Quantum

StorNext 7.2.4 Artico Archive Gateway Release Notes

Original Product/Software Release Date July, 2016

Contents

About the Artico Archive Gateway

The Artico™ Archive Gateway provides a flexible, low-cost NAS archive appliance, with the ability to scale to store petabytes of data as demand grows. Powered by StorNext® advanced data management policies, Artico stores and retains data in a tiered storage system that intelligently places the data on the right technology at the right time, both on-premise or in the cloud. Combined with StorNext-enabled policies and the data migration tools of Rocket Arkivio Autostor software, Artico enables users to move files seamlessly from primary storage to less expensive storage while maintaining full access to all files, providing the lowest TCO model for storing, accessing and protecting data.

Training and Documentation Resources

Artico (R630) training and documentation

Learn more about StorNext 7.2.4

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 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 and Scale-Out Storage and take a look at the StorNext 7 Documentation Center, which includes training and documentation resources for StorNext, including StorNext software 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

Important Information for Xcellis Workflow Director (R630), Xcellis Foundation, Artico (R630), and Xcellis Workflow Extender (R630) Systems with the Mellanox ConnectX-3 Expansion Card

Beginning with StorNext version 7.2.4, you cannot upgrade Xcellis Workflow Director (R630), Xcellis Foundation, Artico (R630), or Xcellis Workflow Extender (R630) systems that have a Mellanox ConnectX-3 expansion card installed. Quantum no longer provides kernel patches, as the Mellanox ConnectX-3 expansion card is no longer supported by Mellanox.

Note: If your system does **not** have a Mellanox ConnectX-3 expansion card installed, you can upgrade to StorNext version 7.2.4 (or later).

Note: Firmware files are large – over 12 GB (or larger) for releases where both files are required (typical), so plan time to download the file(s) required for the upgrade. The **/scratch** file system requires at least 20 GB of free space available before you perform the upgrade.

Before upgrading your system, refer to Known Issues on page 6. 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.

Enhancements, Fixed Issues, and Notes

This section lists the fixed issues, enhancements and notes for StorNext 7.2.4.

Newly Supported on Xcellis Gen3 Systems

- Emulex 3700 HBA (32 Gb FC)
- Mellanox CX-6 CDAT (100 GbE)

Fixed Issues

ID	Description
SNXT-795	frequent lines like crond[216059]: pam_sss(crond:session): Request to sssd failed. Connection refused found in /var/log/secure
SNXT-948	--norequiredmedia description is missleading in fsimport man page
SNXT-1006	sntier relies on mountpoint causing issues when filesystem is stopped /removed but mounted
SNXT-1044	fsaddclass and fsmodclass drive pool name are not checked against the actual drive pools names and naming rules are inconsistent between fs and vs
SNXT-1161	'error 37' during mdarchive restore when 'quotas' is enabled
SNXT-1168	man page in sntier should mention --file to prevent directory affinitty move
SNXT-1234	Health Check (Media) is reporting 'Not enough LTO media' alerts despite there are unused blank tapes assigned to the policy.
SNXT-1408	UUI: Support running UUI on node 1 of MDC HA pair
SNXT-1478	Unprivileged users are not allowed to login after the Leapp upgrade completes and the rest of the platform upgrade is running
SNXT-1489	The grub settings intremap=no_x2apic_optout and nox2apic are not getting set on software RAID based XWD and XWE systems on upgrades to 7.2.0
SNXT-1491	XWEGen1 upgrade failed in ExtraRPMs with missing dependencies
SNXT-1530	Misconfigured snfs_rest_config.json file caused the fsmpm to fail to start without a good error output pointing to the cause.

ID	Description
SNXT-1536	Update the preupgrade check for the free space in /var for OS conversion upgrades from 10GB to 16GB
SNXT-1561	License: Invalid product code 0xB70(=DAE)
SNXT-1583	Consider having configurable use-at-your-own-risk revoke timeout
SNXT-1621	Fresh install of XWD or XWE results in missing /usr/cvfs/config/deviceparams file and system defaults for the I/O scheduler and nr_requests
SNXT-1656	'Balance' allocation strategy does not seem to work with default 'Inode Stripe Width' size
SNXT-1659	Add support for LTO RAO capability
SNXT-1670	XWE upgrade from 6.4.1 through to 7.2.0 fails the MellanoxUpdate checkpoint on 7.2.0 due to missing the kernel-modules-extra RPM
SNXT-1701	Add a new utility script to be used on Gen2 SWRAID based Xcellis systems to map the current boot drives to their physical slot numbers
SNXT-1758	fsmedcopy can write the EOD to the beginning of the tape if the source can't be read.
SNXT-1784	ActiveScale Cold Storage team would like REST API to trigger Audit
SNXT-1799	tracking bug for rdar://140352101 (acfs: heap overflow in dmfs_read_reply)
SNXT-1833	After upgrade to StorNext 7.2.0 the Notification (sl_noti_email_monitor) will not stay started
SNXT-1838	Need instrumented FSM code to resolve NFL issue
SNXT-1846	USBE container log grows to fill/scratch
SNXT-1939	ACLs on NFSv4: the users with read-only access should not be able to modify settings using nfs4_setfacl command
SNXT-1957	xdi crashes with SEGFAULT in SN7.2.0 with RH8 when using the webconsole

Known Issues

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

CR Number	Customer SR Number	Description

SNXT-118	N/A	**`configgnetdef.sh`** incorrectly creates a bond1 profile in the **`ifcfg`** file with an incorrect DEVICE entry.
		
		You may see an error like the following:
		
		`2023-01-18-09:13:46.244095 leo kernel: CVFS: Cannot get IP address of NIC with MAC 24-6e-96-a2-a2-59 error "Not found" (2`
		
		Workaround:
		
		This issue has been fixed in StorNext 7.1.1. See SNXT-116 in the 7.1.1 Fixed Issues.
		
		To fix this issue on StorNext prior to 7.1.1, open the **`/etc/sysconfig/network-scripts/ifcfg-bond1`** file. In the in first line of the file, change the following entry:
		
		`DEVICE=bond0:2`
		
		to:
		
		`DEVICE=bond1:2`

CR Number	Customer SR Number	Description

SNXT-389	N/A	The StorNext rpm database can become corrupted if an rpm operation or a query is unexpectedly interrupted by a signal, reboot, or a system crash on StorNext NAS-clustered systems or the Unified User Interface (UUI) software runs.
		
		Querying the database might result in errors and report that an installed package is not installed.
		
		Example:
		
		`$ rpm -q snfs-server`
		`error: rpmdb: BDB0113`
		`Thread/process7492/140149665155136 failed: BDB1507`
		`Thread died in Berkeley DB library`
		`error: db5 error(-30973) from dbenv->failchk:BDB0087`
		`DB_RUNRECOVERY: Fatal error, run databaserecovery`
		`error: cannot open Packages index using db5 - (-`
		`30973)`
		`error: cannot open Packages database in /var/lib/rpm`
		`error: rpmdb: BDB0113`
		`Thread/process7492/140149665155136 failed: BDB1507`
		`Thread died inBerkeley DB library`
		`error: db5 error(-30973) from dbenv->failchk:BDB0087`
		`DB_RUNRECOVERY: Fatal error, run databaserecovery`
		`error: cannot open Packages database in /var/lib/rpm`
		`package snfs-server is not installed`
		
		These query errors could result in the inability to start StorNext or other Quantum services.
		
		On rare occasions, you might see corruption of the rpm database after are boot of the system while an rpm activity occurred. StorNext, StorNext NAS, and the UUI invoke periodic rpm queries that could be running when a reboot occurs that could lead to corruption. The rpm database corruption is more likely to be seen in the event of an ungraceful reboot resulting from a kernel panic, power outage, or SMITH reset, or upon sending the kill signal to a running rpm command which can happen via `systemd` as part of a normal shutdown/reboot sequence.
		
		Workaround:
		
		1. Log in to the command line of a server node.
		2. Run the following command to repair the rpm database:
		
		`rpmdb --rebuilddb`

CR Number	Customer SR Number	Description

		3. After you rebuild the database, run the following query:
		
		`rpm -q snfs-server`
		
		The server version will be displayed, which verifies the database has been repaired:
		
		`snfs-server-7.1.1-91E.RedHat7.x86_64`

SNXT-951	N/A	Beginning with StorNext 7.2.0, if your Xcellis (R630) system is configured with a Mellanox CX-3 card, then you might not be able to upgrade the driver for the card. **Workaround:** There is no workaround for this issue; Mellanox has ended support for the card driver.
SNXT-1184	N/A	There is an issue in the BMC firmware where the BMC stops responding to some of the **racadm** commands. **Workaround:** To workaround this issue, use the **Reboot IPMI** option in the **Service Menu** to reset the BMC controller. 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. 2. Launch the **Service Menu**. Enter: `sh /opt/DXi/scripts/service.sh` The **Service Menu** displays. 3. From the **Service Menu**, select **Hardware Configuration**. 4. Select **Setup IPMI**. 5. Select **Reboot IPMI**.

CR Number	Customer SR Number	Description
80650	N/A	If Bond 1 (typically configured with port em2) is not configured during initial system configuration the system can apply settings to Bond 1 which cause the `cvfs` file system to not mount. If you check, the following error will be included in the `/var/log/messages` file: `2023-01-18-09:13:46.244095 leo kernel: CVFS: Cannot get IP address of NIC with MAC 24-6e-96-a2-a2-59 error 'Not found' (2)` **Workaround:** To fix this issue, see 80650 Workaround: Fix the Bond 1 configuration
80640	N/A	Applies to Xcellis Workflow Director Gen 3, Xcellis Foundation, Artico (R630), and Xcellis Workflow Extender Gen 3 systems. On systems reinstalled from ISO or if a Mellanox Connect CX3 card is installed after initial system configuration, DNS configuration settings are removed during the ISO rebuild or after the card is added, causing DNS resolution to fail. **Workaround:** If DNS resolution fails on your system, you will need to reconfigure StorNext DNS server settings. See 80640 Workaround: Configure missing DNS settings.
80637	N/A	In some rare occasions upgrades to the Appliance Controller might report an upgrade failure even if the upgrade was successful. To validate if the upgrade failure is a false positive look for this message in the controller log: `server.py:142 Appliance controller Failed: local variable 'pid_list' referenced before assignment` **Workaround:** To resolve this issue, see 80637 Workaround: Appliance Controller upgraded but indicates it did not.

CR Number	Customer SR Number	Description
80565	N/A	In StorNext 7.1, when a StorNext VIP is set in the StorNextUI during HA configuration steps, the HA conversion on Node 2 prevents the StorNext GUI from working. **Workaround:** See 80565 Workaround: Restart "docker services" on Node 2.
80541		The appliance StorNext upgrade can report errors and BIOS and BMC mismatch errors during the upgrade. **Workaround:** If this issue is seen, reboot the BMC. See 80541 Workaround: Reboot BMC on page 20. Then attempt to upgrade the system again.
80472	678713	If your system's root file system uses a lot of storage space, attempting to import a large OVA file into DAE can fill up `/var`, which will trigger RAS events and prevents import of the virtual machine in DAE. **Workaround:** If you experience this issue, contact Quantum support. When you contact Quantum, reference **Bug 80453**.
80393	676195	A RAS ticket may be displayed in the StorNext GUI that indicates an `omcliproxy` segfault error happened while an IPv6 is bounced on server node , especially when workload on the system is high. **Workaround:** A workaround for this issue is being investigated. For now, since the `omcliproxy` utility error message is benign, it can be ignored, and the core file can be deleted.
80334	673385	When attempting to access HPE 3par configured LUNs on Xcellis Workflow Director host systems using QLE2694L Fibre Channel HBAs, the HBAs can initiate a **`qla2xxx 10.02.01.00.a14-k1`** crash, and produce firmware dump files. When this happens, it may cause the server to reboot. **Workaround:** See 80334 Workaround: HBA crash and firmware dump files

CR Number	Customer SR Number	Description
80181	N/A	When there is a disk or disk partition failure in software RAID partitions, a RAS ticket will be generated in the StorNext GUI. However, currently under the **Event Details** on the ticket the "View Recommended Actions" is missing the workaround for this failure. **Workaround:** There is no workaround for the missing information from the "View Recommended Actions" link in the ticket. We are providing the information here. See 80181: RAS ticket recommended actions for software RAID failures.
80121	N/A	The StorNext upgrade firmware/bios fails silently even though the upgrade progress shows that the firmware update had completed. **Workaround:** See 80121 Workaround: Firmware/BIOS fails silently during StorNext upgrade on page 24.
80099	N/A	After the StorNext upgrade completes, StorNext Connect may be left in a partially-operational or inoperable state. If this happens stop and start StorNext Connect manually to attempt to resolve the situation. **Workaround:** See 80099 Workaround: Potential StorNext Connect issues after you upgrade StorNext on page 27.
79545	N/A	Boot errors may be displayed when connected to F-Series RAID storage. **Example:** `2021-11-10-09:31:29.643969 rhel-dmraid-activation: ERROR: unsupported sector size 4096 on /dev/sdd.` This error is shown because the **dmraid** software RAID device running on the appliance only supports disk partitions that have 512 byte sector block size, and F-Series storage is configured with disk partitions configured with a 4096 byte sector block size. **Workaround:** There is no workaround for this error. However, these errors do not cause any operational errors, and may be safely ignored.

CR Number	Customer SR Number	Description
79052	612947, 612900	The following applies to and Artico (R630) systems **ONLY**. It does not apply to other server model names/generations. Upgrades to StorNext 7.0.1 may take many more hours longer than previous upgrades. It can take several hours to shut down the MySQL database. If the upgrade is taking an unusually long time, this database issue is most likely affecting the delay. **Caution:** **DO NOT** attempt to shut down or reboot the server nodes if the upgrade is taking a long time. **Note:** This was fixed in StorNext 7.0.2, so any upgrades directly to 7.0.2 without first upgrading to 7.0.1 will not experience this issue. **Workaround:** There is no workaround for this for StorNext 7.0.1. To speed up the MySQL database conversion, upgrade to StorNext 7.0.2 or later and skip the upgrade to 7.0.1, if possible.
77317	N/A	Adding a DAE virtual machine to a file system created on a QXS or H-Series LUN can create a RAS alert stating: `Excessive fragmentation detected in file "/DAE_Boot_Disk_location/pk-DAE-vm.qcow2", inode 0x4e800000ef0b19 (decimal inum 15665945)'` **Workaround:** While this issue is not currently fixed, the message itself may be disabled. To disable the RAS alert, change the value of the **`extentCountThreshold`** parameter in the file system configuration file to "0". For information about file system configuration files, see: https://qsupport.quantum.com/kb/flare/Content/stornext/SNS_DocSite/Default.htm#Guide_Tuning/Topics/Example_FSM_Configuratio.htm
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 28 for an in-depth explanation of the issue and several alternate workarounds.

CR Number	Customer SR Number	Description
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 • BMC 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**.
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 or later: See the journalctl Filter Script For StorNext releases prior to 6.0.5, contact Contacting Quantum Support on page 42 and refer to **TSB 2998**.
55384	N/A	**Issue:** If **dmnfsthreads** is not set on mount, **nfsds** may be over-commited when there are many NFS processes waiting for offline files. **Workaround:** For managed file systems serving NFS, Quantum recommends using the "dmnfsthreads=16" mount option. This setting ensures that NFS remains responsive when Storage Manager is retrieving data from an archive tier.
55318	N/A	**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.

CR Number	Customer SR Number	Description
45702	N/A	**Issue:** If you replace an HDD drive with an SSD or vice versa, the StorNext GUI may display a "Missing" status and an equivalent RAS ticket, instead of displaying an "Incompatible" status. **Workaround:** Replacement drives must be the identical type of drive removed. HDDs can only use HDD spares, and SSDs can only use SSD spares. Replacement drives must also be the same size or larger than the failed drive. The array controller will generate errors if an incompatible drive is used as a replacement.
38128	1395540	**Issue:** Using the GUI while a large Media import is kicked off via the command line can cause the StorNext GUI to timeout or crash. **Workaround:** Wait until a bulk load from tape is finished prior to opening the StorNext GUI.

80650 Workaround: Fix the Bond 1 configuration

1. Log in to the CLI:
   a. 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.

      Note: The service port is no longer a dedicated service port. This port might be configured by the user for use as a metadata or client port with a different IP configuration. If this port has been reconfigured by the user, then command line access over a network connection requires an appropriate IP address for your configured system on that network.

      Service Port IP addresses:

      - Node 1 : <*service port IP address*> (dual-server node systems), the default service port IP address is 10.17.21.1
      - Node 2 : <*service port IP address*> (dual-server node, or supported "HA-ready" single-server node StorNext appliances), the default service port IP address is 10.17.21.2

   b. Initiate an ssh session to the system using Terminal or PuTTY:

To ssh into the system

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. The first time you log in, you are prompted to change the password to a different one.

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

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

2. Manually change the first line of the **`/etc/sysconfig/network-scripts/ifcfg-bond1`** file from **`DEVICE=bond0:2`** to **`DEVICE=bond1:2`**.

   The **`vi`** editor is included in CentOS installed on your system. The following Google search link provides links for editing with **`vi`**:

   https://www.google.com/search?q=edit+with+vi

> **Note:** When finished making changes with the **`vi`** editor, save and exit the file using **`:wq!`**.

80640 Workaround: Configure missing DNS settings

Configure your DNS settings:

1. Log in to the CLI:

   a. 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.

   > **Note:** The service port is no longer a dedicated service port. This port might be configured by the user for use as a metadata or client port with a different IP configuration. If this port has been reconfigured by the user, then command line access over a network connection requires an appropriate IP address for your configured system on that network.

   Service Port IP addresses:

   - Node 1 : <*service port IP address*> (dual-server node systems), the default service port IP address is 10.17.21.1
   - Node 2 : <*service port IP address*> (dual-server node, or supported "HA-ready" single-server node StorNext appliances), the default service port IP address is 10.17.21.2

   b. Initiate an ssh session to the system using Terminal or PuTTY:

To ssh into the system

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. The first time you log in, you are prompted to change the password to a different one.

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

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

2. Open the **Service Menu**:

   a. Launch the **Service Menu**. Enter:

   ```
   sh /opt/DXi/scripts/service.sh -admin
   ```

   The **Service Menu** displays.

3. Navigate to **`More Tools > Engineering Tools > Base OS Network Setup > Configure host settings`**.
4. Click **`<ENTER>`** for **Hostname**.
5. Click **`<ENTER>`** for **Default Gateway IP**.
6. Enter the **Domain Name**,default will show the node name, so replace **`node-1`** or **`node-2`** (the system defaults) with a valid domain name to use.
7. Enter one or more (comma-separated) **`DNS IP`** addresses for the system.

   Once you press **`<ENTER>`**, you should see the settings apply similar to:

   ```
   INFO: *** script started with arguments: addhost --hostname myhostname1 --
   domain mydomain.local --dns 10.20.219.63 --defaultgateway
   10.20.216.1,10.20.216.2 ***
   INFO: *** script completed successfully ***
   ```

   The **Network Menu** displays again.

8. Select the **`Activate Network Changes`** option to apply the DNS changes.
9. Close the SSH session for this server node.

   For single-server node systems, the DNS settings change is now complete.

For dual-server node systems, continue to the next step.

10. Log in to the CLI for the other server node:
    a. 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.

    Note: The service port is no longer a dedicated service port. This port might be configured by the user for use as a metadata or client port with a different IP configuration. If this port has been reconfigured by the user, then command line access over a network connection requires an appropriate IP address for your configured system on that network.

    Service Port IP addresses:

    - Node 1 : <*service port IP address*> (dual-server node systems), the default service port IP address is 10.17.21.1
    - Node 2 : <*service port IP address*> (dual-server node, or supported "HA-ready" single-server node StorNext appliances), the default service port IP address is 10.17.21.2

    b. Initiate an ssh session to the system using Terminal or PuTTY:

    To ssh into the system

    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. The first time you log in, you are prompted to change the password to a different one.

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

11. Open the **Service Menu**:
    a. Launch the **Service Menu**. Enter:

    ```
    sh /opt/DXi/scripts/service.sh -admin
    ```

    The **Service Menu** displays.

12. Navigate to **`More Tools > Engineering Tools > Base OS Network Setup > Configure host settings`**.
13. Click **`<ENTER>`** for **Hostname**.
14. Click **`<ENTER>`** for **Default Gateway IP**.

15. Enter the **Domain Name**,default will show the node name, so replace **`node-1`** or **`node-2`** (the system defaults) with a valid domain name to use.
16. Enter the identical **`DNS IP`** address/addresses entered for the other server node.
17. Once you press **`<ENTER>`**, you should see the settings apply similar to:
18. ```
    INFO: *** script started with arguments: addhost --hostname myhostname1 --
    domain mydomain.local --dns 10.20.219.63 --defaultgateway
    10.20.216.1,10.20.216.2 ***
    INFO: *** script completed successfully ***
    ```
19. The **Network Menu** displays again.
20. Select the **`Activate Network Changes`** option to apply the DNS changes.
21. Close the SSH session for this server node.

    For dual-server node systems, the DNS settings change is now complete.

80637 Workaround: Appliance Controller upgraded but indicates it did not

1. To determine if the upgrade is incomplete, locate the following error message in the `/var/log/snnas_ controller` log file:

   ```
   server.py:142 Appliance controller Failed: local variable 'pid_ list'
   referenced before assignment
   ```

2. Log in to the server node:
   a. 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.

      Note: The service port is no longer a dedicated service port. This port might be configured by the user for use as a metadata or client port with a different IP configuration. If this port has been reconfigured by the user, then command line access over a network connection requires an appropriate IP address for your configured system on that network.

      Service Port IP addresses:

      - Node 1 : <*service port IP address*> (dual-server node systems), the default service port IP address is 10.17.21.1
      - Node 2 : <*service port IP address*> (dual-server node, or supported "HA-ready" single-server node StorNext appliances), the default service port IP address is 10.17.21.2
   ```

b. Initiate an ssh session to the system using Terminal or PuTTY:

To ssh into the system

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. The first time you log in, you are prompted to change the password to a different one.

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

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

3. Verify the Appliance Controller was upgraded and is running the latest/expected release on the current server node:

```
qtmcontroller -c 'system show version'
```

4. If the release is installed as expected. Enter the following on the server node to remove the touch file placed on the system to indicate an upgrade issue on the server node:

```
rm /var/DXi/upgrade_ notify
```

80565 Workaround: Restart "docker services" on Node 2

1. Log into the CLI of the server node, if not already logged in.

How to log into the server CLI:

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

b. Initiate an ssh session to the system using Terminal or PuTTY:

To ssh into the system

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. The first time you log in, you are prompted to change the password to a different one.

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

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

2. Enter the docker restart command:

```
systemctl restart docker
```

3. Exit the CLI.
4. Launch the StorNext User Interface again.

80541 Workaround: Reboot BMC

1. Log in to the server node:

a. 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.

> **Note:** The service port is no longer a dedicated service port. This port might be configured by the user for use as a metadata or client port with a different IP configuration. If this port has been reconfigured by the user, then command line access over a network connection requires an appropriate IP address for your configured system on that network.

Service Port IP addresses:

- Node 1 : <*service port IP address*> (dual-server node systems), the default service port IP address is 10.17.21.1
- Node 2 : <*service port IP address*> (dual-server node, or supported "HA-ready" single-server node StorNext appliances), the default service port IP address is 10.17.21.2

b. Initiate an ssh session to the system using Terminal or PuTTY:

To ssh into the system

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. The first time you log in, you are prompted to change the password to a different one.

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

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

2. Open the **Service Menu**:

   a. Launch the **Service Menu**. Enter:

   ```
   sh /opt/DXi/scripts/service.sh -admin
   ```

   The **Service Menu** displays.

3. Navigate to **`Hardware Configuration > Setup IPMI > Reboot IPMI`**.
4. At the prompt to reboot the IPMI controller, press **y** (yes).
5. The BMC/IPMI will reboot.

   For single-server node systems, the procedure is complete.

6. For dual-server node systems, reboot the BMC on the other server node using the steps you just completed on this server node.

80334 Workaround: HBA crash and firmware dump files

When you experience this issue, you need to set the `ql2xenabledif_tgt` value to 0 and the `qlport_down_retry` value to 14:

1. Create the /etc/modprobe.d/hpe.conf file. Or, if it exists, create another unique but identifiable file name for this setting)
2. Log in to the server node:

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

   b. Initiate an ssh session to the system using Terminal or PuTTY:

To ssh into the system

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. The first time you log in, you are prompted to change the password to a different one.

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

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

3. Display the contents of the /etc/modprobe.d/hpe.conf file:

```
cat /etc/modprobe.d/hpe.conf
```

It should contain the following entries:

```
options qla2xxx qlport_down_retry=14
options qla2xxx ql2xenabledif_tgt=0
```

If not, add retry and tgt options to the file.

4. If you made changes to the file, save the file.
5. Recreate the **`initramfs`** with this new information.

Note: Do not reboot the system before completing the following 3 steps.

6. Move the img:

```
mv /boot/initramfs-$(uname -r).img /boot/initramfs-$(uname -r).img.prehpe
```

7. Create the initial image used by the kernel for preloading the block device modules:

Note: There are two dashes before **`kver`** in the following command.

```
dracut --kver $(uname -r)
```

8. Enter the following to set the reboot options that ensure the new **`initramfs`** file is generated:

```
ls /boot/initramfs-$(uname -r).img
```

9. Reboot the node. Enter:

```
reboot
```

10. After the reboot, verify the **`qlport_down_retry`** value is now set to **14** as described here: **cat /sys/module/qla2xxx/parameters/qlport_down_retry**

80181: RAS ticket recommended actions for software RAID failures

1. Log in to the CLI:
   a. 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.

      Note: The service port is no longer a dedicated service port. This port might be configured by the user for use as a metadata or client port with a different IP configuration. If this port has been reconfigured by the user, then command line access over a network connection requires an appropriate IP address for your configured system on that network.

      Service Port IP addresses:

      - Node 1 : <*service port IP address*> (dual-server node systems), the default service port IP address is 10.17.21.1
      - Node 2 : <*service port IP address*> (dual-server node, or supported "HA-ready" single-server node StorNext appliances), the default service port IP address is 10.17.21.2

   b. Initiate an ssh session to the system using Terminal or PuTTY:

      To ssh into the system

      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. The first time you log in, you are prompted to change the password to a different one.

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

2. Open the **Service Menu**:

a. Launch the **Service Menu**. Enter:

```
sh /opt/DXi/scripts/service.sh -admin
```

The **Service Menu** displays.

3. Navigate to **`More Tools > SW RAID Tools`**.
4. To repair a software RAID configuration, select the **`SW RAID Repair`** option.

80121 Workaround: Firmware/BIOS fails silently during StorNext upgrade

To check if there was a failure of applying Dell f/w updates, do the following. First, og in to the CLI of the server node that is currently not acting as primary, which prevents a failover if a manual CLI re-install of the StorNext software/reboot is required after the check. We will repeat the steps for the other server node during this process, and upgrade that firmware manually from the CLI, if needed.

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.

   Note: The service port is no longer a dedicated service port. This port might be configured by the user for use as a metadata or client port with a different IP configuration. If this port has been reconfigured by the user, then command line access over a network connection requires an appropriate IP address for your configured system on that network.

   Service Port IP addresses:

   - Node 1 : <*service port IP address*> (dual-server node systems), the default service port IP address is 10.17.21.1
   - Node 2 : <*service port IP address*> (dual-server node, or supported "HA-ready" single-server node StorNext appliances), the default service port IP address is 10.17.21.2

2. Initiate an ssh session to the system using Terminal or PuTTY:

   To ssh into the system

   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. The first time you log in, you are prompted to change the password to a different one.

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

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

3. From the CLI, change to the firmware directory. Enter:

```
cd /opt/DXi/firmware
```

4. From the CLI, run the following command. Enter:

```
./fw_regenall.sh
```

Example output:

```
fw_bundle: Performing firmware cleanup.
fw_bundle: Firmware cleanup completed successfully.
fw_bundle: Checking Firmware Bundle Version.
fw_bundle: Need to generate CoR files for the first time.
fw_bundle: Performing firmware CoR generation...
fw_bundle: Firmware CoR generation completed successfully.
fw_bundle: Performing firmware description report.
fw_bundle: Generating firmware description manifests.
fw_bundle: Firmware manifest generation is disabled.
fw_bundle: Generating firmware bundle manifest.
fw_bundle: Firmware manifest generation is disabled.
fw_bundle: Generation of the firmware bundle manifest completed
successfully.

fw_bundle: Performing firmware bundle report.
fw_bundle: Performing TXT firmware report.
fw_bundle: Performing GUI firmware report.
fw_bundle: GUI Firmware reporting completed successfully.
fw_bundle: TXT Firmware reporting completed successfully.
fw_bundle: Firmware reporting completed successfully.
```

At this time, you could check the firmware versions installed by checking the FirmwareReport.txt file. To view the file contents, enter:

```
cat /opt/DXi/hwdetect/FirmwareReport.txt
```

5. From the CLI, run the following command. Enter:

```
./fw_check.sh
```

There are three possible outputs that you may seewhen you run the fw_check.sh command:

- **Example Output #1** - If you see the following message, a firmware **IS NOT** required:

```
fw_bundle: Performing firmware check.
.
.
fw_bundle: Firmware check completed successfully. All firmware is
up-to-date.
```

The firmware check output above shows that the firmware installed on the system is up-to-date. There are no further actions to take. You can exit the **rootsh** session, and close the SSH terminal client.

- **Example Output #2** - If you see the following message, a firmware update **IS NOT** required:

```
fw_bundle: Performing firmware check.
fw_bundle: WARNING: Dell r630 iDRAC8/Life Cycle Controller - BMC
Information,
BMC Firmware Information, Firmware Version: Mismatch; Expected:
'2.70.70.70',
Found: '2.75.75.75'
fw_bundle: WARNING: Dell r630 BIOS - BIOS Information, BIOS Firmware
Information,
Version: Mismatch; Expected: '2.9.1', Found: '2.11.0'e.
.
.
fw_bundle: WARNING: One or more firmware packages have a mismatched
configuration.
```

The firmware check output above shows that the firmware installed on the system is newer than the firmware included in the StorNext software update. There are no further actions to take. You can exit the **rootsh** session, and close the SSH terminal client.

- **Example Output #3** - If you see the following message, a firmware update **IS** required. The firmware check shows that there is one or more firmware on the system that is older than what is included in the included in the StorNext software update:

```
fw_bundle: Performing firmware check.
fw_bundle: WARNING: Dell r630 iDRAC8/Life Cycle Controller - BMC
Information, BMC
Firmware Information, Firmware Version: Mismatch; Expected:
'2.70.70.70', Found: '2.75.75.75'
fw_bundle: WARNING: Dell r630 BIOS - BIOS Information, BIOS Firmware
Information, Version:
Mismatch; Expected: '2.11.0', Found: '2.9.1'.
```

Continue to Step 6.

6. If you need to re-apply the f/w update, run the following command:

```
./fw_install.sh
```

If a server reboot is required, the system will reboot.

7. Exit the **rootsh** session.
8. Exit the SSH terminal session.
9. Repeat Step 1 through Step 8 for the server node acting as primary.

If this does not fix the StorNext Connect issue, contact Quantum Support for assistance.

80099 Workaround: Potential StorNext Connect issues after you upgrade StorNext

Do the following to stop and restart StorNext Connect. Log in to the CLI of node 2 **ONLY**, since StorNext Connect does not run on node 1:

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.

Note: The service port is no longer a dedicated service port. This port might be configured by the user for use as a metadata or client port with a different IP configuration. If this port has been reconfigured by the user, then command line access over a network connection requires an appropriate IP address for your configured system on that network.

Service Port IP addresses:

- Node 1 : <*service port IP address*> (dual-server node systems), the default service port IP address is 10.17.21.1
- Node 2 : <*service port IP address*> (dual-server node, or supported "HA-ready" single-server node StorNext appliances), the default service port IP address is 10.17.21.2

2. Initiate an ssh session to the system using Terminal or PuTTY:

   To ssh into the system

   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. The first time you log in, you are prompted to change the password to a different one.

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

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

3. From the CLI of node 2, stop StorNext Connect. Enter:

```
/opt/quantum/connect/bin/connect stop
```

4. From the CLI of node 2, start StorNext Connect. Enter:

```
/opt/quantum/connect/bin/connect start
```

5. Exit the **`rootsh`** session.
6. Exit the SSH terminal session.

If this does not fix the StorNext Connect issue, contact Quantum Support for assistance.

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*>

   > **Note: password** is the default password for the stornext user account. If the password has been changed, use the current password. The first time you log in, you are prompted to change the password to a different one.

   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.

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*>

     Note: **password** is the default password for the stornext user account. If the password has been changed, use the current password. The first time you log in, you are prompted to change the password to a different one.

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*>

   > **Note: password** is the default password for the stornext user account. If the password has been changed, use the current password. The first time you log in, you are prompted to change the password to a different one.

   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'
```

> **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.

   b. 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. The first time you log in, you are prompted to change the password to a different one.

   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
```

6. Change the settings for the NAS heartbeat state check and the duration that StorNext services are stopped according to Workaround #2 on page 32.

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.

   b. 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. The first time you log in, you are prompted to change the password to a different one.

   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 7,200 seconds (10 minutes). Enter:

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

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

journalctl Filter Script

Step 1: Upgrade to StorNext 6.0.5

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.

   Note: The service port is no longer a dedicated service port. This port might be configured by the user for use as a metadata or client port with a different IP configuration. If this port has been reconfigured by the user, then command line access over a network connection requires an appropriate IP address for your configured system on that network.

   Service Port IP addresses:

   - Node 1 : <*service port IP address*> (dual-server node systems), the default service port IP address is 10.17.21.1
   - Node 2 : <*service port IP address*> (dual-server node, or supported "HA-ready" single-server node StorNext appliances), the default service port IP address is 10.17.21.2

2. Initiate an ssh session to the system using Terminal or PuTTY:

   To ssh into the system

   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. The first time you log in, you are prompted to change the password to a different one.

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

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

3. 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.

Restart the Appliance Controller

On the server node hosting NAS, do the following (use node 2 on dual-server node systems):

1. Open an SSH connection to the appropriate server node and use the IP address assigned to the node on the Management or LAN Client network.
2. 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. The first time you log in, you are prompted to change the password to a different one.
3. Enter **sudo rootsh** to gain root user access.
4. Enter the password for the **stornext** user account again.
5. Enter the following:

```
chown -R ldap:ldap /var/lib/ldap
```

6. Enter the following (Commands vary by system type. If you don't know which system you are using, see the How to Identify Your System page.):

For Artico (R630) systems only.

```
systemctl restart slapd
```

OR

For Artico (R520) systems only

```
service slapd restart
```

7. Restart the appliance controller:

For Artico(R630) systems only.

```
systemctl start snnas_controller
```

Then...

```
systemctl stop snnas_controller
```

OR

For Artico (R520) systems only

```
initctl snnas_controller stop
```

Then...

```
initctl snnas_controller start
```

How to Disable NFS v4

To disable NFSv4 on Artico systems, especially those systems running NAS 1.2.0 or earlier, perform the following on node 2:

Edit the nfs File

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

   Note: The service port is no longer a dedicated service port. This port might be configured by the user for use as a metadata or client port with a different IP configuration. If this port has been reconfigured by the user, then command line access over a network connection requires an appropriate IP address for your configured system on that network.

   Service Port IP addresses:

   - Node 1 : <*service port IP address*> (dual-server node systems), the default service port IP address is 10.17.21.1
   - Node 2 : <*service port IP address*> (dual-server node, or supported "HA-ready" single-server node StorNext appliances), the default service port IP address is 10.17.21.2

2. Initiate an ssh session to the system using Terminal or PuTTY:

   To ssh into the system

   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. The first time you log in, you are prompted to change the password to a different one.

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

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

3. Edit **/etc/sysconfig/nfs** file. (See Example: Use vi to Edit the nfs File on page 40)
4. Change the value for RPCNFSDARGS to "-N 4". When finished, the line must be: RPCNFSDARGS="-N 4"
5. Change the value for RPCMOUNTDOPTS to "-N 4". When finished the line must be: RPCMOUNTDOPTS="-N 4"
6. Save the file.

Restart NFS (for CentOS7-based Systems)

For Artico (R630) Archive Gateway 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 Artico(R520) NAS Archive Appliance 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 Node 2

Repeat both the Edit the nfs File on the previous page and Known Issues on page 6 sections on node 1(for dual-node systems).

If you need to create new NFS shares to export for user access, you may do this now. See the About the 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 (for CentOS7-based Systems) on the previous page OR Restart NFS (for CentOS6-based Systems) on the previous page, and repeat the Edit the nfs File on page 38, and Restart NFS (for CentOS7-based Systems) on the previous page ORRestart NFS (for CentOS6-based Systems) on the previous page again on node 1 (for dual-node systems).
6. Close the SSH session for the server(s) (for dual-node systems).

Re-enable DDM on the Secondary Node After HA Failover

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

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

   Note: The service port is no longer a dedicated service port. This port might be configured by the user for use as a metadata or client port with a different IP configuration. If this port has been reconfigured by the user, then command line access over a network connection requires an appropriate IP address for your configured system on that network.

   Service Port IP addresses:

   - Node 1 : <*service port IP address*> (dual-server node systems), the default service port IP address is 10.17.21.1

- Node 2 : <*service port IP address*> (dual-server node, or supported "HA-ready" single-server node StorNext appliances), the default service port IP address is 10.17.21.2

2. Initiate an ssh session to the system using Terminal or PuTTY:

   To ssh into the system

   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. The first time you log in, you are prompted to change the password to a different one.

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

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

3. On the command line of the system enter the following:

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

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

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

   Caution: Incorrect modification of the **`fs_sysparm_override`** configuration file can cause a serious, adverse effect on StorNext functionality. Before modifying this file, we recommend you contact Contacting Quantum Support on the next page.

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Quantum Appliance Licenses

See StorNext Licenses.

Contacting Quantum Support

Below is information related to contacting Quantum Support as well as steps to improve your Quantum customer journey.

- Chatbot below
- Open a Service Case below
- Use MyQuantum Service Delivery Platform on the next page
- Use Cloud Based Analytics (CBA) on the next page
- Escalate a Service Case on page 44
- Contact Quantum Sales on page 44

Chatbot

An AI driven Quantum Chatbot is available to ask product support questions, open a service case, or chat with a call center agent. Locate the Q box on the bottom right of a Quantum web page, such as https://www.quantum.com/en/service-support/.

Note: Some ad blockers might interfere.

Open a Service Case

Use any of the following methods to open a service case:

- AI driven Quantum Chatbot. Locate the Q box on the bottom right of a Quantum web page.
- Visit the MyQuantum portal (for more information, see Use MyQuantum Service Delivery Platform on the next page).

  Note: The MyQuantum portal is the most efficient and preferred method to open a service case.
- Visit the Service & Support page.

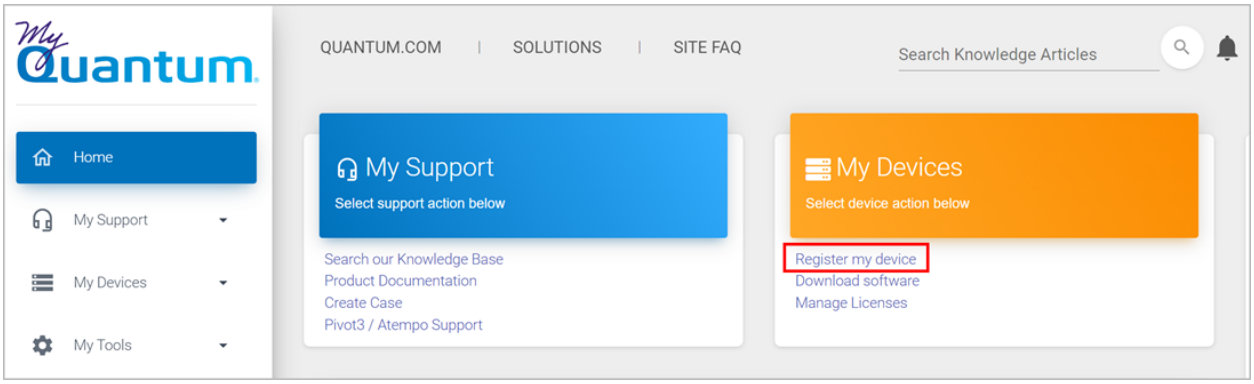
Note: You can also access other Support related services.

- Call Quantum Support (see Service & Support).

Use MyQuantum Service Delivery Platform

MyQuantum is a single portal for everything Quantum. You can view assets, open service cases, receive real-time updates, and search the Knowledge Base and documentation, all through a secure, online portal.

1. Create an account and log in to the MyQuantum Service Delivery Platform.
2. Register a product on MyQuantum.



3. Request site access to the Cloud-Based Analytics (CBA) monitoring portal and follow the instructions to set up product(s) to connect to CBA. You can use CBA to monitor Quantum products remotely, from a single dashboard, and Quantum Support can use it to help troubleshoot products more efficiently.

Use Cloud Based Analytics (CBA)

Quantum products are equipped with a Cloud Based Analytics (CBA) agent that can provide log files and snapshots to Quantum CBA servers that are running in the cloud.

CBA enables Quantum systems to collect data regarding system and environment performance. The collected data is bundled and uploaded to the remote CBA server for analysis. You can access Quantum system performance and health results on the CBA dashboard (at https://insight.quantum.com) or through the MyQuantum Service Delivery Platform.

The CBA dashboard displays the analytic results of the uploaded CBA data using flexible charting tools, along with an overall health score of each Quantum system configured for the CBA account.

Refer to product documentation for product-specific information related to CBA.

Refer to the Quantum CBA website for general information about CBA.

Escalate a Service Case

To escalate a service case, follow the process documented here: https://www.quantum.com/en/service-support/resources/escalation/

Contact Quantum Sales

https://www.quantum.com/en/company/contact-us/