Quantum.

StorNext 6.x Xcellis Workflow Extender Release Notes

Contents

Revision History

The following StorNext Releases are supported by these Release Notes:

StorNext 6 Releases Supported	Release Notes Date
StorNext 6.4.1	February, 2021
StorNext 6.4.0	May, 2020
StorNext 6.3.1.1	December, 2019
StorNext 6.3.1	November, 2019
StorNext 6.3.0	August, 2019
StorNext 6.2.1	June, 2019
StorNext 6.2.0	March, 2019
StorNext 6.1.1	February, 2019
StorNext 6.1.0	September, 2018
StorNext 6.0.6.1	May 2018
StorNext 6.0.6	March 2018
StorNext 6.0.5.1	February 2018
StorNext 6.0.5	January 2018
*StorNext 6.0.1.1	September 2017
StorNext 6.0.1	August 2017
StorNext 6.0	July 2016

* The StorNext 6.0.1.1 release only applied to R630 server models (which run on CentOS7), and not R520 server models (which run on CentOS6).

About the Xcellis Workflow Extender System

The Xcellis Workflow Extender systems combine industry-proven Quantum hardware and StorNext software into one convenient, out-of-the-box gateway solution. The Xcellis Workflow Extender operates as a SAN Client in a StorNext Metadata Network, providing LAN client access to the StorNext disk SAN. It also can provide NFS and SMB NAS access using StorNext NAS software.

Training and Documentation Resources

Xcellis Workflow Extender training and documentation

If you are unsure about which type of system you have visit the "Identify My System" page to determine which system you have, and to find the training and documentation resources for that specific system.

About StorNext 6

What is StorNext?

StorNext® is high-performance, multi-tier shared storage designed for large, data-intensive workloads. It includes Xcellis workflow storage, extended online storage, and tape archives—all powered by StorNext, the industry's fastest streaming file system and policy-driven data management software.

At the core of all Quantum scale-out storage is StorNext advanced data management—engineered to tackle the world's most demanding workloads, with the performance and efficiency needed to cost-effectively achieve desired business results.

StorNext 6 delivers the unique combination of high performance and advanced data management, providing cost-effective scalability and access for a wide variety of workloads and use cases, including media production, genomics research, video surveillance, geospatial imaging, VR content, and more.

Learn More on the Web...

Learn more about StorNext 6 and Scale-Out Storage and take a look at the StorNext 6 Documentation Center, which includes training and documentation resources for StorNext 6, including Release Notes.

What StorNext Releases are compatible with my system?

See the "StorNext Upgrade Matrix" and "StorNext Appliance Compatibility" sections of the StorNext 7.x Compatibility Guide on quantum.com for information about system compatibility.

Upgrade StorNext Software and System Firmware

Before upgrading your system, refer to Known Issues. 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.

General Notes

Refer to the General Notes page on quantum.com for important information you should know about your system.

Quantum Appliance Licenses

See Quantum Appliance Licenses page on quantum.com.

Fixed Issues, Notes, and Enhancements – StorNext 6.x

This section lists the fixed issues, enhancements and notes for different StorNext Releases supported for your system.

- Fixed Issues, Notes, and Enhancements for StorNext 6.4.1 below
- Fixed Issues, Notes, and Enhancements for StorNext 6.4.0 below
- Fixed Issues, Notes, and Enhancements for StorNext 6.3.1.1 on the next page
- Fixed Issues, Notes, and Enhancements for StorNext 6.3.1 on the next page
- Fixed Issues, Notes, and Enhancements for StorNext 6.3.0 on page 7
- Fixed Issues and Enhancements for StorNext 6.2.1 on page 8
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Fixed Issues, Notes, and Enhancements for StorNext 6.4.1

There are no new appliance-specific code fixes or enhancements for this release. However, you can reference the following:

- See the StorNext 6.4.1 Release Notes for information about StorNext software updates for this release.
- See the Upgrade the System (Upgrade Firmware) for the instructions for upgrading system firmware.

Fixed Issues, Notes, and Enhancements for StorNext 6.4.0

- See the StorNext 6.4.0 Release Notes for information about StorNext software updates for this release.
- See the Upgrade the System (Upgrade Firmware) for the instructions for upgrading system firmware.

Fixed Issues, Notes, and Enhancements for StorNext 6.3.1.1

StorNext 6.3.1 has been superseded and is replaced by StorNext 6.3.1.1. All of the fixes and enhancements for StorNext 6.3.1 still apply to 6.3.1.1.

> **Note:** Quantum recommends you upgrade to StorNext 6.3.1.1 if you have a system with Mellanox Connect CX4-Lx cards configured for 25G connections and running 6.3.1. These cards can fail to operate when running StorNext 6.3.1.

Table 1: Fixed Issues/Enhancements for StorNext 6.3.1.1

CR Number	SR Number(s)	Description
76354	n/a	Firmware upgrade now reports and detects Mellanox LSPCI device ID correctly.
76353	n/a	StorNext 6.3.1.1 upgrade includes the Mellanox CX4-Lx 25 GbE firmware for 25 GbE networks.

- See the StorNext 6.3.1.1 Release Notes for information about StorNext software updates for this release.
- See the Upgrade the System (Upgrade Firmware) for the instructions for upgrading system firmware.

Fixed Issues, Notes, and Enhancements for StorNext 6.3.1

StorNext 6.3.1 has been superseded and is replaced by StorNext 6.3.1.1. All of the fixes and enhancements for StorNext 6.3.1 still apply to 6.3.1.1.

> **Note:** Quantum recommends you upgrade to Appliance Controller 2.3.2 if you have one or more F2000 storage arrays. 2.3.2 includes updates to the `qstorage` drive attach/detach commands to work with the F2000 storage array RAID configuration. See the Appliance Controller upgrade page.

Table 2: Fixed Issues/Enhancements for StorNext 6.3.1

CR Number	SR Number(s)	Description
75477	518583	Upgraded to iDRAC version 2.61.60.60 from 2.21.21.21 due to security vulnerabilities in the earlier release.

- See the StorNext 6.3.1 Release Notes for information about StorNext software updates for this release.
- See the Upgrade the System (Upgrade Firmware) for the instructions for upgrading system firmware.

Fixed Issues, Notes, and Enhancements for StorNext 6.3.0

ℹ️ **Note:** Quantum recommends you upgrade to Appliance Controller 2.3.1 if you have one or more QXS 12G 484 or F2000 storage arrays. 2.3.1 includes RAS alert support for these storage arrays. See the Appliance Controller upgrade page.

Table 3: Fixed Issues/Enhancements for StorNext 6.3.0

CR Number	SR Number(s)	Description
75158	n/a	A new SSL certificate is now included in the 6.3.0 release for Cloud-Based Analytics.
74932	n/a	This applies to Xcellis Workflow Extender Gen 2 and Xcellis Workflow Extender (R630) "Process/Task died (not restarted)" RAS ticket is no longer generated every hour by the QXS array process that is not supported on this product. ℹ️ **Note:** Since the problem originated in Appliance Controller 2.2.0.1, the fix requires upgrading to 2.3,0.
74888	499350, 494119, 488583	"reg show" lines in the "messages" log are no longer captured every 4 hours after upgrading to 6.3.0. For 6.2.x, this was known issue.
74838	n/a	This applies to Xcellis Workflow Extender Gen 2 and Xcellis Workflow Extender (R630) Managed configuration files due to system time issues. This fixes an issue where, after an upgrade to 6.2.1, NTP changed the system time which resulted in "FC HBA 0 is missing" RAS created for server node1..
74316	n/a	Firmware upgrade to StorNext 6.3.0 upgrades OMSA (OpenManage server administrator) to 9.2.0.

CR Number	SR Number(s)	Description
74269	n/a	This applies to Xcellis Workflow Extender Gen 2 and Xcellis Workflow Extender (R630) Complete RAS messages are now created for unsupported PCIe cards installed in the system.
74245	n/a	This applies to Xcellis Workflow Extender Gen 2 and Xcellis Workflow Extender (R630) Firmware upgrade process no longer changes slot configuration information; card slot configuration settings are kept.
74201	n/a	This applies to Xcellis Workflow Extender Gen 2 and Xcellis Workflow Extender (R630) CX-3 card ports mode settings no longer changed after firmware upgrades; original configuration settings are kept.

- See the StorNext 6.3.0 Release Notes for information about StorNext software updates for this release.
- See the Upgrade the System (Upgrade Firmware) for the instructions for upgrading system firmware.

Fixed Issues and Enhancements for StorNext 6.2.1

ℹ **Note:** StorNext 6.2.1 replaces StorNext 6.2.0, and includes all fixes issues and enhancements completed for StorNext 6.2.0. StorNext 6.2.0 firmware upgrade files are no longer available.

This release addresses the following vulnerability:

CentOS7 Docker (runc) vulnerability – versions prior to 18.09.2. (see Fixed Issues, Notes, and Enhancements – StorNext 6.x on page 5)

Table 4: Fixed Issues/Enhancements for StorNext 6.2.1

CR Number	SR Number(s)	Description
74780	500550	The Appliance Controller now restarts correctly after applying the firmware upgrade, and snmp and Cloud-based Analytics function normally.

CR Number	SR Number(s)	Description
74724	498766, 496820	The system will now boot correctly after upgrading firmware.
74626	0489653	The NAS controller in the Appliance Controller is now restarted correctly after firmware upgrades, fully supporting pre-upgrade checks of the system.
74303	n/a	Autoflexconfig now supports either type of port mode setting (Ethernet or Infiniband) that may be used with the ConnectX-3 card.

- See the StorNext 6.2.1 Release Notes for information about StorNext software updates for this release.
- See the Upgrade the System (Upgrade Firmware) for the instructions for upgrading system firmware.

Fixed Issues and Enhancements for StorNext 6.2.0

ℹ **Note:** StorNext 6.2.1 replaces StorNext 6.2.0, and includes all fixes issues and enhancements completed for StorNext 6.2.0. StorNext 6.2.0 firmware upgrade files are no longer available.

The new appliance-specific code fixes or enhancements for this release are:

For CentOS6 systems, the operating system is upgraded to CentOS6.10.

Table 5: Fixed Issues/Enhancements for StorNext 6.2.0

CR Number	SR Number(s)	Description
73712		Added time-stamp logging for each of the steps in the upgrade process to more easily identify which steps take longer to run.
73476		`snupdate.log` no longer consumes most of the root file system, previously caused when the Appliance Controller ran the **/opt/quantum/snupdate/bin/snupdate show versions** command every minute.
73124		Updated the Install Wizard "Update GW Client interface list" to allow selection of any of the configured interfaces of the system. Also updated the "Basic Settings" network configuration steps.
72800	443258,443259, 443260,433261, 470240	Fixed CVE-2014-3566 Nexpose scan for SSLv3 and POODLE warnings – port 33777 (CentOS6CentOS7)

CR Number	SR Number(s)	Description
72643	468872	Can now configure bonds in the **Service Menu** when there are more than 1 active slaves.
72624		Added the PERC controller log to the RAS emails for server boot drive failures.
72586		The Appliance Controller `qxsarray show iscsi` command executes correctly for QXS arrays with firmware release names containing a "GFS" prefix (for iSCSI-connected systems **ONLY**).
72421	424025	**Security Scanner** now leaves the FSM operating correctly on the secondary (failover) server node (typically node 2).
72147		Add a pre-upgrade check feature in the upgrade scripts enables the "Validate" button on the Upgrade Firmware page in the StorNext GUI (for systems upgrading from releases after StorNext 6.2.0) to execute pre-upgrade checks before beginning the upgrade process.
72006		Updated the firmware upgrade code to include fixes for Spectre/Meltdown vulnerabilities (R630 models **ONLY**).
72005		Updated the firmware upgrade code to include fixes for Spectre/Meltdown vulnerabilities (R520 models **ONLY**).
71809	431853	Fixed the `QUANTUM-STORNEXT-APPLIANCE-MIB` for `snaFileSystemActive OID`, so it no longer returns a bad data type for SNMB.
71147	451310	Clients using NSS2 can now see file systems that are not on same subnet as coordinators.
70915	409963, 455314	For upgrades to 6.2, `/tmp` has been changed to a symbolic link which points to `/scratch/tmp`, which prevents the root file system (`/`) from getting filled up. This prevents processes like `pse_snapshot` or `fsmedscan` (see 72726 on page 20) from overwhelming the root file system with data.
69255 (HYDRA-2004)	349873	Implemented a fix to address the SSL/TLS server factoring RSA export keys (FREAK) vulnerability.

- See the StorNext 6.2.0 Release Notes for information about StorNext software updates for this release.
- See the Upgrade the System (Upgrade Firmware) for the instructions for upgrading system firmware.

Fixed Issues and Enhancements for StorNext 6.1.1

ⓘ Note: StorNext 6.1.1 replaces StorNext 6.1.0, and includes all fixes issues and enhancements completed for StorNext 6.1.0, including the Spectre and Meltdown vulnerabilities addressed in that release. StorNext 6.1.0 firmware upgrade files are no longer available.

There are no new appliance-specific code fixes or enhancements for this release. However, you can reference the following:

- See the StorNext 6.1.1 Release Notes for information about StorNext software updates for this release.
- See the Upgrade the System (Upgrade Firmware) for the instructions for upgrading system firmware.

Fixed Issues and Enhancements for StorNext 6.1.0

ⓘ Note: StorNext 6.1.1 replaces StorNext 6.1.0, and includes all fixes issues and enhancements completed for StorNext 6.1.0, including the Spectre and Meltdown vulnerabilities addressed in that release. StorNext 6.1.0 firmware upgrade files are no longer available.

ⓘ Note: StorNext 6.1.0 was the initial release supporting server hardware. With 6.1.0 being replaced by 6.1.1, please upgrade to 6.1.1 as soon as possible.

This release addresses Spectre and Meltdown vulnerabilities as follows:

CentOS Version	Kernel	Vulnerability Variant Addressed
CentOS7 Update 4	3.10.0-693.21.1	1,2,3
CentOS6 Update 9	2.6.32-696.20.1	1,3

This applies to Xcellis Workflow Extender (R630).

Table 6: Fixed Issues/Enhancements for StorNext 6.1.0

CR Number	SR Number(s)	Description
71708	440392	Enhanced card discovery to reflect when PCI slot addresses change. Update configuration files with the new addresses.
71599	425749	Firmware upgrade now ensures **autoconfig** is enabled.
71507	421334	Firmware upgrade now upgrades PHP on server nodes.

CR Number	SR Number(s)	Description
71469	421581	Firmware upgrades previously failed during OS Update due to insufficient space on local/root filesystem. Available space is now checked during the system pre-upgrade check, and, if not enough free space is available, the firmware upgrade does not attempt to begin. ℹ **Note:** You will still need to make 5 GB free space available for the upgrade and restart the upgrade process.
71362	0418655	Timezone now set to correct timezone after StorNext firmware upgrade.
71328	403647	Systems with large LUNs no longer take excessive time to boot.
71230	414352, 429898	Nexpose security scan previously reported HTTP Header was missing on port 443.
71125	410540	Rsyslog stopped logging into `/var/log/messages` but all logs were included in `systemd-journald`.
70854	383195	`blacklist_exceptions` and entries for EMC/NetApp arrays are now included in the reference `multipath.conf` file provided on appliances to support EMC VNX7600, EMC VNX8000, EMC VMAX 20k and NETAPP FAS6240 arrays. ℹ **Note:** See also the new How to Modify the multipath.conf File for External Storage Arrays page released for StorNext 6.1.0.
70649	398896	The Promise array `path_checker` definition has been updated in the reference `multipath.conf` file provided on appliances. ℹ **Note:** See also the new How to Modify the multipath.conf File for External Storage Arrays page released for StorNext 6.1.0.
70588	396789	`tsunami.log` and `service.log` files are now rotated to prevent these logs and snapshot files becoming too large, and helps snapshot files to be generated more quickly.
70526	398061, 396903, 398206, 397045, 399232, and 401331	Kernel Page Table Security Problems addressed for CVE-2017-5753, CVE-2017-5715 and CVE-2017-5754.

- See the StorNext 6.1.0 Release Notes for information about StorNext software updates for this release.
- See the Upgrade the System (Upgrade Firmware) for the instructions for upgrading system firmware.

Fixed Issues and Enhancements for StorNext 6.0.6.1

ℹ **Note:** StorNext 6.0.6.1 replaced previous 6.x StorNext releases, and firmware upgrade files will only be provided for StorNext 6.0.6.1 or later.

ℹ **Note:** Spectre and Meltdown vulnerabilities were not addressed in this release.

Table 7: Fixed Issues/Enhancements for StorNext 6.0.6.1

CR Number	SR Number(s)	Description
71394	0421219	Can now successfully install a Mellanox ConnectX-3 VPI InfiniBand/Ethernet card in the system. The MLNX_OFED HBA driver was replaced for StorNext 6.0.6.1. The new driver allows the Mellanox HBA card to be configured.

- See the StorNext 6.0.6.1 Release Notes for information about StorNext software updates for this release.
- See the Upgrade the System (Upgrade Firmware) for the instructions for upgrading system firmware.

Fixed Issues and Enhancements for StorNext 6.0.6

ℹ **Note:** StorNext 6.0.6.1 replaced previous 6.x StorNext releases, and firmware upgrade files will only be provided for StorNext 6.0.6.1 or later.

This release includes the following software updates:

- CentOS 7.4 for the server node(s)
- CentOS 7.4 SAN and DLC clients
- Appliance Controller 2.0.1 (and supports CentOS 7.4)

The following new appliance-specific code fixes and enhancements are included in this release:

Table 8: Fixed Issues/Enhancements for StorNext 6.0.6

CR Number	SR Number(s)	Description
71002	n/a	RAS ticket for an IPMI controller failure is no longer shown after the firmware upgrade.

CR Number	SR Number(s)	Description
70902	n/a	The system prevents firmware upgrades when NAS clusters are configured for Appliance Controller/NAS versions prior to 1.4.1. You will stil need to upgrade the Appliance Controller/NAS prior to applying the firmware upgrade. See Upgrade Required for Clustered StorNext NAS Systems.
70773	n/a	The /etc/resolv.conf configuration file is now included when collect files are created (in the tar.gz file at: usr/adic/tmp/platform/hw-info/etc/resolv.conf).
70770	n/a	aiWARE agent failures are no longer included in system log files for non-aiWARE, CentOS7-based systems.
70455	n/a	For systems with multiple Ethernet NIC ports active, when an Ethernet cable is unplugged from a port, the admin alert now contains the affected NIC port number.
70340	n/a	PHP upgraded to php56w-5.6.33-1.
70338	n/a	Dracut updated to dracut-033-502.el7; included with CentOS7.4.
70335	n/a	YUM help output is no longer displayed in /var/log/messages during fw upgrade failures.
70291	n/a	A root mailbox junk filter is included in this release. A new daily cron job trims mailboxes with over 1000 email messages & improves functionality of the logrotate cron job.
70194	n/a	For systems using **snmpwalk**, the time taken by SNMP Agent MIB processing has been greatly reduced.
69478	n/a	Update server code to CentOS 7.4.

- See the StorNext 6.0.6 Release Notes for information about StorNext software updates for this release.
- See the Upgrade the System (Upgrade Firmware) for the instructions for upgrading system firmware.

Fixed Issues and Enhancements for StorNext 6.0.5.1

ⓘ **Note:** StorNext 6.0.6.1 replaced previous 6.x StorNext releases, and firmware upgrade files will only be provided for StorNext 6.0.6.1 or later.

There are no new appliance-specific code fixes or enhancements for this release. However, you can reference the following:

- See the StorNext 6.0.5.1 Release Notes for information about StorNext software updates for this release.

- See the Upgrade the System (Upgrade Firmware) for the instructions for upgrading system firmware.

Fixed Issues and Enhancements for StorNext 6.0.5

ℹ️ **Note:** StorNext 6.0.6.1 replaced previous 6.x StorNext releases, and firmware upgrade files will only be provided for StorNext 6.0.6.1 or later.

Because of security vulnerabilities found in testing (highlighted below in CR 69866 below and CR 69869 below), Quantum recommends upgrading to 6.0.5.1 or later.

The following new appliance-specific code fixes and enhancements are included in this release:

Table 9: Fixed issues/Enhancements for StorNext 6.0.5

CR Number	SR Number(s)	Description
70300	385040	Simultaneous Fibre Channel-connected QSX and Netapp arrays attached to Quantum appliances no longer prevent system boot after firmware upgrades to 6.0.5 from supported 5.x releases. The base/default SCSI enclosure drivers provided by CentOS which previously caused this issue are no longer referenced in system configuration files. The specific drivers used for QXS and NetApp array FC connections are used instead.
69869	n/a	Updated Apache HTTPD to the latest CentOS 6.9 and 7.4 versions to resolve some HTTPD security vulnerabilities found by Nexpose.
69866	n/a	Updated php56w from version 5.6.29-1 to version 5.6.31-2 to resolve some PHP security vulnerabilities found by Nexpose.
69506	n/a	RAS tickets are no longer created when the system is unable to obtain fan status from the iDRAC. ℹ️ **Note:** This fix applies to CentOS7 (Xcellis Workflow Director (R630), Xcellis Foundation, aiWARE for Xcellis Embedded (DAE), aiWARE for Xcellis Standard and High Performance, Artico (R630), and Xcellis Workflow Extender (R630) systems) only.

CR Number	SR Number(s)	Description
69492	n/a	The RAS ticket for a failed server drive now contains several new attributes, including the drive size, as shown in this example of a failed drive:

```
Node 1 The Drive PHYSICAL_DISK_0:1:1 has
failed. Capacity: 465.25GB Media: HDD
Encrypted: NA Vendor: DELL(tm) VendorPN:
MY01KWKJ1255523P091GA0 VendorSN: WD-
WMAYP3387029 Model: WDC WD5003ABYX-
18WERA0 PowerStatus: Spun Up Status:
Offline
```

CR Number	SR Number(s)	Description
69473	n/a	Updated the build to include a new CentOS 7 (7.3) kernel with an additional patch. This corrects an issue int`roduced with the RHEL7.3 kernel that failed to display and manipulate ACLs from NFS NAS clients.

ℹ **Note:** This fix applies to CentOS7 (Xcellis Workflow Director (R630), Xcellis Foundation, aiWARE for Xcellis Embedded (DAE), aiWARE for Xcellis Standard and High Performance, Artico (R630), and Xcellis Workflow Extender (R630) systems) only.

- See the StorNext 6.0.5 Release Notes for information about StorNext software updates for this release.
- See the Upgrade the System (Upgrade Firmware) for the instructions for upgrading system firmware.

Fixed Issues and Enhancements for StorNext 6.0.1.1

ℹ **Note:** StorNext 6.0.6.1 replaced previous 6.x StorNext releases, and firmware upgrade files will only be provided for StorNext 6.0.6.1 or later.

The following new appliance-specific code fixes and enhancements are included in this release:

Table 10: Fixed Issues/Enhancements for StorNext 6.0.1.1

CR Number	SR Number(s)	Description
69706	363354	After rebooting the system configured with iSCSI connections, the iSCSI connection will now re-establish correctly, and StorNext file systems will also restart.

ℹ **Note:** * The StorNext 6.0.1.1 release only applied to R630 server models (which run on CentOS7), and not R520 server models (which run on CentOS6).

- See the StorNext 6.0.1 Release Notes for information about StorNext software updates.
- See the Upgrade the System (Upgrade Firmware) for the instructions for upgrading system firmware.

Fixed Issues and Enhancements for StorNext 6.0.1

ℹ **Note:** StorNext 6.0.6.1 replaced previous 6.x StorNext releases, and firmware upgrade files will only be provided for StorNext 6.0.6.1 or later.

Table 11: Fixed Issues/Enhancements for StorNext 6.0.1

CR Number	SR Number(s)	Description
69365	n/a	Enable the aiware-agent so it starts on boot.
69388	n/a	Include signed Samba 4.2.12 rpms for CVE-2017-11103 in the build.
69374	358555	Linux NFS servers operate correctly when an exported SNFS file system was configured as case-insensitive.

- See the StorNext 6.0.1 Release Notes for information about StorNext software updates for this release.
- See the Upgrade the System (Upgrade Firmware) for the instructions for upgrading system firmware.

Fixed Issues and Enhancements for StorNext 6.0

ℹ **Note:** StorNext 6.0.6.1 replaced previous 6.x StorNext releases, and firmware upgrade files will only be provided for StorNext 6.0.6.1 or later.

The following table lists the fixed issues/enhancements for StorNext 6.0.

Table 12: Fixed Issues/Enhancements for StorNext 6.0

CR Number	SR Number(s)	Description
69158	n/a	Gateway network menu for 40GbE ports supported as individual, non-bonded ports.
68961	n/a	sernet samba 4.2.12-20 security patch version for NAS 1.3.0 - 1.4.1 included in 6.0 appliance code.
67841	n/a	Reboot messages in the **Service Menu** on gateway systems now display correctly during firmware upgrades to 6.0 and later.
62488	3662286, 3698000, 297364, 303919, 331672, and 338326	Daylight savings time now properly adjusts hwclock to correct date.

Notes

- See the StorNext 6.0 Release Notes for information about StorNext software updates for this release.

- For the StorNext 6.0 release, the Xcellis Workflow Extender is supported on R630-based server hardware with CentOS7, and on R520-based server hardware with CentOS6.

  ⓘ Note: Commands for one version of CentOS may be different from the other. Also, the hardware documentation available is different for these systems. See Identify My System, and Access Training and Documentation to help you identify which system you have and the documentation and training resources available for each.

- See the Upgrade the System (Upgrade Firmware) for the instructions for upgrading system firmware.

Known Issues – StorNext 6.x

This section lists the known issues that could potentially affect your system.

CR Number	SR Number	Description
77518	n/a	Mellanox ConnectX-3 (CX-3) cards in G300Pro Foundationsystems is not updated by the firmware upgrade.
76353, 76354	n/a	Mellanox Connect CX4-Lx cards can fail to operate if configured for 25 GbE connections and running 6.3.1. **ⓘ Note:** This issue has been fixed in 6.3.1.1. See 76353 on page 6 in the "Fixed Issues" section. Upgrade recommended. **Workaround**: Upgrade to StorNext 6.3.1.1.

CR Number	SR Number	Description
74024	470777, 479905	The following applies to Xcellis Workflow Extender (R630) systems **ONLY**. It does not apply to other server model names/generations.
		Upgrade between StorNext releases prior to 6.2.1 removes custom Infiniband configuration settings.
		ℹ️ Note: **This issue was Fixed in 6.3.0.** Upgrades to StorNext 6.3.0 **DO NOT** experience this issue. If this has not happened to your system, you can upgrade to 6.3.0 without this issue affecting your system.
		ℹ️ Note: Because the workaround is required after every upgrade to StorNext releases prior to 6.2.1, Quantum strongly recommends you to upgrade the system to 6.2.1 or later prior to contacting Quantum Support about this issue, so the fix will be applied to a release that no longer removes the Infiniband settings, and it only has to be applied once.
		After upgrading to 6.2.1 or later (prior to 6.3.0):
		If you have this problem and have upgraded the system to 6.2.1 or later, contact Quantum Support and reference **TSB (Technical Service Bulletin) 3065**.
		Once the system is upgraded to 6.2.1, and the fix is applied, future upgrades will perform successfully, and will not remove the Infiniband configuration settings.
74571	n/a	For StorNext 6.3.0 and Appliance Controller 2.3.0, there is a situation where the firmware upgrade process pre-stages Appliance Controller upgrade file(s) on server node 1, but the same files are not pre-staged to server node 2, which can create a failure for firmware upgrades. This can happen if you click "Validate" on the firmware upgrade page, or the function that checks for upgrade dependencies when you click "Activate" on the firmware upgrade page.
		If this happens, and Node 2 was the master node of a NAS cluster, you will not be able to run the Appliance Controller `upgrade local` command on node 2 to upgrade to the current controller release pre-staged on the server, and you will have to manually move the nas rpms from the `/var/upgrade` or `/scratch/saved/NAS` directory on node 1 to the `/var/upgrade` directory on node 2, and upgrade the NAS cluster manually from Node 2.
		See: http://qsupport.quantum.com/kb/Flare/Content/appliances/ACC/DocSite/Upgrades/ACC_Upgrades.htm
		ℹ️ Note: See About firmware upgrades and pre-staged Appliance Controller upgrades for server nodes on page 35 for information about how these files are pre-staged to enable you to upgrade Appliance Controller manually, separate from the firmware upgrade process.

CR Number	SR Number	Description
74202, 67955, HYDRA-4326	n/a	If NAS is configured on the system and StorNext services are stopped, StorNext services can fail to stop completely. This can block server fail-over and potentially leaves managed file systems without running FSMs. See 74202 – StorNext services can fail to stop completely when NAS is Configured and StorNext services are stopped on page 36 for an in-depth explanation of the issue and several alternate workarounds.
73688	n/a	When the **/var** directory on the appliance gets full, the following serious errors can occur: • Network communication errors on the server node • iDRAC is not accessible • The server node gets stuck during reboot and require a physical power cycle See also Leave Space on Appliance File Systems on the *Appliance InfoHub*. **Workaround:** Keep additional space available on **/var**.
73036	n/a	The following does not apply to Xcellis Workflow Extender Gen 2 systems. Systems running Java 1.7.1, 1.8.1 or later are no longer able to launch the iDRAC Virtual Console using StorNext 6.2.0 or later, due to an increase in Java security. **Workaround:** Uninstall the current Java version, and install Java 1.7.0. iDRAC should work properly again.
72726	3734274, 336772, 409963, 430039, 455314	If you run **fsmedscan -R**, the root file system on the active server node (typically node 1) can fill up and the node will become unresponsive. This is because **fsmedscan** creates copious log files and, by default, places them in **/tmp/logs**, which will eventually fill up the root system drive **/**. ⓘ **Note:** This issue was fixed in StorNext 6.2. See 70915 on page 10 in the "Fixed Issues" section. Upgrade recommended. **Workarounds:** • Upgrade to StorNext 6.2. • Prior to 6.2, you could create a symbolic link from **/tmp/logs** to something like **/scratch/fsmedscan_logs** since **/scratch** should contain plenty of available space.

CR Number	SR Number	Description
72591, 72583	n/a	**Issue:** When setting the IPMI network settings, you may see errors after applying changes. If this happens, you will see something similar to the following (in green): ℹ️ **Note:** This issue affects Gen 2 appliances, only. ``` Setting LAN IP Address to 10.17.21.52 Setting LAN Subnet Mask to 255.255.0.0 LAN Parameter Data does not match! Write may have failed. Setting LAN Default Gateway IP to 10.17.21.254 LAN Parameter Data does not match! Write may have failed. Set User Password command successful (user 2) Waiting for IPMI to be rebooted (30 sec)... IPMI did not properly reset within 30 seconds! Done setting up IPMI. ``` **Workaround:** There is no current workaround for display of these error messages. However, this message is benign, and can be ignored. Even though there appears to be an issue, the IPMI values are actually applied to the system, and the IPMI does open using the new IP settings.
71809	431853	`snaFileSystemActive OID` can return a bad data type for SNMB information. ℹ️ **Note:** This issue was fixed in StorNext 6.2. See 71809 on page 10 in the "Fixed Issues" section. Upgrade recommended. **Workaround:** Upgrade to StorNext 6.2.

CR Number	SR Number	Description
71708	440392	**Issue:** When slot PCI addresses change, need to reflect their new location in the system. ⓘ **Note:** This issue was fixed in StorNext 6.1.0. See 71708 on page 11 in the "Fixed Issues" section. Upgrade recommended. **Workaround:** Upgrade to StorNext 6.1.0. There is no other workaround available.
71469	421581	**Issue:** Firmware upgrade failed during the OSUpdate step of the upgrade process, due to insufficient space on local/root filesystem. ⓘ **Note:** Free space is now checked before continuing with the firmware upgrade in StorNext 6.1.0. See 71469 on page 12 in the "Fixed Issues" section. Upgrade recommended. **Workaround:** 1. Determine which directory on the root directory has files that can be removed: `df -h` Notice any directories you have created that consume GBs of data. 2. Remove files so you ensure the system has at least 5 GB of free space for the firmware upgrade to use before attempting the upgrade. 3. Restart the failed upgrade.
71362	0418655	**Issue:** Timezone set to incorrect timezone after StorNext firmware upgrade. ⓘ **Note:** This issue was fixed in StorNext 6.1. See 71362 on page 12 in the "Fixed Issues" section. Upgrade recommended. **Workaround:** Upgrade to StorNext 6.1.0 or later. **OR** Change the timezone on the affected systems to the correct timezone.

CR Number	SR Number	Description
71328	403647	**Issue:** Systems can a very long time to get from POST until the filesystems are mounted with large LUNs present, since all devices are added to the `sysfs` and on `udev`. During boot, a message similar to the the following is displayed: ``` mam-node-1 udevd-work[39397]: inotify_add_watch(6, /dev/dm-2699, 10) failed: No space left on device ``` ℹ️ **Note:** This issue was fixed in StorNext 6.1. See 71328 on page 12 in the "Fixed Issues" section. Upgrade recommended. **Workaround:** Upgrade to StorNext 6.1.0. **OR** Increase the amount of notify watches. Do the following: 1. Run the following command: ``` cat /proc/sys/fs/inotify/max_user_watches ``` This should return a value similar to: 10240 2. Edit the /etc/sysctl.conf file to allow for a longer boot time: ``` fs.inotify.max_user_watches=32768 ```
71230	414352, 429898	**Issue:** Nexpose security scan reports HTTP Header is missing on port 443. ℹ️ **Note:** This issue was fixed in StorNext 6.1. See 71230 on page 12 in the "Fixed Issues" section. Upgrade recommended. **Workaround:** Upgrade to StorNext 6.1.0. There is no other workaround available.

CR Number	SR Number	Description
| 71125 | 410540 | **Issue:**<br>`/var/log/messages` can omit expected information beginning with a specific point in time.<br><br>ⓘ **Note:** This issue was fixed in StorNext 6.1. See in the "Fixed Issues" section. Upgrade recommended.<br><br>**Workaround:**<br><br>To correct this issue:<br><br>Upgrade to StorNext 6.1.0.<br><br>**OR**<br><br>1. Remove `imjournal.state`:<br><br>```
rm -f /var/lib/rsyslog/imjournal.state
```<br><br>Restart rsyslog:<br><br>```
/sbin/service rsyslog restart
```<br><br>Then rotate the log:<br><br>```
$logrotate /etc/logrotate.conf
```<br><br>2. If the logging stops again, disable the `imjournal` input. To do this, edit the `/etc/rsyslog.conf` file, and comment out `OmitLocalLogging on` as shown:<br><br>```
#$OmitLocalLogging on
``` |

CR Number	SR Number	Description
70854	383195	**Issue:** `blacklist_exceptions` and entries for EMC/NetApp arrays are not included in the default `multipath.conf` file to support EMC VNX7600, EMC VNX8000, EMC VMAX 20k and NETAPP FAS6240 arrays. ⓘ **Note:** This issue was fixed in StorNext 6.1. See 70854 on page 12 in the "Fixed Issues" section. Upgrade recommended. ⓘ **Note:** See also the new How to Modify the multipath.conf File for External Storage Arrays page released for StorNext 6.1.0. **Workaround:** Upgrade to StorNext 6.1.0 and modify the new EMC and/or NetApp array entries in the `multipath.conf` file and move it to the correct directory on your system. **OR** Manually update the `multipath.conf` file by hand for the array settings you need and move it to the correct directory on your system.
70649	398896	**Issue:** The Promise array `path_checker` definition needs to be updated in the reference `multipath.conf` file provided with our systems and firmware upgrades. ⓘ **Note:** This issue was fixed in StorNext 6.1. See 70649 on page 12 in the "Fixed Issues" section. Upgrade recommended. ⓘ **Note:** See also the new How to Modify the multipath.conf File for External Storage Arrays page released for StorNext 6.1.0. **Workaround:** Upgrade to StorNext 6.1.0. **OR** Edit the multipath.conf file, and change the `path_checker` value from its current setting (such as `readsector0`) to `tur` for the Promise Array definition.

CR Number	SR Number	Description
70588	396789	**Issue:** `tsunami.log` and `service.log` files can become large. are now rotated to prevent these logs and snapshot files becoming too large, and can significantly increase the time it takes to generate snapshot files. ⓘ **Note:** This issue was fixed in StorNext 6.1. See 70588 on page 12 in the "Fixed Issues" section. Upgrade recommended. **Workaround:** Upgrade to StorNext 6.1.0. **OR** Manually trim data from these log files when needed.
70526	398061, 396903, 398206, 397045, 399232, and 401331	**Issue:** Kernel Page Table Security Problems: CVE-2017-5753, CVE-2017-5715 and CVE-2017-5754. ⓘ **Note:** This issue was fixed in StorNext 6.1. See 70526 on page 12 in the "Fixed Issues" section. Upgrade recommended. **Workaround:** Upgrade to StorNext 6.1.0. There is no other workaround.

CR Number	SR Number	Description
72287, 72286, 72277	n/a	This applies to Xcellis Workflow Extender (R630) systems.

Issue:

After an appliance is upgraded to StorNext 6.1.0 (see Upgrade Firmware), sometimes one of the nodes on the NAS cluster is not able to re-join the cluster.

Log on to the Appliance Controller and issue the following command:

```
nascluster show
```

If the node has not joined the NAS cluster, the following message is displayed in the controller output:

```
stornext initiated stop
```

Workaround:

1. From the command line of the system, issue the following command, where <myfs> is the mount path of the file system you would like to join to the cluster:

```
nascluster join <myfs>
```

The server should be rejoined to the cluster.

2. Run the following command:

```
nascluster show
```

You should see the following in the output (in bold, green):

```
NAS Cluster IP: 10.10.100.100/eth0, Master: No, SNFS
Root: <myfs>, Joined: Yes

...
```

CR Number	SR Number	Description
71599	425749	**Issue:**

Issue:

For systems being upgraded from StorNext 6.0.6 to 6.0.6.1 from a fresh install of the server with a StorNext 6.0.6 image, the firmware upgrade to support some expansion cards is not applied. Future card changes in the system will not get automatically configured since the firmware and `autoconfig` services which support some cards were disabled after the upgrade toStorNext 6.0.6.1.

You can verify this issue by logging into the command line of the server node (or on both servers for dual-server node systems) with the **stornext** user account and **stornext** user password, and issuing the following command from the command line of the system. If you see the "Virtual" (as shown here in green), your system is affected by this issue.

Example:

```
# /opt/DXi/util/seer VendorModel
# Virtual
```

ℹ **Note:** This has been fixed in StorNext 6.1.0. See in the "Fixed Issues" section. Upgrade recommended.

Workaround:

If the system has not been upgraded yet:

1. Log in to the command line of a server node. See Launch the Command Line.

2. Issue the following command. This will correct the initial fresh install issue and avoid a subsequent upgrade issue:

```
cp -f /opt/DXi/theSeer/vendor.info.conf.13G
/opt/DXi/theSeer/vendor.info.conf
```

If the system was fresh installed with 6.0.6 and then upgraded to 6.0.6.1 the following needs to be done:

a. Remove the three touch files:

```
rm /var/opt/DXi/fwb-onboot-disable
```

```
rm /var/opt/DXi/hwdetect-onboot-disable
```

CR Number	SR Number	Description
		`rm /var/opt/DXi/startup_autoconfig_disable` b. Reboot the node so the Firmware Bundle updates will be performed and `autoconfig` and `hwdetect` will be enabled and run. 3. Repeat these steps for the other server node (dual-server node systems only).
71464	n/a	**Issue:** Platform upgrade is currently allowed to the StorNext 6.0.6.1 release for systems currently configured and running StorNext 5.3.x and as a clustered NAS system running NAS 1.2.x. Even though StorNext upgrades, the NAS software does not upgrade. NAS is left running 1.2.5, and NAS/Controller software 2.0.1 is incorrectly staged for upgrade in `/var/upgrade`. **Workaround:** To upgrade NAS after the StorNext firmware upgrade: 1. Delete the contents of `/var/upgrade` on both nodes (for dual-node systems). 2. Download the offline 1.4.1.3 NAS upgrade .rpm. 3. Copy the 1.4.1.3 NAS upgrade file to `/var/upgrade` on the NAS master and other node as well. 4. Upgrade NAS to 1.4.1.3 (see Upgrades for the offline upgrade procedure). 5. Delete the contents of `/var/upgrade` on both nodes (for dual-node systems). 6. Copy the offline 2.0.1 NAS/Controller software upgrade .rpm saved in `/scratch/saved/NAS` to `/var/upgrade`. 7. Upgrade the NAS/Controller software to 2.0.1 (see Upgrades for the offline upgrade procedure).

CR Number	SR Number	Description
71394	0421219	**Issue:**

Issue:

ⓘ **Note:** This issue affects R630 (CentOS7) systems only, not R520 (CentOS6) systems.

ⓘ **Note:** This issue was fixed in StorNext 6.0.6.1. See 71394 on page 13. Upgrade recommended.

ⓘ **Note:** For StorNext 6.0.6, the included the MLNX_OFED HBA driver for Mellanox Connect X-3 VPI InfiniBand/Ethernet cards was incompatible with the system kernel version. Because of this, the software failed to install, resulting in missing Mellanox software components needed to configure the card.

Workaround:

- For Systems prior to StorNext 6.0.6, the correct driver was shipped with StorNext, so no further action is necessary for Mellanox HBA card configuration.

- For systems running StorNext 6.0.6, upgrade to StorNext 6.0.6.1 for the correct driver version for this card.

CR Number	SR Number	Description

70902	n/a	**Issue:**
		
		StorNext 6.0.6 requires the appliance controller to be upgraded for clustered NAS environments running Appliance Controller/NAS versions earlier than 1.4.1 **before** upgrading appliance firmware.
		
		If you attempt to upgrade the system to StorNext 6.0.6 prior to upgrading the controller, the appliance upgrade will fail, and the system will generate an "Operation failure" RAS ticket in the StorNext GUI on the server (for both server nodes on dual-node systems), the upgrade log will include a message about the upgrade attempt, and an admin alert will be generated.
		
		Example (dual-node system with NAS 1.3.0 installed):
		
		<pre>10
		
		2018-02-22 15:12:22 PST
		
		136
		
		Upgrade Minimum NAS version not satisfied for a clustered system. Node 2: NAS clustering is enabled but installed NAS version is 1.3.0, NAS must be upgraded to version 1.4.1.x before this upgrade is allowed. A NAS 1.4.1.3 offline upgrade bundle has been placed in /scratch/saved/NAS/.</pre>
		
		Workaround:
		
		Upgrade Appliance Controller/NAS to 1.4.1 or later prior to upgrading the system. See How to Upgrade on the Appliance Controller Documentation Center.

CR Number	SR Number	Description
70338	n/a	**Issue:** During a firmware upgrade, the secondary server node (typically Node 2) will upgrade successfully, but the other server node (typically Node 1) can become stuck on reboot, and unable to restart. If you don't have an SSH session open when this happens, you will notice that the server node will not respond for a long time. If you happen to have an SSH session open during the upgrade, you will see an error message similar to the following shown repeatedly on-screen: <pre>[189.398035] dracut-initqueue[402]: Warning: dracut-initqueue timeout - starting timeout scripts</pre> **Workaround:** The server node will have to be manually upgraded. Contact Contacting Quantum on page 45, and refer them to TSB# 3015.

CR Number	SR Number	Description

70300	385040, 385789	**Issue:**
		
		After a firmware upgrade, the system cannot boot.
		
		This **does not** need to be applied to **all** systems connected to storage arrays, only impacted systems, as described here.
		
		Systems Impacted:
		
		• This **ONLY** affects systems upgrading from StorNext 5.x releases to 6.x (prior to 6.0.5)
		
		• This **ONLY** affects systems upgrading that are Fibre Channel-connected to **BOTH** NetApp and QXS arrays.
		
		ⓘ **Note:** This issue was fixed in StorNext 6.0.5. See 70300 on page 15. If you are upgrading to StorNext 6.0.5, you will not see this issue, and do not have to perform this workaround.
		
		Messages on the boot screen and in the KDUMP (the trace of server boot activities on the `sysfs`) shows messages similar to:
		
		`Wrong diagnostic page; asked for 7 got 0`
		
		OR
		
		`Wrong diagnostic page; asked for 10 got 0`
		
		Workaround:
		
		DO NOT upgrade your system to StorNext 6.x before first applying the workaround. See Server Boot (QXS/NetApp).

CR Number	SR Number	Description
70067	n/a	**Issue:** CentOS 7 systems display log files with the **journalctl** command. Any commands executed as the rootsh user are logged to the system log file . A syslog filter sends all rootsh log commands to /var/log/rootshell. This causes excessive information to be captured in the journalctl log file, and makes the log file difficult to read. **Workaround:** There is a script to use which removes unnecessary command line output from the syslog file for CentOS7 systems running StorNext 6.0.5: See the journalctl Filter Script For StorNext releases prior to 6.0.5, contact Contacting Quantum on page 45.
68096		**Issue:** There is currently a known issue in CentOS6 where a restart of the NAS services may delay rsyslogd 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 rsyslogd is not running. ℹ **Note:** Affects Xcellis Workflow Extender (R520) systems only, not Xcellis Workflow Extender (R630) systems. **Workaround:** Verify all expected StorNext file systems are mounted. If not, manually mount any file systems needed by NAS.
60614	n/a	**Issue:** Your system 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. **Workaround:** 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 StorNext Connect After Upgrade.

CR Number	SR Number	Description
55318	n/a	**Issue:** Strange UID on ACL when file created on non ads client. **Workaround:** 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	**Issue:** (See CR Known Issues – StorNext 6.x on page 18) **Workaround:** n/a
54451	n/a	**Issue:** 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. **Workaround:** There currently is no workaround for this issue. SMB is operating as expected.

Known Issues Workarounds and Additional Information

About firmware upgrades and pre-staged Appliance Controller upgrades for server nodes

When NAS is enabled, detected, and is configured on a sever node as part of a NAS cluster, and a firmware upgrade is attempted, an offline *.tar.gz file is copied into the /scratch/saved/NAS directory and is then unzipped and untarred into the /var/upgrade directory. Based on the installed version of NAS on the system, the appropriate valid upgrade bundle for NAS will be unpacked to /var/upgrade for the user to perform the upgrade. If a multi-version upgrade is required, then the next applicable version will be unpacked into /var/upgrade and you will be instructed to perform the cluster upgrade first and then retry the firmware upgrade. If the cluster state of the node cannot be determined then it looks like no versions are unpacked on the system and the upgrade is aborted (in this case, you would have to upgrade the cluster manually using instructions in the Appliance Controller Doc Center (see Appliance Controller Upgrades),

and then retry the firmware upgrade.

If NAS clustering is not configured, the firmware upgrade will perform the direct upgrade to the current version of Appliance Controller shipped with the firmware upgrade.

74202 – StorNext services can fail to stop completely when NAS is Configured and StorNext services are stopped

How might this be seen?

There are two basic scenarios where this might be exposed:

Scenario # 1

When StorNext stops, it signals NAS to vacate the StorNext file systems that NAS is using. However, if these file systems remain available for too long, the Appliance Controller will attempt to automatically restart NAS services. This is what happens, in order:

1. Restarting NAS services can resume use of StorNext resources.

2. Resuming StorNext resources interferes with attempts to stop StorNext.

3. Continued use of these StorNext resources can result in mounted StorNext file systems that do not have a running fsm process which blocks access to the StorNext file system.

If experience this on your system, temporarily stop NAS services:

1. Log in to the command line of the server (as "sudo rootsh"):

   Launch the Command Line With an SSH Utility

   a. Open an SSH connection to the appropriate server and use the IP address assigned to the node on the Management/LAN Client network.

   a. Log in to the command line using the following credentials:

   - User name: `stornext`

   - Password: `<stornext user account password>`

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

   b. Enter `sudo rootsh` to gain root user access.

   c. Enter the password for the `stornext` user account again.

2. Stop NAS by executing the following command:

   ```
   /usr/cvfs/lib/snnas_control stop
   ```

3. Stop the Appliance Controller by executing the following command:

```
/usr/local/quantum/bin/sml_service_tool stop snnas_controller
```

4. When you have finished Restart NAS and the Appliance Controller:

   a. Start NAS by executing the following command:

   ```
   /usr/cvfs/lib/snnas_control start
   ```

   b. Start the Appliance Controller by executing the following command:

   ```
   /usr/local/quantum/bin/sml_service_tool start snnas_controller
   ```

Scenario # 2

If you need to stop the system during a maintenance window. This is an extension of **Scenario #1**, but NAS must vacate the file systems for an extended period of time. If NAS services are resumed when they should be suspended, those service processes may interfere with maintenance operations.

To affect both scenarios, timers exist that you can adjust to extend the amount of time required between the **stornext stop** operation and before NAS services resume. The timers are controlled by the following **Controller Registry** values:

- **nas.heartbeat.check_state_secs**
- **stornext_service.stop_period**

To see what values are currently assigned, enter:

```
su sysadmin -c 'reg show nas.heartbeat.check_state_secs'
```

to display the setting of the frequency interval of the NAS heartbeat state check, or enter:

```
su sysadmin -c 'reg show stornext_service.stop_period'
```

to display the duration that StorNext services are stopped.

> **Note:** By default, both timers are set to 120 (in seconds=2 minutes).

Workarounds

Workaround #1

If StorNext fails to stop due to NAS resource usage, do the following:

1. Log in to the command line of the server:

   Launch the Command Line With an SSH Utility

   a. Open an SSH connection to the appropriate server and use the IP address assigned to the node on the Management/LAN Client network.

   a. Log in to the command line using the following credentials:

   - User name: **stornext**

   - Password: **<stornext user account password>**

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

   b. Enter **sudo rootsh** to gain root user access.

   c. Enter the password for the **stornext** user account again.

2. Verify that the StorNext file systems are mounted:

   ```
   grep cvfs /proc/mounts
   ```

   If any StorNext file systems are not mounted, mount them now.

3. Mount the HA shared file system:

   ```
   mount /usr/adic/HAM/shared
   ```

4. Start fsm for each StorNext file system (shown below as "<FSNAME>") mounted on the server node:

   ```
   cvadmin -e "start <FSNAME> on localhost"
   ```

5. Stop StorNext services:

   For CentOS7 systems, enter:

   ```
   systemctl stop cvfs
   ```

   For CentOS6 systems, enter:

```
service cvfs stop
```

6. To stop NAS, enter:

```
/usr/cvfs/lib/snnas_control stop
```

7. To stop the Appliance Controller, enter:

```
/usr/local/quantum/bin/sml_service_tool stop snnas_controller
```

When you are ready, restart the Appliance Controller and NAS services:

8. To restart the Appliance Controller, enter:

```
/usr/local/quantum/bin/sml_service_tool start snnas_controller
```

9. To restart NAS, enter:

```
/usr/cvfs/lib/snnas_control start
```

Workaround #2

For **Scenario #1**, Quantum recommends that you extend the time period to a value of 10 minutes (600 seconds) for both variables. Set a value that exceeds the amount of time necessary for typical StorNext shutdown.

To set new values:

1. Log in to the command line:

Launch the Command Line With an SSH Utility

a. Open an SSH connection to the appropriate server and use the IP address assigned to the node on the Management/LAN Client network.

a. Log in to the command line using the following credentials:

- User name: **stornext**

- Password: **<stornext user account password>**

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

b. Enter **sudo rootsh** to gain root user access.

c. Enter the password for the **stornext** user account again.

2. Change the frequency interval of the NAS heartbeat state check to 600 seconds (10 minutes). Enter:

```
su sysadmin -c 'reg set nas.heartbeat.check_state_secs 600'
```

ⓘ **Note:** This is run with a temporary log in to the Appliance Controller as the **sysadmin** user.

3. Change the duration that StorNext services are stopped to 600 seconds (10 minutes). Enter:

```
su sysadmin -c 'reg set stornext_service.stop_period 600'
```

4. **ⓘ** **Note:** This is run with a temporary log in to the Appliance Controller as the **sysadmin** user.

Workaround #3

For **Scenario #2**, to eliminate the confusion of setting a long duration for a maintenance window, and then having to change the values back again to a shorter value again, you can simply stop NAS services and the Appliance Controller, and then restart these services when you are finished.

To stop the services and restart them:

1. Log in to the command line:

Launch the Command Line With an SSH Utility

a. Open an SSH connection to the appropriate server and use the IP address assigned to the node on the Management/LAN Client network.

     a. Log in to the command line using the following credentials:

- User name: **stornext**

- Password: **<stornext user account password>**

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

     b. Enter **sudo rootsh** to gain root user access.

     c. Enter the password for the **stornext** user account again.

2. Stop NAS by executing the following command:

```
/usr/cvfs/lib/snnas_control stop
```

3. Stop the Appliance Controller by executing the following command:

```
/usr/local/quantum/bin/sml_service_tool stop snnas_controller
```

When you are ready, restart the Appliance Controller and NAS services:

4. To restart the Appliance Controller, enter:

```
/usr/local/quantum/bin/sml_service_tool start snnas_controller
```

5. To restart NAS, enter:

```
/usr/cvfs/lib/snnas_control start
```

6. Change the settings for the NAS heartbeat state check and the duration that StorNext services are stopped according to .

Workaround #4

An alternate method for maintenance windows, instead of implementing workaround #3 for **Scenario #2**, you can choose a much longer value if you need the NAS heartbeat state check interval and StorNext services stopped for a long period of time (for example, during a planned maintenance window in a data center). While this is another option, the downside of this is that you will need to know how much downtime to expect maintenance to take, and then set these times to be less than what is needed for that maintenance. It is also difficult to extend the maintenance period reliably once those timers have started. In addition, you will most likely have to reset the values back to their original settings when the maintenance window is complete, which could be a hassle.

Here is one example which extends the time values to 2 hours (7,200 seconds):

1. Log in to the command line:

   Launch the Command Line With an SSH Utility

   a. Open an SSH connection to the appropriate server and use the IP address assigned to the node on the Management/LAN Client network.

   a. Log in to the command line using the following credentials:

   - User name: **stornext**

   - Password: **<stornext user account password>**

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

   b. Enter **sudo rootsh** to gain root user access.

   c. Enter the password for the **stornext** user account again.

2. Change the frequency interval of the NAS heartbeat state check to 7,200 seconds (10 minutes). Enter:

   ```
   su sysadmin -c 'reg set nas.heartbeat.check_state_secs 7200'
   ```

   > ℹ️ **Note:** This is run with a temporary log in to the Appliance Controller as the **sysadmin** user.

3. Change the duration that StorNext services are stopped to 7,200 seconds (10 minutes). Enter:

   ```
   su sysadmin -c 'reg set stornext_service.stop_period 7200'
   ```

4. > ℹ️ **Note:** This is run with a temporary log in to the Appliance Controller as the **sysadmin** user.

journalctl Filter Script

The following applies to Xcellis Workflow Extender (R630) supported on CentOS7.

Step 1: Upgrade to StorNext 6.0.5

ℹ️ **Note:** StorNext 6.0.5 provides the script, so you need to upgrade to StorNext 6.0.5 to access the file.

See Upgrade a Gateway System (Upgrade Firmware) Using the Service Menu.

Step 2: Log in to the System Command Line

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 address:

   - 10.17.21.1

1. Log in to the command line using the following credentials:

   - User name: **stornext**

   - Password: **\<stornext user account password\>**

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

2. Enter **sudo rootsh** to gain root user access.

3. Enter the password for the **stornext** user account again.

4. Continue to [Step 3: Run the Journal Filter Script and View the Script Help below](#).

Step 3: Run the Journal Filter Script and View the Script Help

- Enter the following to use the script to view the log output in a way that filters out all the rootsh commands:

```
/opt/DXi/scripts/journalctl_filter.sh -f
```

- Enter the following to view the script's help file:

```
/opt/DXi/scripts/journalctl_filter.sh --help
```

> **Note:** The journalctl_filter.sh output can also be saved to a file.

How to Disable NFS v4

To disable NFSv4 on Xcellis Workflow Extender systems, perform the following on the server:

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 address:

- 10.17.21.1

1. Log in to the command line using the following credentials:

   - User name: **stornext**

   - Password: **<stornext user account password>**

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

2. Enter **sudo rootsh** to gain root user access.

3. Enter the password for the **stornext** user account again.

4. Edit **/etc/sysconfig/nfs** file. (See Example: Use vi to Edit the nfs File on the next page)

5. Change the value for RPCNFSDARGS to "-N 4". When finished, the line must be: RPCNFSDARGS="-N 4"

6. Change the value for RPCMOUNTDOPTS to "-N 4". When finished the line must be: RPCMOUNTDOPTS="-N 4"

7. Save the file.

Restart NFS (for CentOS7-based Systems)

For Xcellis Workflow Extender (R630) systems.

1. Enter the following to restart the NFS configuration.:

   ```
   systemctl restart nfs-config
   ```

2. Enter the following to restart the NFS server.:

   ```
   systemctl restart nfs-server
   ```

Restart NFS (for CentOS6-based Systems)

For Xcellis Workflow Extender (R520) systems.

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 the Server

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 (for CentOS7-based Systems) on the previous page OR Restart NFS (for CentOS6-based Systems) on the previous page.
6. Close the SSH session for the server .

Contacting Quantum

For further assistance, contact the Quantum Customer Support Center:

Region	Support Contact
North America	1-800-284-5101 (toll free)
	+1-720-249-5700
EMEA	+800-7826-8888 (toll free)
	+49 6131 324 185
Asia Pacific	+800-7826-8887 (toll free)
	+603-7953-3010

For worldwide support:

https://www.quantum.com/serviceandsupport/get-help/index.aspx#contact-support