



# StorNext M440 Metadata Appliance

## 4.3.2 Release Notes

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### Purpose of this Release

The StorNext M440 combines industry-proven Quantum hardware and StorNext software into one convenient, out-of-the-box solution. Your M440 system has been pre-installed and is ready to operate with a minimum of additional configuration.

For upgrading to StorNext 4.3.2 on the M440 Metadata Appliance, refer to the “Update Firmware” section of Chapter 7 of the current version of the StorNext User’s Guide.

This document contains additional information related to your M440 system.

For the complete list of documentation for the M440 Metadata Appliance, click the **Documentation** tab on the following web page:

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

StorNext 4.3.2 is a maintenance release of StorNext software and includes important bug fixes.

The complete list of documentation for StorNext 4.3.2 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](http://www.quantum.com/ServiceandSupport/SoftwareandDocumentationDownloads/SNMS/Index.aspx?whattab=Fourth)



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## About This Release

This section contains important things you should know about your M440 Metadata Appliance.

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### M440 Metadata Appliance

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The StorNext M440 metadata controller (MDC) nodes are designed to run the MDC file system and, optionally, with the StorNext Storage Manager and the Distributed Data Mover features installed. The Gateway server feature is not supported for installation directly on the M440, but is fully supported when running on a separate client.

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### Data Replication and Deduplication

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The M440 supports the use of an optional StorNext replication license. Replication throughput is limited to a single GbE port.

The M440 is not designed for deduplication, and the standard StorNext deduplication license is not supported with the M440.

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### StorNext Software Features Supported

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With the exceptions noted above, all other optional StorNext software is supported on the M440, and is purchased separately.

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### M440 Metadata Appliance File System Restrictions

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The M440 does not support running NFS, CIFS/SAMBA directly on the Metadata Appliance.

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### M440 Hardware Expansion

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Although your M440 comes with unfilled expansion slots and drive bays, other hardware upgrades are not supported.

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### M660M440 Memory Requirements

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The M440 memory allocation settings that were tested for use with MySQL in StorNext 4.3.x and later are presented in [Table 1](#). Other settings may be reasonable, depending on specific conditions and workloads. However, these settings have been qualified in release testing.

Table 1 Memory Allocation Settings

	FSM BufferCacheSize	FSM InodeCacheSize	MySQL innodb_buffer_pool_size	Reserved for General Usage	Total
<b>M660</b>	8 GB per file system (e.g. 8 x 8 GB = 64 GB)	512 K inodes per file system (e.g. 8 x ~1 GB = 8 GB)	40 GB	32 GB	144 GB
	FSM BufferCacheSize	FSM InodeCacheSize	MySQL innodb_buffer_pool_size	Reserved for General Usage	Total
<b>M440</b>	2 GB per file system (e.g. 4 x 2 GB = 8 GB)	256 K inodes per file system (e.g. 4 x ~0.5 GB = 2 GB)	10 GB	28 GB	48 GB

## Linux Device Mapper Multipath Support

For the StorNext M440 Metadata Appliance - StorNext 4.3.2 and later supports the standard Linux Dynamic Multipath Mapping driver (DMMP) for the metadata array and additional storage. In addition:

- Ensure that the `/etc/multipath.conf` file is identical on both the primary and secondary nodes of the MDC HA pair. (See CR [40015](#) in [Table 2](#) on page 6.)

## Configuring Clients for the M440

In order to prevent a split-brain condition between the HA pair of MDCs on the M440, 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 M440 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-SV1249CKD29435" used in the example will vary. The format is "shared-NNNNNNNNNNNNNN")

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*.

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

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## 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 M440, 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 2](#) lists the known issues for the StorNext M440 Metadata Appliance:

Table 2 Known Issues

Operating System	CR Number	SR Number	Description	Workaround (if applicable)
All	41101	n/a	M440 Hardware Guide IPs incorrect. In "Table 3 StorNext M441D/M441Q – Rear Panel Features and Indicators" on page 13, the IP addresses and descriptions for items 5 and 6 are reversed.	<p>The description for Item 5 should be "iDRAC Port (For Service Only)". Use "10.17.21.51" for the Node 1 IP address, and "10.17.21.52" for the Node 2 IP address for item 5.</p> <p>The description for Item 6 should be "Integrated Port (For Service Only)". Use "10.17.21.1" for the Node 1 IP address, and "10.17.21.2" for the Node 2 IP address.</p>
All	31975	n/a	<p>Machine check and CPU-related messages may be posted when one AC power cord is removed from the redundant power supply of the M440 system. Messages such as the following may be posted for each CPU core:</p> <p style="padding-left: 40px;">Processor x below trip temperature. Throttling disabled.</p> <p style="padding-left: 40px;">CPUx: Core power limit normal.</p>	There is no work around. The messages are benign and can be ignored. No additional action is needed.
All	40015	n/a	The M440 <code>/etc/multipath.conf</code> file needs to be identical on both the primary and secondary nodes of the HA pair for failover to work properly.	Copy the <code>/etc/multipath.conf</code> file into the same directory on both MDC nodes of the M440 system any time changes are made to the file.

Operating System	CR Number	SR Number	Description	Workaround (if applicable)
All	38419	n/a	In the GUI, the reset button on the <b>Configuration &gt; System</b> -> <b>Network</b> 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.
All	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: <pre># fsddmconfig -u -s e standby_mdc_hostname</pre>
All	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.
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 <b>snfs_config(5)</b> man page or the MAN Pages Reference Guide for details.
Linux	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.
Linux	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.

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## Contacting Quantum

More information about this product is available on the Quantum Service and Support website at [www.quantum.com/ServiceandSupport](http://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 Technical Assistance Center.

<b>North America</b>	1 800-284-5101 (toll free) 1-720-249-5700
<b>EMEA</b>	+00800 7826 8888 (toll free) +49 6131 3241 1164
<b>APAC</b>	1-800-7826-8887 (toll free) +603-7953-3010
<b>Service and Support Web Site</b>	<a href="http://www.quantum.com/ServiceandSupport">www.quantum.com/ServiceandSupport</a>
<b>Online Service Request System</b>	<a href="http://www.quantum.com/OSR">www.quantum.com/OSR</a>

(Local numbers for specific countries are listed on the Quantum Service and Support Website.)

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