNFSDARGS** to **"-N 4"**. When finished, the line must be:
RPCNFSDARGS="-N 4"
7. Change the value for **RPCMOUNTDOPTS** to **"-N 4"**. When finished the line must be:
RPCMOUNTDOPTS="-N 4"
8. Save the file.

Restart NFS

1. Enter the following to restart the NFS configuration:

```
service nfs-config restart
```

2. Enter the following to restart the NFS server:

```
service nfs-server restart
```

After You Restart NFS on Node 2

Repeat both the [Edit the nfs File on the previous page](#) and [Restart NFS on the previous page](#) sections on node 1.

If you need to create new NFS shares to export for user access, you may do this now. See the [About the Manage NAS App](#) section of the **StorNext Connect Documentation Center** for information about NAS configuration using StorNext Connect.

Example: Use vi to Edit the nfs File

1. Enter the following:

```
vi /etc/sysconfig/nfs
```

2. Move the cursor to the closing quotation mark in RPCNFSDARGS.
3. Enter the following:

```
i -N 4
```

4. Write the file and quit vi as follows:

```
:wq
```

5. For this example, you would have to [Restart NFS on the previous page](#) and then repeat both the [Edit the nfs File on the previous page](#) and the [Restart NFS on the previous page](#) sections again on node 1.
6. Close the SSH session for the server(s).

Re-enable DDM on the Secondary Node After HA Failover

Once the MDC node acting as secondary finishes rebooting and becomes functional again, use `fsddmconfig` (or the GUI) from the server node currently acting as primary to re-enable DDM for the standby server node, as follows:

1. Open an SSH connection to the appropriate server and use the IP address assigned to the node on the Management or LAN Client network, or use the Service Port IP address, if connected to the Service Port.

Service Port IP addresses (if used):

i Note: Node 2 is the server node sold with single-node (non-HA) Workflow Director and Artico systems.

2. Log in to the server node with the following credentials:
 - User name: **stornext**
 - Password: **<stornext user accountpassword>**

i Note: **password** is the default password for the stornext user account. If the password has been changed, use the current password.

3. Enter **sudo rootsh** to gain root user access.
4. Enter the password for the **stornext** user account again.
5. On the command line of the system enter the following:

```
# fsddmconfig -u -s e  
standby_system_hostname
```

If a system running DDMs periodically displays an **Admin Alert** when it fails over, cycles a client node, or upgrades while the server node operating as secondary is rebooting but not completely down, change the timeout value to allow more time to communicate with the node. Update the TSM configuration parameter **DDM_CLIENT_RETRY_TIMEOUT** from the default 30 seconds to a larger value depending on how long the node is taking to reboot. In the event the server node acting as secondary will be down for an extended period of time, the node should be taken offline. Additionally, if this parameter is set too high, and the standby server does not come back, the command that is currently running (e.g., store or retrieve) will not return until after the specified timeout.

For more information about the **DDM_CLIENT_RETRY_TIMEOUT** parameter that can be placed into the **fs_sysparm_override** configuration file, refer to the **/usr/adic/TSM/config/fs_sysparm.README** file.

⚠ Caution: Incorrect modification of the **fs_sysparm_override** configuration file can cause a serious, adverse effect on StorNext functionality. Before modifying this file, Quantum recommends you to contact Technical Support.

Contacting Quantum

More information about StorNext is available on the Quantum Service and Support website at <http://www.quantum.com/ServiceandSupport>. The Quantum Service and Support website contains a collection of information, including answers to frequently asked questions (FAQs).

Quantum Appliance Upgrades

To request a StorNext software upgrade for Quantum appliances, open a support ticket at:

<http://www.quantum.com/customercenter/>

For further assistance, or if training is desired, contact the Quantum Technical Assistance Center.

Contacts

For information about contacting Quantum, including Quantum office locations, go to:

<http://www.quantum.com/aboutus/contactus/index.aspx>

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For further assistance, or for training opportunities, contact the Quantum Customer Support Center:

Region	Support Contact
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<http://www.quantum.com/serviceandsupport/warrantyinformation/index.aspx>