# Quantum.

# Compatibility Guide

# StorNext 4.3.3

Quantum StorNext 4.3.3 Compatibility Guide, 6-67688-04 Rev A, April 2013

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# Contents

# StorNext Metadata Controller (MDC) RAM, Disk and CPU Requirements

The minimum amount of RAM and available hard disk space required to run StorNext SNFS and SNSM are presented here. StorNext utilizes database and journal files, and these are stored on the MDC. Consequently, the amount of local disk space that is required increases with the number of data files stored on StorNext file systems. If necessary, upgrade the RAM and local disk storage in the MDC to meet the minimum requirements before installing StorNext.

**Note:** The RAM requirements are for running StorNext File System and Storage Manager only. Running additional software (including the StorNext client software) requires additional RAM.

| No. of File Systems | Minimum RAM* | File System Disk Space | Storage Manager Disk Space |
|---|---|---|---|
| 1–4** | 4 GB | 4 GB | • For application binaries, log files, and documentation: up to 30GB (depending on system activity) |
| 5–8** | 8 GB | 6 GB | • For support directories: 3 GB per million files stored |
| * If StorNext cache settings are modified, the amount of system RAM should be increased based on the cache settings guidelines. | | | |
| ** Four or more CPU cores are recommended for best performance. | | | |

# StorNext MDC Additional RAM and Disk Requirements for Deduplication and Replication

In order to use the data deduplication and replication features, your system must have the following memory and disk capacity in addition to the base memory and disk capacity required to run StorNext File System and Storage Manager.

**Note:** Deduplication is supported only on 64-bit operating systems.

| Repository Configuration | Minimum Additional RAM | Minimum Additional Disk Space Available |
|---|---|---|
| Base Repository | ---- | 50 MB |
| Systems Licensed for 0 - 1 TB of Data | 1 GB | 1 TB |
| Systems Licensed for 1 - 10 TB of Data | 6 GB | 10 TB |
| Systems Licensed for 10 - 50 TB of Data | 13 GB | 50 TB |
| Systems Licensed for 50 - 150 TB of Data | 28 GB | 150 TB |

# StorNext MDC Network Requirements

The following network requirements must be met before installing StorNext on the MDC:

- In cases where maximum StorNext performance is required, a separate, dedicated network is required for the StorNext metadata traffic.

  Even in cases where maximum StorNext performance is not required, a separate, dedicated network is recommended.

  If any part of the metadata network is not capable of 1Gb/s throughput, a separate, dedicated network is required for StorNext metadata traffic.
- The MDC and all clients must have static IP addresses.
- Verify network connectivity with pings, and also verify entries in the /etc/hosts file. Alternatively, telnet or ssh between machines to verify connectivity.
- The hostname localhost is resolvable on the MDC.
- The hostname localhost on the MDC must resolve to a an IPv4 address on the loopback device.
- The hostname localhost must not resolve to an IPv6 address.

# Additional StorNext MDC Requirements

The following requirements must be met before installing StorNext on an MDC:

- The MDC does not have SELinux enabled.
- Quantum requires that system clocks be synchronized for proper functionality, and recommends that NTP be used to ensure clocks remain synchronized across all nodes.
- The following packages must be installed:
    - gcc
    - make
- kernel-source (for systems running SUSE Linux)
- kernel-devel (for systems running RedHat Linux)

  NOTE: The version of the kernel-source or kernel-devel package must correspond to the version of the booted kernel. In addition, the system must have basic utilities installed such as perl, bash, grep, etc. as well as basic libraries. In general, StorNext will not install on a stripped-down installation of Linux. For management servers running Red Hat Enterprise Linux version 5 or 6, before installing SNFS and SNSM, you must first install the kernel header files (shipped as the kernel-devel or kernel-devel-smp RPM, depending on your Linux distribution).

  NOTE: For servers running SUSE Linux Enterprise Server, you must install the first kernel source code (shipped as the kernel-source RPM). StorNext will not operate correctly if these packages are not installed. You can install the kernel header files or kernel source RPMs by using the installation disks for your operating system.

# StorNext Upgrade Matrix

Sites running the following StorNext versions may upgrade directly to this release assuming the platform, service pack, architecture (32 or 64-bit), and StorNext component(s) are supported in this release.

- StorNext 4.1.0
- StorNext 4.1.1
- StorNext 4.1.2
- StorNext 4.1.3
- StorNext 4.2.0
- StorNext 4.2.1
- StorNext 4.2.1.0.1
- StorNext 4.2.2
- StorNext 4.2.2.0.1 (appliance only release)
- StorNext 4.3.0
- StorNext 4.3.1
- StorNext 4.3.2-LTO-6
- StorNext 4.3.2

All other versions of StorNext require additional steps to upgrade to this release.

# Discontinued Operating Systems and Service Packs

No operating systems or service packs were dropped from this release (compared to StorNext 4.3.2)

# Supported Operating Systems and Service Packs

(**bold** indicates a combination new in this release **compared to StorNext 4.3.2)**

| Operating System | Kernel or Release | Platform | MDC Server[1] | File System SAN Client | Distributed LAN Server G300 | File System LAN Client[2] | Storage Manager / SNAPI | Distributed Data Mover | Replication / Dedup Server |
|---|---|---|---|---|---|---|---|---|---|
| Windows Server 2003[5] | R2 SP2 | x86 32-bit | | ✓ | | ✓ | | | |
| | | x86 64-bit | ✓ | ✓ | ✓[3, 4] | ✓ | | | |
| Windows XP[5] | SP2 | x86 32-bit | | ✓ | | ✓ | | | |
| | | x86 64-bit | | ✓ | | ✓ | | | |
| | SP3 | x86 32-bit | | ✓ | | ✓ | | | |
| | | x86 64-bit | | ✓ | | ✓ | | | |
| Windows Vista[5] | SP1 | x86 32-bit | | ✓ | | ✓ | | | |
| | | x86 64-bit | | ✓ | | ✓ | | | |
| | SP2 | x86 32-bit | | ✓ | | ✓ | | | |
| | | x86 64-bit | | ✓ | | ✓ | | | |
| Windows Server 2008[5] | SP1 | x86 32-bit | | ✓ | | ✓ | | | |
| | | x86 64-bit | ✓ | ✓ | ✓[3, 4] | ✓ | | | |
| | SP2 | x86 32-bit | | ✓ | | ✓ | | | |
| | | x86 64-bit | ✓ | ✓ | ✓[3, 4] | ✓ | | | |
| | R2 | x86 32-bit | | ✓ | | ✓ | | | |
| | | x86 64-bit | ✓ | ✓ | ✓[3, 4] | ✓ | | | |
| | R2 SP1 | x86 64-bit | ✓ | ✓ | ✓[3, 4] | ✓ | | | |
| Windows 7[5] | | x86 32-bit | | ✓ | | ✓ | | | |
| | | x86 64-bit | | ✓ | | ✓ | | | |
| | SP1 | x86 32-bit | | ✓ | | ✓ | | | |
| | | x86 64-bit | | ✓ | | ✓ | | | |
| Windows 8 | | x86 64-bit | | ✓ | | ✓ | | | |
| RHEL 5[5 6 7] | 2.6.18-164.EL (Update 4) | x86 64-bit | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | 2.6.18-194.EL (Update 5) | x86 64-bit | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | 2.6.18-238.EL (Update 6) | x86 64-bit | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | 2.6.18-274.EL (Update 7) | x86 64-bit | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | 2.6.18-308.EL (Update 8) | x86 64-bit | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | **2.6.18-348.EL (Update 9)** | **x86 64-bit** | **✓** | **✓** | **✓** | **✓** | **✓** | **✓** | **✓** |
| RHEL 6[5 6] | 2.6.32.71.EL | x86 64-bit | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | 2.6.32.131.EL (Update 1) | x86 64-bit | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

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[1] High Availability is available on all supported Linux MDC platforms. Platforms that support MDC Servers also can be configured as a name server.

[2] StorNext Distributed LAN clients can be connected to either Distributed LAN Servers or StorNext G300 appliances.

[3] Distributed LAN Server on Windows supports up to 128 Distributed LAN Clients.

[4] Gateway instrumentation is not available for Windows.

[5] RHEL and SLES kernel and Windows service pack levels listed indicate the supported versions. Updates within the same service pack (e.g. security updates) are, in general, supported unless otherwise noted.

[6] The "Xen" virtualization software is not supported.

[7] HBA multipath customers: please verify with your HBA vendor that your current multipath driver is supported for any planned Linux OS version/update/service pack level. If your driver is not supported for your planned Linux OS version/update/service pack, the StorNext client or server may not be functional after your Linux upgrade.

# Supported Operating Systems and Service Packs

**(bold** indicates a combination new in this release **compared to StorNext 4.3.2)**

| Operating System | Kernel or Release | Platform | MDC Server[1] | File System SAN Client | Distributed LAN Server G300 | File System LAN Client[2] | Storage Manager / SNAPI | Distributed Data Mover | Replication / Dedup Server |
|---|---|---|---|---|---|---|---|---|---|
| | 2.6.32.220.EL (Update 2) | x86 64-bit | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | 2.6.32.279.EL (Update 3) | x86 64-bit | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| SLES 10[5 6 7 8] | 2.6.16.60-0.54.5 (SP3) | x86 32-bit | | ✓ | | ✓ | | | |
| | 2.6.16.60-0.54.5 (SP3) | x86 64-bit | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | 2.6.16.60-0.85.1 (SP4) | x86 32-bit | | ✓ | | ✓ | | | |
| | 2.6.16.60-0.85.1 (SP4) | x86 64-bit | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| SLES 11[5 6 7 8] | 2.6.27.19-5 | x86 64-bit | | ✓ | | ✓ | | | |
| | 2.6.32.12-0 (SP1) | x86 64-bit | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | 3.0.13-0.27.1 (SP2) | x86 64-bit | | ✓ | | ✓ | | | |
| Solaris 10 | Any | sparc 64-bit | | ✓ | | | | | |
| | Any | Opteron x86 64-bit | | ✓ | | ✓ | | | |
| | | Intel x86 64-bit | | ✓ | | ✓ | | | |
| IBM AIX | 6.1 | 64-bit Power Architecture | | ✓ | | | | | |
| | 7.1 | 64-bit Power Architecture | | ✓ | | | | | |
| HP-UX | 11i v3[9] | Itanium 64-bit | | ✓ | | | | | |
| CentOS[10] | Equivalent supported RHEL5 and RHEL6 | x86 64-bit | | ✓ | | ✓ | | | |
| Scientific Linux[10] | Equivalent supported RHEL5 and RHEL6 | x86 64-bit | | ✓ | | ✓ | | | |
| Oracle Linux[10] | Equivalent supported RHEL5 and RHEL6 | x86 64-bit | | ✓ | | ✓ | | | |

RHEL and SLES kernel levels are listed indicating which kernel levels were used for the majority of testing. Other kernel levels within the same service pack are in general supported unless otherwise noted.

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[8] A "roll" of a particular digit is not indicative that a new SLES service pack has been declared by Novell. The kernel revisions listed in this document are typically (but not always), the first kernel revision of the service pack.

[9] HPUX 11iv3 requires the "0909 Patch set".

[10] Platform is supported only if the issue can be reproduced on the equivalent Red Hat release. Only the "standard" versions of this platform are supported. "Special" or "optimized" versions are not supported.

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## StorNext MDC and Client Interoperability

| StorNext SAN Client Version | Platform |
|---|---|
| StorNext 3.5.x | Certain back-revision clients, as follows, are supported:<br><br>• AIX 5.3<br>• HPUX 11iv2<br>• SGI IRIX 6.5.30<br>• SLES10 Itanium<br>• SLES11 Itanium<br>• SLES10 32-bit<br>• RHEL4<br><br>Quantum recommends that clients be upgraded along with the MDC. |
| StorNext 4.0.x<br>StorNext 4.1.x | Certain back-revision clients, as follows, are supported:<br><br>• RHEL4<br><br>Quantum recommends that clients be upgraded along with the MDC. |
| StorNext 4.2.x | Quantum recommends that clients be upgraded along with the MDC. |
| StorNext 4.3.x | Quantum recommends that clients be upgraded along with the MDC. |

General information on client interoperability:

- The StorNext MDC must be running an equivalent or more recent version of StorNext than the client is running.
- All components (e.g. File System, Storage Manager, etc.) installed on the same machine must be running the same version of StorNext
- The StorNext DDM component must be at the same version at that running on the MDC.

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## StorNext Virtual Machine Support

| Operating System | Kernel or Release | Platform | File System SAN Client (See Note A) | File System LAN Client (See Note B) |
|---|---|---|---|---|
| Windows<br> Server 2003<br> Server 2008<br> XP<br> Vista<br> 7<br> 8 | All SN supported service packs | x86 32-bit | ✓ | ✓ |
| | | x86 64-bit | ✓ | ✓ |
| RHEL5 | All SN supported service packs | x86 64-bit | ✓ | ✓ |
| RHEL6 | All SN supported service packs | x86 64-bit | ✓ | ✓ |
| SLES 10 | All SN supported service packs | x86 32-bit | ✓ | ✓ |
| | | x86 64-bit | ✓ | ✓ |
| SLES 11 | All SN supported service packs | x86 64-bit | ✓ | ✓ |

**NOTE A**: Setting up a SAN client within a virtual machine can be complicated and should be done with great care to avoid data loss.

Guests running StorNext SAN clients have limited cluster functionality due to the use of RDMs to access storage. In particular, snapshots, vMotion, DRS, and fault tolerance are disabled. If these features are required, use DLC clients instead.

To configure StorNext SAN clients in VMware guests, be aware of the following considerations:

- StorNext Data LUNs must be assigned to each StorNext SAN client VM using Raw Device Maps (RDMs) in /Physical Mode/ on a Shared virtual SCSI adapter.
- Never use /Virtual Mode/ RDMs for StorNext LUNs.
- Consult your storage vendor for details on properly configuring the storage for use as VMware vSphere to use raw LUNs as RDMs.
- On each SAN client, generate a raid-strings file by running the command:
  - cvlabel -R > /usr/cvfs/config/raid-strings
  - Then open /usr/cvfs/config/raid-strings in a text editor and change the third column to JBOD for all storage types. This disables StorNext multi-path handling, which is not needed in a guest. The host will handle multi-pathing.

**NOTE B**: To configure StorNext Distributed LAN Clients in VMware guests, follow the same procedures you would for a physical system. There are no VMware-specific requirements or issues.

# Compatibility with other Products

| Product | Reference |
|---|---|
| Xsan to StorNext Compatibility | Please see the Xsan compatibility matrix document for Xsan compatibility with StorNext |
| SNAPI to StorNext Compatibility | Please see the SNAPI compatibility matrix document for compatibility between SNAPI and StorNext. |
| StorNext Partial File Retrieval (PFR) to StorNext Compatibility | Please see the PFR compatibility matrix document for compatibility between PFR and StorNext. |
| Advanced Reporting | Sites running roll-your-own (non-appliance) StorNext are compatible with the following Advanced Reporting versions:<br><br>• RHEL5: StorNext Advanced Reporting 2.0.6<br>• RHEL6: StorNext Advanced Reporting 2.0.6<br><br>StorNext appliances M330, M440, and M660 running StorNext 4.3.3 are compatible with StorNext Advanced Reporting 2.0.6. |

# StorNext Browser Support

The following browsers are supported with the GUI for this release:

- Firefox versions 4 through 17 (Quantum recommends FF17)
- Internet Explorer versions 8 through 10 (Quantum recommends IE10)
- Chrome versions 18-24 (Quantum recommends 24)

## Quantum Supported Libraries and Tape Drives

(**bold** indicates a combination new in this release compared to StorNext 4.3.2)

| Vendor Library Family | Libraries | Minimum / Recently Tested Library Firmware Level | Drive Types | Minimum / Recently Tested Drive Firmware Level | Notes |
|---|---|---|---|---|---|
| Quantum | Scalar i500 | Please see applicable i500 documentation for library and drive firmware recommendations | IBM LTO-2<br>IBM LTO-3<br>IBM LTO-3 WORM<br>IBM LTO-4<br>IBM LTO-4 WORM<br>IBM LTO-5<br>IBM LTO-6<br>HP LTO-4<br>HP LTO-5<br>IBM LTO-5<br>HP LTO-6 | | |
| | Scalar i6000 / i2000 | Please see i6000 / i2000 documentation for library and drive firmware recommendations | IBM LTO-1 FC and SCSI<br>IBM LTO-2 FC and SCSI<br>IBM LTO-3 (2G and 4G<br>IBM LTO-3 WORM<br>IBM LTO-4 4G<br>IBM LTO-4 WORM<br>IBM LTO-5<br>IBM LTO-6<br>HP LTO-3 2G<br>HP LTO-3 4G<br>HP LTO-3 WORM<br>HP LTO-4 4G<br>HP LTO-4 WORM<br>HP LTO-5<br>HP LTO-6<br>Quantum DLT-S4<br>Quantum SDLT 320 SCSI<br>Quantum SDLT 600 FC | | |
| | Scalar i80 / i40 | Please see i80 / i40 documentation for library and drive firmware recommendations | HP LTO-4<br>HP LTO-5<br>**HP LTO-6** | | |
| | Scalar 24 | Please see Scalar 24 documentation for library and drive firmware recommendations | IBM LTO-1<br>IBM LTO-2<br>IBM LTO-3<br>IBM LTO-4 | | Not including WORM |
| | Scalar 50 | Please see Scalar 50 documentation for library and drive firmware recommendations | HP LTO-4 | | |

# Quantum StorNext

## Quantum Supported Libraries and Tape Drives
(**bold** indicates a combination new in this release compared to StorNext 4.3.2)

| Vendor Library Family | Libraries | Minimum / Recently Tested Library Firmware Level | Drive Types | Minimum / Recently Tested Drive Firmware Level | Notes |
|---|---|---|---|---|---|
| | Scalar 100 | Please see Scalar 100 documentation for library and drive firmware recommendations | IBM LTO-1<br>IBM LTO-2<br>IBM LTO-3<br>AIT-2 | | Not including WORM<br><br>NOTE: 2.10.0013 firmware not to be used. |
| | Scalar 1000 | Please see Scalar 1000 documentation for library and drive firmware recommendations | IBM LTO-2<br>IBM 3590B1A<br>AIT-1 | | Must use SDLC[11] / DAS,<br>SDLC [11]/SCSI Target Mode or Native SCSI |
| | Scalar 10000 | Please see Scalar 10000 documentation for library and drive firmware recommendations | IBM LTO-1<br>IBM LTO-2<br>IBM LTO-3<br>IBM LTO-4<br>IBM LTO-3 WORM<br>AIT-2<br>AIT-2 WORM<br>IBM 3592 | | Must use SDLC [11] / DAS,<br>SDLC [11] / SCSI Target Mode or Native SCSI |
| | PX500 | Please see PX500 documentation for library and drive firmware recommendations | HP LTO-3 | | Not including WORM<br>30.0 |
| | PX720 | Please see PX700 documentation for library and drive firmware recommendations | HP LTO-2<br>HP LTO-3<br>DLT-S4 | | Not including WORM |
| | DXI 7500 | Please see DXI 7500 documentation for firmware recommendations | Supported i2k emulation modes include: DLT7000, SDLT320, SDLT600, DLT-S4, Quantum/Certance LTO-2, 3, HP LTO-1, 2, 3, 4, IBM LTO-1, 2, 3, 4 | | |
| | DXI 8500 | Please see DXI 7500 documentation for firmware recommendations | Supported i2k emulation modes include: DLT7000, SDLT320, SDLT600, DLT-S4, Quantum/Certance LTO-2, 3, HP LTO-1, 2, 3, 4, IBM LTO-1, 2, 3, 4 | | |

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[11] Scalar Distributed Library Controller has been tested up to version 2.8

# Non-Quantum Supported Libraries and Tape Drives
**(bold indicates a combination new in this release compared to StorNext 4.3.2)**

| Vendor Library Family | Libraries | Minimum / Recently Tested Library Firmware Level | Drive Types | Minimum / Recently Tested Drive Firmware Level | Notes |
|---|---|---|---|---|---|
| Dell | PV136T | Minimum: 3.11 Recently Tested: Unavailable | IBM LTO-2<br>IBM LTO-3<br>IBM LTO-4 | | |
| | PowerVault ML6000 (6010, 6020, 6030) | Minimum: 585G.GS003 Recently Tested: N / A | IBM LTO-3<br>IBM LTO-4<br>IBM LTO-5<br>IBM LTO-6 | Minimum: 93G6<br>Minimum: A232<br>Minimum: A420 | LTO-3, LTO-4, LTO-5 WORM capability supported |
| HP | ESL E Series | Minimum: 4.10 Recently Tested: 7.50 | HP LTO-3<br>HP LTO-3 WORM<br>HP LTO-4<br>HP LTO-4 WORM<br>HP LTO-5<br>HP LTO-5 WORM | Recently tested: L68W<br><br><br>Recently tested: I25W | |
| | MSL 6000 | Minimum: 5.07 Recently Tested: Unavailable | HP LTO-2<br>HP LTO-3<br>HP LTO-3 WORM<br>HP LTO-4 | Recently tested: L67W | MSL 6000 does not support HP LTO-5 |
| | MSL G3 Series (2024/4048/8096) | Minimum 2024: 0370 (3.70)<br>Minimum 4048: 0600 (6.00), Recently tested: 7.20<br>Minimum 8096: 0850 (8.50) | HP LTO-2<br>HP LTO-3<br>HP LTO-3 WORM<br>HP LTO-4<br>HP LTO-4 WORM<br>HP LTO-5<br>HP LTO-6 | | HP LTO-5 WORM validation was not successful in SN 4.x testing and is not supported |
| | EML E-Series | Minimum: 1070 Recently Tested: 1395 | HP LTO-3<br>HP LTO-4<br>LTO-4 WORM<br>HP LTO-5 | Recently tested: I25S | HP LTO-5 WORM validation was not successful in SN 4.x testing and is not supported |
| | ESL G3 | Minimum:<br>Recently Tested: 620H | HP LTO-4 4G<br>HP LTO-4 WORM<br>HP LTO-5<br>HP LTO-6 | Recently tested: H63W<br><br>Recently tested: I3FW | LTO-3 drives are not supported on the ESL G3 library |
| IBM | TS3500 | Minimum: 7422 Recently Tested: A420 | IBM LTO-2<br>IBM LTO-3<br>IBM LTO-4<br>IBM LTO-5<br>IBM 3592 (J1A and E05)<br>IBM TS1120 (E05)<br><br>**IBM TS 1130** | Minimum: 93GE<br>Minimum: A239<br>Minimum: A6S0 | Same as IBM3592 E05 |
| | | | IBM TS1140 | Minimum: D3I3_642 for TS1140 with TS3500 | |
| | TS3310 | Minimum: 587G.GS003 | IBM LTO-3<br>IBM LTO-4 | Minimum: 93GE<br>Minimum: A239 | |

# Non-Quantum Supported Libraries and Tape Drives

**(bold indicates a combination new in this release compared to StorNext 4.3.2)**

| Vendor Library Family | Libraries | Minimum / Recently Tested Library Firmware Level | Drive Types | Minimum / Recently Tested Drive Firmware Level | Notes |
|---|---|---|---|---|---|
| | | Recently Tested: N / A | IBM LTO-5<br>IBM LTO-6 | Minimum: A6S0 | |
| | L180/L700/L1400 | Minimum: 3.18.02<br>Recently Tested: Unavailable | T9840C<br>T9840D<br>T10000A[12]<br>T10000B[12]<br>T10000C[12, 13]<br>HP LTO-3<br>HP LTO-4<br>IBM LTO-3<br>IBM LTO-4 | Minimum: 1.40<br><br>Minimum: 1.40 | |
| Oracle SCSI/FC Libraries | SL3000 | Minimum: 2.35<br>LTO-5 requires minimum 2.35<br>Recently Tested: Unavailable | T9840C<br>T9840D<br>T10000A[12]<br>T10000B[12]<br>T10000C[12, 13]<br>HP LTO-3<br>HP LTO-4<br>HP LTO-5<br>**HP LTO-6**<br>IBM LTO-3<br>IBM LTO-4<br>IBM LTO-5<br>**IBM LTO-6** | Minimum: 1.40<br><br>Minimum: 1.40<br><br><br><br>Recently tested: I2DS | |
| | SL500 | Minimum: 1373<br>LTO-5 requires minimum 1395<br>Recently Tested: Unavailable | HP LTO-3<br>HP LTO-4<br>HP LTO-5<br>IBM LTO-3<br>IBM LTO-4<br>IBM LTO-5 | Recently tested: I2DS | |
| | 9740 | Minimum: 2000<br>Recently Tested: Unavailable | Sun/STK 9840 | | Obsolete |
| Oracle ACSLS 7.3 ACSLS 7.3.1 ACSLS 8.0.x[14] | L180/L700/L1400 | Minimum: 3.18.02<br>Recently tested (L700): 3.18 | T9840C<br>T9840D<br>T10000A[12]<br>T10000B[12] | Minimum: 1.40<br>Minimum: 1.40 | |

[12] When using T10000 drives, the STK library parameter "Fastload" must be set to "OFF".

[13] When using a T10000 Rev C drive with ACSLS 8.0.x, please assure that your cleaning cartridges are suppord in that ACSLS release. Quantum has found a case where a cleaning cartridge isn't recognized by ACSLS 8.0.x and reports incorrect media type in the StorNext GUI. This report of incorrect media type does not prevent the cleaning cartridge from being successfully used, but can cause operator confusion. ACSLS 8.1.x corrects the issue.

[14] The Oracle FC and ACSLS sections have been modified to include drive and library permutations that are "paper certified" based on testing that has been performed and validated by Sun/STK.

# Non-Quantum Supported Libraries and Tape Drives

**(bold indicates a combination new in this release compared to StorNext 4.3.2)**

| Vendor Library Family | Libraries | Minimum / Recently Tested Library Firmware Level | Drive Types | Minimum / Recently Tested Drive Firmware Level | Notes |
|---|---|---|---|---|---|
| ACSLS 8.1.x<br>**ACSLS 8.2.x** | | | T10000C[12, 13]<br>HP LTO-3<br>HP LTO-4<br>IBM LTO-3<br>IBM LTO-4 | Recently tested: L6CS | |
| | SL3000 | Minimum: 2.35<br>LTO-5 requires minimum 2.35<br>Recently Tested: 3.60 | T9840C<br>T9840D<br>T10000A[12]<br>T10000B[12]<br><br><br>T10000C[12, 13]<br><br>HP LTO-3<br>HP LTO-4<br>HP LTO-5<br><br>**HP LTO-6**<br>IBM LTO-3<br>IBM LTO-4<br>IBM LTO-5<br><br>**IBM LTO-6** | Minimum: 1.40<br><br>Minimum: 1.40<br>Recently tested: 1.44.210<br>Recently tested: 1.53.311<br><br><br><br>Recently tested: I2DS | Requires minimum ACSLS 7.3.1<br><br><br><br>Requires minimum ACSLS 7.3.1 |
| | SL500 | Minimum: 1373<br>LTO-5 requires minimum 1395<br>Recently Tested: Unavailable | HP LTO-3<br>HP LTO-4<br>HP LTO-5<br><br>IBM LTO-3<br>IBM LTO-4<br>IBM LTO-5 | Recently tested: I2DS | Requires minimum ACSLS 7.3.1<br><br><br>Requires minimum ACSLS 7.3.1 |
| | SL8500 | Minimum: 4.14<br>LTO-5 requires minimum 6.02<br>Recently Tested: 7.05 | T9840C<br>T9840D<br>T10000A[12]<br>T10000B[12]<br><br>T10000C[12, 13]<br><br>HP LTO-3<br>HP LTO-4<br>HP LTO-5<br><br>**HP LTO-6**<br>IBM LTO-3<br>IBM LTO-4<br>IBM LTO-5 | Minimum: 1.40<br><br>Minimum: 1.40<br>Recently tested: 1.44<br>Recently tested: 1.53.311<br><br><br><br>Recently tested: I2DS | Requires minimum ACSLS 7.3.1<br><br><br>Requires minimum ACSLS 7.3.1 |

# Non-Quantum Supported Libraries and Tape Drives

**(bold indicates a combination new in this release compared to StorNext 4.3.2)**

| Vendor Library Family | Libraries | Minimum / Recently Tested Library Firmware Level | Drive Types | Minimum / Recently Tested Drive Firmware Level | Notes |
|---|---|---|---|---|---|
| | | | **IBM LTO-6** | | |
| Qualstar | XLS | Minimum: 0880 Recently Tested: Unavailable | IBM LTO-3 IBM LTO-4 IBM LTO-5 | | |
| Sony | Petasite CSM-200 | Minimum: 6.30 Recently Tested: Unavailable | IBM LTO-4 drive (T1600) | | |
| Spectra Logic | T-Series  (T50e, T120, T200, T380, T680, T950, and T-Finity) | Minimum: Unavailable Recently Tested: 2000 | LTO-3 LTO-4 LTO-5 **LTO-6** IBM TS1140 | Vendor supported: 93G0 Recently tested: 97F9 Recently tested: B170 Recently tested: 3524 | See Bulletin 46 Library firmware is known as BlueScale 11. Both L700 emulation and Native mode are supported In L700 emulation mode, LTO-5 drives report as LTO-4, limiting the capacity of the media. |