

StorNext 6.x G300 Gateway Appliance Release Notes

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Revision History

The following StorNext Releases are supported by these Release Notes:

StorNext 6 Releases Supported	Release Notes Date
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	August 2017
StorNext 6.0	July 2016

About the StorNext G300 Gateway Appliance

The StorNext G300 Gateway Appliance combines industry-proven Quantum hardware and StorNext software into one convenient, out-of-the-box solution. The G300 Gateway Appliance operates as a SAN Client in a StorNext Metadata Network, providing LAN client access to the StorNext disk SAN.

Your StorNext G300 system hardware has been pre-installed and is ready to operate with a minimum of additional configuration required at time of installation.

The G300 models include:

- StorNext G301
- StorNext G302

i Note: At times this document uses G300 as a generic term that applies to the StorNext G301 and G302 and the StorNext models. When information pertains only to a specific model, those differences are noted.

Training and Documentation Resources

- [G300 \(R520\) training and documentation](#)
- [G300 \(R510\) training and documentation](#)

If you are unsure about which type of system you have visit the How to [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.

What StorNext Releases are compatible with my system?

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, review the [StorNext 6 web page](#), and visit the stornext.com web site.

Also, 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 Release Compatibility](#) page on quantum.com for further information.

Upgrade StorNext Software and System Firmware

Before upgrading your system, refer to [Known Issues – StorNext 6.x on page 13](#). 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, Enhancements and Notes – StorNext 6.x

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

- [Fixed Issues and Enhancements for StorNext 6.2.1 below](#)
- [Fixed Issues and Enhancements for StorNext 6.2 on the next page](#)
- [Fixed Issues and Enhancements for StorNext 6.1.1 on page 7](#)
- [Fixed Issues and Enhancements for StorNext 6.1.0 on page 7](#)
- [Fixed Issues and Enhancements for StorNext 6.0.6.1 on page 9](#)
- [Fixed Issues, Enhancements and Notes – StorNext 6.x above](#)
- [Fixed Issues and Enhancements for StorNext 6.0.5.1 on page 10](#)
- [Fixed Issues and Enhancements for StorNext 6.0.5 on page 11](#)

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, Enhancements and Notes – StorNext 6.x above](#))

Table 1: 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.

- See the [Upgrade the System \(Upgrade Firmware\)](#) for the instructions for upgrading system firmware.
- See the [Appliance InfoHub](#) for information about other common procedures for your system.
- See the [StorNext 6.2.1 Release Notes](#) for information about StorNext software updates for this release.

Fixed Issues and Enhancements for StorNext 6.2

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:

The operating system is upgraded to CentOS6.10.

Table 2: Fixed Issues/Enhancements for StorNext 6.2.

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		<code>snpupdate.log</code> no longer consumes most of the root file system, previously caused when the Appliance Controller ran the <code>/opt/quantum/snpupdate/bin/snpupdate show versions</code> command every minute.
72800	443258,443259, 443260,433261, 470240	Fixed CVE-2014-3566 Nexpose scan for SSLv3 and POODLE warnings – port 33777 (CentOS6)
72643	468872	Can now configure bonds in the Service Menu when there are more than 1 active slaves. G300 (R520) ONLY.)
72624		Added the PERC controller log to the RAS emails for server boot drive failures.
72421	424025	Security Scanner now leaves the FSM operating correctly on the secondary (failover) server node (typically node 2).

CR Number	SR Number(s)	Description
72147		Add a pre-upgrade check feature in the upgrade scripts which will allow the user to execute all upgrade pre-flight checks before activating the upgrade.
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 fsmescan (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 [Upgrade the System \(Upgrade Firmware\)](#) for the instructions for upgrading system firmware.
- See the [Appliance InfoHub](#) for information about other common procedures for your system.
- See the [StorNext 6.2 Release Notes](#) for information about StorNext software updates for this release.

Fixed Issues and Enhancements for StorNext 6.1.1

i 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 [Upgrade the System \(Upgrade Firmware\)](#) for the instructions for upgrading system firmware.
- See the [Appliance InfoHub](#) for information about other common procedures for your system.
- See the [StorNext 6.1.1 Release Notes](#) for information about StorNext software updates for this release.

Fixed Issues and Enhancements for StorNext 6.1.0

i Note: StorNext 6.1.1 replaces StorNext 6.1.0, and includes all fixes issues and enhancements

i 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.

This release addresses Spectre and Meltdown vulnerabilities as follows:

CentOS Version	Kernel	Vulnerability Variant Addressed
CentOS6 Update 9	2.6.32-696.20.1	1,3

Table 3: Fixed Issues/Enhancements for StorNext 6.1.0.

CR Number	SR Number(s)	Description
71599	425749	Firmware upgrade now ensures autoconfig is enabled.
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.
70854	383195	<code>blacklist_exceptions</code> and entries for EMC/NetApp arrays are now included in the reference <code>multipath.conf</code> 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.

CR Number	SR Number(s)	Description
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 [Upgrade the System \(Upgrade Firmware\)](#) for the instructions for upgrading system firmware.
- See the [Appliance InfoHub](#) for information about other common procedures for your system.
- See the [StorNext 6.1.0 Release Notes](#) for information about StorNext software updates for this release.

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 4: Fixed Issues/Enhancements for StorNext 6.0.6.1

CR Number	SR Number(s)	Description
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- See the [Upgrade the System \(Upgrade Firmware\)](#) for the instructions for upgrading system firmware.
- See the [Appliance InfoHub](#) for information about other common procedures for your system.
- See the [StorNext 6.0.6.1 Release Notes](#) for information about StorNext software updates for this release.

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:

- Appliance Controller 2.0.1

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

Table 5: Fixed Issues/Enhancements for StorNext 6.0.6

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 still 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 <code>/etc/resolv.conf</code> configuration file is now included when collect files are created (in the tar.gz file at: <code>usr/adic/tmp/platform/hw-info/etc/resolv.conf</code>).
70340	n/a	PHP upgraded to php56w-5.6.33-1.
70335	n/a	YUM help output is no longer displayed in <code>/var/log/messages</code> 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.

- See the [Upgrade the System \(Upgrade Firmware\)](#) for the instructions for upgrading system firmware.
- See the [Appliance InfoHub](#) for information about other common procedures for your system.
- See the [StorNext 6.0.6 Release Notes](#) for information about StorNext software updates for this release.

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 [Appliance InfoHub](#) for information about other common procedures for your system.
- See the [Upgrade the System \(Upgrade Firmware\)](#) for the instructions for upgrading system firmware.
- See the [StorNext 6.0.5.1 Release Notes](#) for information about StorNext software updates for this release.

Fixed Issues and Enhancements for StorNext 6.0.5

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.

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 6: 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.
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: <div data-bbox="776 1297 1458 1570" style="background-color: #f0f0f0; padding: 10px; margin-top: 10px;"> <pre>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</pre> </div>

- See the [Upgrade the System \(Upgrade Firmware\)](#) for the instructions for upgrading system firmware.
- See the [Appliance InfoHub](#) for information about other common procedures for your system.
- See the [StorNext 6.0.5 Release Notes](#) for information about StorNext software updates for this release.

Fixed Issues and Enhancements for StorNext 6.0.1

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.

Table 7: Fixed Issues/Enhancements for StorNext 6.0.1

CR Number	SR Number(s)	Description
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 [Upgrade the System \(Upgrade Firmware\)](#) for the instructions for upgrading system firmware.
- See the [Appliance InfoHub](#) for information about other common procedures for your system.
- See the [StorNext 6.0.1 Release Notes](#) for information about StorNext software updates for this release.

Fixed Issues and Enhancements for StorNext 6.0

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 8: Fixed Issues/Enhancements for StorNext 6.0

CR Number	SR Number(s)	Description
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 [Upgrade the System \(Upgrade Firmware\)](#) for the instructions for upgrading system firmware.
- See the [Appliance InfoHub](#) for information about other common procedures for your system.
- See the [StorNext 6.0 Release Notes](#) for information about StorNext software updates for this release.

Known Issues – StorNext 6.x

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

CR Number	SR Number	Description
74780	500550	<p>After firmware upgrade to StorNext 6.2.0, the Appliance Controller can potentially fail to start, so access to snmp or Cloud-based Analytics can fail.</p> <hr/> <p>i Note: This issue was fixed in StorNext 6.2.1. See 74780 on page 5 in Fixed issues for 6.2.1. Upgrade is recommended.</p> <p>Workaround:</p> <p>Upgrade to StorNext 6.2.1.</p> <p>OR</p> <p>On server node 2:</p> <ol style="list-style-type: none"> 1. Open an SSH connection to the server and use the IP address used to access the server on the Management (public) or LAN Client (private) network. <hr/> <p>i Note: If the password for the stornext user account was changed after installation, use the current password.</p> <ol style="list-style-type: none"> a. Log in to the command line using the following credentials: <ul style="list-style-type: none"> • User name: stornext • Password: <stornext user account password> <hr/> <p>i Note: password is the default password for the stornext user account. If the password has been changed, use the current password.</p> b. Enter sudo rootsh to gain root user access. c. Enter the password for the stornext user account again. <ol style="list-style-type: none"> 2. Enter: <pre>chmod 777 /scratch/tmp</pre> 3. Restart postgres SQL. Enter: <pre>service postgresql start</pre> 4. Restart the Appliance Controller:

CR Number	SR Number	Description
74724	498766, 496820	<div data-bbox="597 296 1458 369" style="background-color: #f0f0f0; padding: 5px; margin-bottom: 10px;"> <pre>initctl start snnas_controller</pre> </div> <p>The system may become unable to boot after multiple attempts to upgrade to StorNext 6.2.0, if the upgrade is unsuccessful.</p> <hr/> <p>i Note: This issue was fixed in StorNext 6.2.1. See 74724 on page 6 in Fixed issues for 6.2.1.</p> <p>Workaround:</p> <p>There is no workaround. If your system is unable to boot, contact Quantum Support (see Contacting Quantum on page 39), and reference CR 74724.</p>

CR Number	SR Number	Description
74721/ CON-4344	498766	<p>During the firmware upgrade for StorNext 6.2.0, the installation of StorNext Connect creates the <code>/opt/quantum/connect/docker/docker-compose-hosts.yml</code> file. This file is populated with entries from <code>/etc/hosts</code>. Upgrades to StorNext 6.2.0 can potentially fail if there are duplicate entries in <code>/etc/hosts</code>.</p> <hr/> <p>i Note: This issue was fixed in StorNext 6.2.1. See Fixed Issues, Enhancements and Notes – StorNext 6.x on page 5 in Fixed issues for 6.2.1. Upgrade is recommended.</p> <p>Workaround:</p> <p>Upgrade to StorNext 6.2.1.</p> <p>OR</p> <p>If the upgrade has run already, on server node 2:</p> <ol style="list-style-type: none"> 1. Open an SSH connection to the server and use the IP address used to access the server on the Management (public) or LAN Client (private) network. <hr/> <p>i Note: If the password for the stornext user account was changed after installation, use the current password.</p> <ol style="list-style-type: none"> a. Log in to the command line using the following credentials: <ul style="list-style-type: none"> • User name: stornext • Password: <stornext user account password> <hr/> <p>i Note: password is the default password for the stornext user account. If the password has been changed, use the current password.</p> b. Enter sudo rootsh to gain root user access. c. Enter the password for the stornext user account again. <ol style="list-style-type: none"> 2. Using an editing utility like vi, edit the <code>docker-compose-hosts.yml</code> file to remove the duplicate entries. 3. Restart the firmware upgrade. <p>To prevent this issue:</p> <p>Remove any duplicate entries from <code>/etc/hosts</code> before starting the firmware upgrade.</p> <p>To determine if this issue has been encountered:</p> <p>Open the <code>/var/log/DXi/SNConnectContainers.log</code> file. If you find the</p>

CR Number	SR Number	Description
74697	498571, 497610	<p>following line in the file, the issue has occurred on the system: services.php.extra_hosts array items must be unique</p> <hr/> <p>The StorNext Connect Docker installation during upgrade to StorNext 6.2.0 can fill up the /var directory on the server which could cause an upgrade failure.</p> <hr/> <p>i Note: This issue was fixed in StorNext 6.2.1. See Fixed Issues, Enhancements and Notes – StorNext 6.x on page 5 in Fixed issues for 6.2.1. Upgrade is recommended.</p> <p>Workaround:</p> <p>There is no workaround. Upgrade to StorNext 6.2.1.</p> <hr/>

CR Number	SR Number	Description
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74626	0489653	Upgrades to StorNext 6.2.0 could potentially fail since the Appliance Controller is stopped during the upgrade. An error message similar to the following may be displayed:
-------	---------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------

```
Failed to determine if current installed NAS is
clustered, installed version = 1.3.0
```

i Note: This issue was fixed in StorNext 6.2.1. See [74626 on page 6](#) in **Fixed issues** for 6.2.1. Upgrade is recommended.

Workaround:

Upgrade to StorNext 6.2.1.

OR

On server node 2:

1. Open an SSH connection to the server and use the IP address used to access the server on the Management (public) or LAN Client (private) network.

i Note: If the password for the **stornext** user account was changed after installation, use the current password.

- 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. Verify Appliance Controller status. Enter:

```
initctl status snnas_controller
```

If the Appliance Controller is currently stopped, you will see output similar to:

CR Number	SR Number	Description
		<pre>snnas_controller stop/waiting</pre> <p>3. Restart the Appliance Controller:</p> <pre>initctl start snnas_controller</pre> <p>You should see output similar to:</p> <pre>snnas_controller start/running, process 7235</pre>
74202, 67955, HYDRA- 4326	n/a	<p>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.</p> <p>See 74202 - StorNext services can fail to stop completely when NAS is Configured and StorNext services are stopped on page 31 for an in-depth explanation of the issue and several alternate workarounds.</p>
73688	n/a	<p>When the /var directory on the appliance gets full, the following serious errors can occur:</p> <ul style="list-style-type: none"> • Network communication errors on the server node • iDRAC is not accessible • The server node gets stuck during reboot and require a physical power cycle <p>See also Leave Space on Appliance File Systems on the <i>Appliance InfoHub</i>.</p> <p>Workaround:</p> <p>Keep additional space available on /var.</p>
73036	n/a	<p>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.</p> <p>Workaround:</p> <p>Uninstall the current Java version, and install Java 1.7.0. iDRAC should work properly again.</p>

CR Number	SR Number	Description
72726	3734274, 336772, 409963, 430039, 455314	<p>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 /.</p> <hr/> <p>i Note: This issue was fixed in StorNext 6.2 (see 70915 on page 7). Upgrade is recommended.</p> <p>Workarounds:</p> <ul style="list-style-type: none"> • 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.
71809	431853	<p>snaFileSystemActive OID can return a bad data type for SNMB information.</p> <hr/> <p>i Note: This issue was fixed in StorNext 6.2. See 71809 on page 7. Upgrade is recommended.</p> <p>Workaround:</p> <p>Upgrade to StorNext 6.2.</p>
71469	421581	<p>Issue:</p> <p>Firmware upgrade failed during the OSUpdate step of the upgrade process, due to insufficient space on local/root filesystem.</p> <hr/> <p>i Note: Free space is now checked before continuing with the firmware upgrade in StorNext 6.1.0. See 71469 on page 8. Upgrade is recommended.</p> <p>Workaround:</p> <ol style="list-style-type: none"> 1. Determine which directory on the root directory has files that can be removed: <pre style="background-color: #f0f0f0; padding: 5px;">df -h</pre> <p>Notice any directories you have created that consume GBs of data.</p> <ol style="list-style-type: none"> 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.

CR Number	SR Number	Description
71362	0418655	<p>Issue:</p> <p>Timezone set to incorrect timezone after StorNext firmware upgrade.</p> <hr/> <p>i Note: This issue was fixed in StorNext 6.1. See 71362 on page 8. Upgrade is recommended.</p> <p>Workaround:</p> <p>Upgrade to StorNext 6.1.0 or later.</p> <p>OR</p> <p>Change the timezone on the affected systems to the correct timezone.</p> <hr/>

CR Number	SR Number	Description
71328	403647	<p>Issue:</p> <p>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 <code>sysfs</code> and on <code>udev</code>. During boot, a message similar to the the following is displayed:</p> <pre>mam-node-1 udevd-work[39397]: inotify_add_watch(6, /dev/dm-2699, 10) failed: No space left on device</pre> <hr/> <p>Note: This issue was fixed in StorNext 6.1. See 71328 on page 8. Upgrade is recommended.</p> <p>Workaround:</p> <p>Upgrade to StorNext 6.1.0.</p> <p>OR</p> <p>Increase the amount of notify watches. Do the following:</p> <ol style="list-style-type: none"> 1. Run the following command: <pre>cat /proc/sys/fs/inotify/max_user_watches</pre> <p>This should return a value similar to:</p> <pre>10240</pre> 2. Edit the <code>/etc/sysctl.conf</code> file to allow for a longer boot time: <pre>fs.inotify.max_user_watches=32768</pre>
71230	414352, 429898	<p>Issue:</p> <p>Nexpose security scan reports HTTP Header is missing on port 443.</p> <hr/> <p>Note: This issue was fixed in StorNext 6.1. See 71230 on page 8. Upgrade is recommended.</p> <p>Workaround:</p> <p>Upgrade to StorNext 6.1.0. There is no other workaround available.</p>

CR Number	SR Number	Description
70854	383195	<p>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.</p> <hr/> <p>Note: This issue was fixed in StorNext 6.1. See 70854 on page 8. Upgrade is recommended.</p> <hr/> <p>Note: See also the new How to Modify the multipath.conf File for External Storage Arrays page released for StorNext 6.1.0.</p> <p>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.</p> <p>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.</p>
70649	398896	<p>Issue: The Promise array path_checker definition needs to be updated in the reference multipath.conf file provided with our systems and firmware upgrades.</p> <hr/> <p>Note: This issue was fixed in StorNext 6.1. See 70649 on page 9. Upgrade is recommended.</p> <hr/> <p>Note: See also the new How to Modify the multipath.conf File for External Storage Arrays page released for StorNext 6.1.0.</p> <p>Workaround: Upgrade to StorNext 6.1.0.</p> <p>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.</p>

CR Number	SR Number	Description
70588	396789	<p>Issue:</p> <p>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.</p> <hr/> <p>i Note: This issue was fixed in StorNext 6.1. See 70588 on page 9. Upgrade is recommended.</p> <p>Workaround:</p> <p>Upgrade to StorNext 6.1.0.</p> <p>OR</p> <p>Manually trim data from these log files when needed.</p>
70526	398061, 396903, 398206, 397045, 399232, and 401331	<p>Issue:</p> <p>Kernel Page Table Security Problems: CVE-2017-5753, CVE-2017-5715 and CVE-2017-5754.</p> <hr/> <p>i Note: This issue was fixed in StorNext 6.1. See 70526 on page 9. Upgrade is recommended.</p> <p>Workaround:</p> <p>Upgrade to StorNext 6.1.0. There is no other workaround.</p>

CR Number	SR Number	Description
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72287,
72286,
72277

n/a

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
71464	n/a	<p>Issue:</p> <p>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.</p> <p>Workaround:</p> <p>To upgrade NAS after the StorNext firmware upgrade:</p> <ol style="list-style-type: none">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
70902	n/a	<p>Issue:</p> <p>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.</p> <p>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.</p> <p>Example (dual-node system with NAS 1.3.0 installed):</p> <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> <p>Workaround:</p> <p>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.</p>

CR Number	SR Number	Description
70300	385040, 385789	<p>Issue:</p> <p>After a firmware upgrade, the system cannot boot.</p> <p>This does not need to be applied to all systems connected to storage arrays, only impacted systems, as described here.</p> <p>Systems Impacted:</p> <ul style="list-style-type: none"> 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. <p>i Note: This issue was fixed in StorNext 6.0.5. See 70300 on page 11. If you are upgrading to StorNext 6.0.5, you will not see this issue, and do not have to perform this workaround.</p> <p>Messages on the boot screen and in the KDUMP (the trace of server boot activities on the sysfs) shows messages similar to:</p> <pre>Wrong diagnostic page; asked for 7 got 0</pre> <p>OR</p> <pre>Wrong diagnostic page; asked for 10 got 0</pre> <p>Workaround:</p> <p>DO NOT upgrade your system to StorNext 6.x before first applying the workaround.</p> <p>See Server Boot (QXS/NetApp).</p>
68096		<p>Issue:</p> <p>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.</p> <p>Workaround:</p> <p>Verify all expected StorNext file systems are mounted. If not, manually mount any file systems needed by NAS.</p>

CR Number	SR Number	Description
60614	n/a	<p>Issue:</p> <p>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.</p> <p>Workaround:</p> <p>For steps to take to update the Connect Connector(s) before upgrading system firmware:</p> <p style="padding-left: 40px;">See Update the StorNext Connect Connector before doing a firmware upgrade.</p> <p>For steps to take if you have already upgraded firmware but did not first update the Connector(s):</p> <p style="padding-left: 40px;">See Repair StorNext Connect After Upgrade.</p>
60482		<p>Issue:</p> <p>Upgrades to 5.3.0 on G300 systems can result in lost mount points in the <code>/etc/fstab</code> file. G300 systems manage and “own” the proxy mount points created and managed using the G300 Service Menu. When changes are made via the Service Menu, these entries are rewritten to a fresh <code>/etc/fstab</code> file based on file system information that is saved in a configuration file. If manual changes or additions have been made to the <code>/etc/fstab</code> file, such as adding NAS mounts, they will be overwritten and lost during the upgrade or if changes to the file system configuration are done via the Service Menu.</p> <p>Workaround:</p> <p>Do Not upgrade the G300 to StorNext 5 Release 5.3.0 if there are manual entries in the <code>/etc/fstab</code> file, such as NAS shares or other custom modifications to the file.</p> <p>In this case, here's what to do:</p> <ol style="list-style-type: none"> 1. Backup the existing <code>/etc/fstab</code> file to another location. 2. Upgrade the G300. 3. Copy the file back to the original location. 4. Restart StorNext services to restore the existing mount points.

CR Number	SR Number	Description
55384	n/a	<p>Issue:</p> <p>If dmnfsthreads is not set on mount, nfsds may be over-committed when there are many NFS processes waiting for offline files.</p> <p>Workaround:</p> <p>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.</p>
55318	n/a	<p>Issue:</p> <p>Strange UID on ACL when file created on non ads client.</p> <p>Workaround:</p> <p>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.</p>
55220	n/a	<p>Issue:</p> <p>(See CR Known Issues – StorNext 6.x on page 13)</p> <p>Workaround:</p> <p>n/a</p>
54451	n/a	<p>Issue:</p> <p>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.</p> <p>Workaround:</p> <p>There currently is no workaround for this issue. SMB is operating as expected.</p>

CR Number	SR Number	Description
52414	3470544	<p>Issue:</p> <p>StorNext upgrade script for the gateway agent does not fully clean up stale upgrade remnants from previous upgrades causing the gateway agent upgrade to potentially fail on G300 appliances for systems upgrading to StorNext 5 releases prior to 5.2.0. This was fixed in StorNext 5 Release 5.2.0.</p> <p>Workaround:</p> <p>If you run into this issue, remove all the files in the <code>/scratch/agents/</code> directory. To do this:</p> <ol style="list-style-type: none"> 1. Access the G300 command line. 2. Issue the command: <div data-bbox="594 768 1386 835" data-label="Code-Block"> <pre>rm -rf /scratch/agents/*</pre> </div> 3. Run the upgrade again.

Known Issues Workarounds

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.
- b. 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.

- c. Enter **sudo rootsh** to gain root user access.
 - d. 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.

i 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.
- b. 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.

- c. Enter **sudo rootsh** to gain root user access.
 - d. 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.
- b. 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.

- c. Enter **sudo rootsh** to gain root user access.
 - d. 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'
```

i 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'
```

i 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.
- b. 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.

- c. Enter **sudo rootsh** to gain root user access.
 - d. 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
```

- Change the settings for the NAS heartbeat state check and the duration that StorNext services are stopped according to [Workaround #2 on page 35](#).

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):

- Log in to the command line:

Launch the Command Line With an SSH Utility

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

- Enter **sudo rootsh** to gain root user access.
 - Enter the password for the **stornext** user account again.
- 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'
```

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

- 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'
```

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

How to Disable NFS v4

To disable NFSv4 on G300 systems, especially those systems running NAS 1.2.0 or earlier, 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

2. 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.

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 the Server

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](#).
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

Region	Support Contact
For worldwide support: http://www.quantum.com/serviceandsupport/get-help/index.aspx#contact-support	
