



StorNext M330 4.2.2 Release Notes

Purpose of this Release

StorNext M330 combines industry-proven Quantum hardware and StorNext software into one convenient, out-of-the-box solution. Your StorNext M330 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 M330 system.

The StorNext 4.2.2 software release is an interim release of StorNext and includes important bug fixes. Additionally, it adds support for the following:

- Red Hat 6 Kernel 2.6.32.220.EL (Update 2)
- IBM TS3500 w/TS1140 drive
- Spectra Logic T-Series w/TS1140 drive

About This Release

This section contains important things you should know about your StorNext M330 system.

StorNext M330 Metadata Controllers

The StorNext M330 nodes are designed to run the metadata controller file system and, optionally, the Storage Manager. Because StorNext M330 has been designed for this workload, you should not install other software. Specifically, Distributed Data Movers or Distributed LAN Client Servers should be installed on other hosts and *not* on the MDC.



StorNext M330 Hardware Expansion

Although your StorNext M330 system comes with unfilled expansion slots and drive bays, these are reserved for Quantum use. Adding or upgrading hardware in the StorNext M330 is not supported.

Data Replication and Deduplication

The initial offering of the M330 is not designed for deduplication, and the standard StorNext deduplication license is not supported with the M330.

The M330 can support a limited amount of replication, when a replication license is added. Use an M330 for workloads that require no more than 75 MB/s of replication. For more demanding needs, please use software StorNext.

Configuring Clients for StorNext M330

When configuring clients for StorNext M330 use, you must have one client also mount the shared HA file system even though that client is not actually going to do I/O to the file system. Doing this causes the client to vote for the backup MDC to take over if there is an MDC issue, which prevents HA split-brain issues and possible data corruption.

Because the shared file system on the StorNext M330 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 M330 User's Guide*.

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

Linux Device Mapper Multipath Support

StorNext M330 supports 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 RAID configurations 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, causing 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 M330, 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 M330.

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, 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

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
For additional contact information:	www.quantum.com/ServiceandSupport
To open a Service Request:	www.quantum.com/osr

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