StorNext M660 Metadata Appliance 4.3.0 Release Notes

Purpose of this Release

StorNext M660 combines industry-proven Quantum hardware and StorNext software into one convenient, out-of-the-box solution. Your StorNext M660 system has been pre-installed and is ready to operate with a minimum of additional configuration.

This document contains additional information related to your StorNext M660 system.

The complete list of documentation for the StorNext M660 Metadata Appliance can be found here:

http://www.quantum.com/ServiceandSupport/SoftwareandDocumentationDownloads/M330/Index.aspx?whattab=Third

StorNext 4.3.0 is an important new release of StorNext, with over 630 bug fixes and enhancements including more than 120 customer-reported issues. The complete list of documentation for StorNext 4.3.0 can be found here (click the "Select a StorNext Version" menu to view the documents for that version of StorNext):

http://www.quantum.com/ServiceandSupport/SoftwareandDocumentationDownloads/SNMS/Index.aspx?whattab=Fourth

About This Release

This section contains important things you should know about your StorNext M660 system.

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StorNext M660 Metadata Appliance

The StorNext M660 nodes are designed to run the metadata controller (MDC) file system and, optionally, StorNext Storage Manager, StorNext Gateway servers and Distributed Data Movers are not supported for installation directly to the StorNext M660, but are fully supported when running on a separate client.

StorNext M660 Hardware Expansion

The system comes with unfilled expansion slots and drive bays, StorNext M660 offers optional hardware upgrade kits for networking and disk capacity. Hardware upgrade kits require professional installation; other hardware upgrades are not supported.

Data Replication and Deduplication

The StorNext M660 supports the use of an optional StorNext replication license.

The StorNext M660 is not designed for deduplication, and the standard StorNext deduplication license is not supported with the StorNext M660.

All other optional StorNext software is supported for the StorNext M660, purchased separately.

Configuring Clients for the StorNext M660

In order to prevent a split-brain condition between the HA pair of MDCs on the StorNext M660, at least one additional StorNext client must mount the HA file system. This will allow the additional client to "vote" in the event of a split-brain condition.

Because the shared file system on the StorNext M660 is on the internal RAID and not visible, you must mount the client using the "`diskless=yes`" option.

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

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

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

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

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

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

Linux Device Mapper Multipath Support

StorNext M660 clients support the Linux Device Mapper (DM) Multipath driver. This driver provides redundancy and improved I/O performance by taking advantage of multiple paths to storage. If you plan to use the Linux DM Multipath support with StorNext, be aware of the following:

- Not all RAIDs work with the DM Multipath Driver. Check with your storage vendor for compatibility.
- For detailed instructions on installing and configuring the DM Multipath Driver, refer to the SuSE documentation provided with your version of Linux.

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

  1 Set `user_friendly_names` to **yes**.

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

  ```
  devnode "cvfsctl*"
  ```

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

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

- When migrating from other multipath drivers to DM Multipath, tuning may be required to achieve previous levels of performance. The specifics of this will depend on system configuration details.
- Using the cvpaths file and udev rules configuration files is typically unnecessary with Linux Device-Mapper with StorNext.
- On SuSE Linux Systems: In order to use Linux Device Mapper Multipath with Stornext, `/etc/multipath.conf` must be used because SuSE Linux does not install a multipath.conf, and Novell recommends against using it.

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

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

  can be copied to:

  ```
  /etc/multipath.conf
  ```

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

Target Reset and Fiber Channel Tape Support on Qlogic HBAs

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

PROBLEM

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

SOLUTION

To disable Target Resets on the tape SAN port on the StorNext M660 , the following commands can be run on each node.

1. Connect to each node via ssh and login using the "stornext" user ID.
2. Change to root user permissions by running "`sudo rootsh`"
3. Disable Target Resets on the tape SAN port by issuing "`/usr/local/bin/scli -n 1 TR 0`"
4. Confirm that the setting is correct by issuing "`/usr/local/bin/scli -c`" and comparing the output for Port 2. It should look like:

```
[root@Acadia1-1 scripts]# scli -c
------------------------------------------------------------------------
------------------------------------------------------------------------
HBA Instance 0: QLE2562 Port 1 WWPN 21-00-00-1B-32-9D-4A-8D PortID 00-00-00
------------------------------------------------------------------------
Connection Options               : 2 - Loop Preferred, Otherwise Point-to-
Point
Data Rate                         : Auto
Frame Size                        : 2048
Hard Loop ID                      : 0
Loop Reset Delay (seconds)        : 5
Enable Host HBA BIOS              : Disabled
Enable Hard Loop ID               : Disabled
Enable FC Tape Support            : Enabled
Operation Mode                    : 0 - Interrupt for every I/O completion
Interrupt Delay Timer (100ms)     : 0
Execution Throttle                : 65535
Login Retry Count                 : 8
Port Down Retry Count             : 30
Enable LIP Full Login             : Enabled
Link Down Timeout (seconds)       : 30
Enable Target Reset               : Enabled
LUNs Per Target                   : 128
Enable Out Of Order Frame Assembly: Disabled
------------------------------------------------------------------------
------------------------------------------------------------------------
HBA Instance 1: QLE2562 Port 2 WWPN 21-01-00-1B-32-BD-4A-8D PortID 00-00-00
------------------------------------------------------------------------
Connection Options               : 2 - Loop Preferred, Otherwise Point-to-
Point
Data Rate                         : Auto
Frame Size                        : 2048
Hard Loop ID                      : 0
Loop Reset Delay (seconds)        : 5
Enable Host HBA BIOS              : Disabled
Enable Hard Loop ID               : Disabled
Enable FC Tape Support            : Enabled
Operation Mode                    : 0 - Interrupt for every I/O completion
Interrupt Delay Timer (100ms)     : 0
Execution Throttle                : 65535
Login Retry Count                 : 8
Port Down Retry Count             : 30
Enable LIP Full Login             : Enabled
Link Down Timeout (seconds)       : 30
Enable Target Reset               : Disabled
LUNs Per Target                   : 128
```

```
Enable Out Of Order Frame Assembly: Disabled
```

Known Issues

Table 1 lists known issues that are specific to the StorNext M660.

Table 1 Known Issues

Operating System	CR Number	SR Number	Description	Workaround (if applicable)
All	27490/ 37166	n/a	The sn_metrics database tables are not installed in the MySQL database when upgrading to StorNext 4.2.1.0.1 from an earlier version.	After upgrading to 4.2.1.0.1 or later, start Storage Manager and run the sngateway_install_mysql_tables script: 1. /usr/adic/.profile 2. service cvfs start 3. /usr/cvfs/install/ sngateway_install_mysql_tables.pl Optionally, you can verify that the sn_metrics tables have been installed by running mysqlshow: 4. /usr/adic/mysql/bin/mysqlshow sn_metrics
	38419	n/a	In the GUI, the reset button on the **Configuration** > **System** -> **Network** tab doesn't always restore current network configuration values.	When this happens, navigate away from the page by selecting any other menu item and navigate back again to reload the current network settings.
	38291	n/a	In an HA failover, an Admin Alert is issued if the new primary MDC attempts to initiate an fs_fmover process on the new standby MDC while the standby MDC is still being rebooted.	Once the impacted standby MDC finishes rebooting and becomes functional again, use fsddmconfig (or the GUI) from the master MDC to re-enable DDM for the standby MDC, as follows: `# fsddmconfig -u -s e standby_mdc_hostname`
	29483/ 38267	n/a	Logical and physical Fibre Channel port numbers may not match.	There is no current workaround for this issue. This will be fixed in a future StorNext release.

Operating System	CR Number	SR Number	Description	Workaround (if applicable)
Linux	37538	1398524	GUI is unable to down a stripe group when LUNs are unavailable	Mark stripe groups down in the GUI before taking the stripe group's disks offline. If that is not possible, set the stripe group down directly through the FSM configuration file and restart the FSM. See the **snfs_config(5)** man page or the MAN Pages Reference Guide for details.
	38128	1395540	Using the GUI while a large Media import is kicked off via the command line can cause the GUI to timeout or crash.	Wait until a bulk load from tape is finished prior to opening the StorNext GUI.
	29098/ 37916	n/a	Admin alerts are generated for network or FC ports that are disconnected but are configured in the system.	The only way to prevent these alerts from displaying is to remove the network or FC ports that are disconnected from your configuration, unless the ports will only be down temporarily.

Contacting Quantum

More information about this product is available on the Quantum Service and Support website at www.quantum.com/ServiceandSupport. The Quantum Service and Support website contains a collection of information, including answers to frequently asked questions (FAQs). You can also access software, firmware, and drivers through this site.

For further assistance, or if training is desired, contact Quantum Global Services:

Quantum Technical Assistance Center in the USA:	+1 800-284-5101
EMEA:	00800 7826 8888 49 6131 3241 1164
For additional contact information:	www.quantum.com/ServiceandSupport
To open a Service Request:	www.quantum.com/osr

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