Quantum

Compatibility Guide

StorNext 5

6-68043-01 Rev. AS, October 2018

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Product of USA.

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Quantum specifications are subject to change.

Contents

1.0 StorNext Requirements

The following requirements must be met before installing StorNext.

- SELinux is disabled.
- 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 Red Hat 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.

1.1 Terminology

Acronyms used within the document:

Acronym	Description
APFO	Advanced Path Failover
DDM	Distributed Data Mover
DLC [1]	Distributed LAN Client
DLS [2] [3]	Distributed LAN Server / Gateway
FX	StorNext FX Client
HA [4]	High Availability
LTFS	Linear Tape File System
LTS	Long Term Support (Ubuntu)
MDC [5]	Meta-data Controller
RHEL	Red Hat Enterprise Linux
SLES	SuSE Linux Enterprise Server
SC	File System SAN Client
SN	StorNext
SNFS	StorNext File System
SNSM	StorNext Storage Manager
XWD	Xcellis Workflow Director
XWE	Xcellis Workflow Extender

[1] StorNext Distributed LAN clients can be connected to either Distributed LAN Servers or StorNext G300 appliances.
[2] Distributed LAN Server on Windows supports up to 128 Distributed LAN Clients.
[3] Gateway instrumentation is not available for Windows.
[4] HA and GUI are supported on StorNext M Series Appliances and supported MDCs.
[5] Initial availability of StorNext 5 is on StorNext Metadata Appliances.

2.0 System Requirements for Quantum StorNext Metadata Controllers

- StorNext requires a minimum of 16 GB on the MDC node(s).
- Running larger Storage Manager deployments requires additional memory for the Storage Manager database, growing up to 48 GB for systems as the number of managed files approaches 1 Billion.
- Additionally, Quantum recommends another 8 GB of RAM on the MDC node(s) for each file system to be used for buffer cache, to take advantage of the performance improvements in StorNext 5.
- For planning purposes, 10B unmanaged and 1.4B managed file counts are a guideline, but are not an absolute or enforced limit. These values reflect our current guidelines for configuring a StorNext solution the number of files and the performance of your solution may vary.
- LTFS StorNext Support and Memory Requirements
    - Reading and writing LTFS tape is slower than ANTF.
        - Trade-off performance for vendor independence.
        - StorNext performance is on par with any other implementation of LTFS.
    - For any MDC or any DDM client running movers and using LTFS there is extra memory needed.
    - LTFS will utilize more memory than ANTF. Each time a tape is opened, the full directory structure is pulled into memory. Thus a potential significant amount of memory is required on top of the normal StorNext requirements.
    - For StorNext, for each file on a tape, there is an associated Object file that contains specific path information. Thus the #'s listed need to be doubled. Running with StorNext, the formula from the site would actually be drives x million files x 2 +1.
    - Example:
        - Customer has 2 million files written to an LTFS tape. Each time that tape is open the minimum amount of memory required is 2 *2 + 1 = 5 GB of memory.
        - If on top of this one has 5 tape drives and the potential of 2 million files on each tape the minimum amount of memory required would be 5 * 2 * 2 + 1 = 21GB.

3.0 StorNext and StorNext FX Client RAM, Disk and CPU Requirements

To install and run the StorNext or StorNext FX client software, the system must meet the following minimum hardware requirements.

For SAN (FC-attached) clients or LAN clients:

- 1 GB RAM
- 500 MB available hard disk space

For SAN clients acting as a Gateway server:

- 2 GB RAM
- 500 MB available hard disk space

Note: Gateway servers may require additional RAM depending on the number of file systems, LAN clients, and NICs used. See "Gateway Server Memory Tuning" in the StorNext User's Guide for Gateway server memory tuning guidelines.

4.0 StorNext and StorNext FX Client File System Buffer Cache

Multiple mounted file systems typically share a single buffer cache. A StorNext and StorNext FX client buffer cache is created for each different cachebufsize. By default, all file systems have the same cachebufsize of 64K, so they all share the same buffer cache.

These settings do not apply to Apple Xsan Clients, which do not use the StorNext buffer cache.

The amount of memory consumed by default for each cachebufsize depends on the platform type and the amount of memory in the system. The table below shows the default amount of memory consumed by cachebufsize.

A platform with more than 2 GB of memory will use a `cachebufsize` of 256MB, otherwise 64MB will be used.

To see information about the buffer cache after mounting file systems, use the **cvdb(1)** command with the **-b** option. To change the amount of memory used by the buffer cache at mount time, use the **buffercachecap** parameter.

On Windows, the non-paged pool is used for buffer cache memory until it consumes up to 64 megabytes (32-bit systems) or 64 gigabytes (64-bit systems). Any additional buffer cache memory comes from the paged pool.

5.0 StorNext Software Upgrade Matrix

Sites running the following StorNext versions may upgrade directly to this release assuming the platform, service pack, architecture (x86 and compatible and Intel 64 and compatible), and StorNext component(s) are supported in this release.

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

Customers who remain current can generally upgrade to the latest release in a single update or upgrade. Customers who fall behind on updates or upgrades require more complex procedures and should contact Quantum Professional Services.

Important Notes

- Releases prior to StorNext 4.3.2 must first upgrade to StorNext 4.3.2.
- If your system is running StorNext 5.4.0.3 with Storage Manager, then you must read and execute the instructions in Product Alert Number 48 when upgrading to later versions of StorNext.
- StorNext 5.4.1.1 clients MAY run with StorNext 5.4.1 MDCs.

StorNext Software Supported Upgrades / Updates																						
MDCs at StorNext Release…	**StorNext 4.3.2**	**StorNext 4.3.3**	**StorNext 4.7**	**StorNext 4.7.0.1**	**StorNext 4.7.1**	**StorNext 4.7.2**	**StorNext 4.7.3**	**StorNext 5.0.0**	**StorNext 5.0.1**	**StorNext 5.1.0**	**StorNext 5.1.1**	**StorNext 5.2.0**	**StorNext 5.2.0.1**	**StorNext 5.2.1**	**StorNext 5.2.2**	**StorNext 5.3.0**	**StorNext 5.3.1**	**StorNext 5.3.2**	**StorNext 5.4.0.1**	**StorNext 5.4.0.3**	**StorNext 5.4.0.4**	**StorNext 5.4.1**
…Can upgrade / update to StorNext Release																						
StorNext 5.0.0	✓	✓	✓	✓																		
StorNext 5.0.1	✓	✓	✓	✓	✓			✓														
StorNext 5.1.0	✓	✓	✓	✓	✓			✓	✓													
StorNext 5.1.1	✓	✓	✓	✓	✓			✓	✓	✓												
StorNext 5.2.0	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓											
StorNext 5.2.0.1	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓										
StorNext 5.2.1	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓									
StorNext 5.2.2	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓								
StorNext 5.3.0	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓							
StorNext 5.3.1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓						
StorNext 5.3.2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					
StorNext 5.4.0.1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Upgrades to StorNext 5.4.0.3 are not supported																						
StorNext 5.4.0.4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
StorNext 5.4.1																✓	✓	✓	✓	✓	✓	

StorNext Software Supported Upgrades / Updates																						
MDCs at StorNext Release…	StorNext 4.3.2	StorNext 4.3.3	StorNext 4.7	StorNext 4.7.0.1	StorNext 4.7.1	StorNext 4.7.2	StorNext 4.7.3	StorNext 5.0.0	StorNext 5.0.1	StorNext 5.1.0	StorNext 5.1.1	StorNext 5.2.0	StorNext 5.2.0.1	StorNext 5.2.1	StorNext 5.2.2	StorNext 5.3.0	StorNext 5.3.1	StorNext 5.3.2	StorNext 5.4.0.1	StorNext 5.4.0.3	StorNext 5.4.0.4	StorNext 5.4.1
StorNext 5.4.1.1																✓	✓	✓	✓	✓	✓	✓

6.0 StorNext Appliance Upgrade Matrix

Important Notes

- Appliances running StorNext 4.7.0 must update to release 4.7.0.1 before updating to later StorNext versions.
- M330 upgrade to StorNext 5 Release 5.2 or 5.2.1 is only permitted from StorNext 5 Release 5.1
- M330 upgrade to StorNext 5 Release 5.3.1 is only permitted from StorNext 5 Release 5.2 or 5.2.1
- M330 cannot be upgraded to StorNext 5.3.2 or later release
- Appliances must be at 5.3.1.x in order to update to 5.3.2.1.
- Appliances must be at 5.4.0.X in order to update to 5.4.0.4.
- Upgrades to 5.4.0.1 are not supported. Not a problem if already running 5.4.0.1.
- If your system is running StorNext 5.4.0.3 with Storage Manager, then you must read and execute the instructions in Product Alert Number 48 when upgrading to later versions of StorNext.

Quantum Appliance Supported Upgrades / Updates							
MDCs at StorNext Release…	**StorNext 4.3.2**	**StorNext 4.3.3**	**StorNext 4.7**	**StorNext 4.7.0.1**	**StorNext 4.7.1**	**StorNext 4.7.2**	**StorNext 4.7.3**
…Can upgrade / update to StorNext Release							
StorNext 5							
StorNext 5 Release 5.0.1							
StorNext 5 Release 5.1.0	✓	✓		✓	✓		
StorNext 5 Release 5.1.1	✓	✓		✓	✓		
StorNext 5 Release 5.2.0	✓	✓		✓	✓		
StorNext 5 Release 5.2.0.1	✓	✓		✓	✓		
StorNext 5 Release 5.2.0.2	✓	✓		✓	✓		
StorNext 5 Release 5.2.1				✓	✓		
StorNext 5 Release 5.2.2				✓	✓		
StorNext 5 Release 5.3.0				✓	✓		
StorNext 5 Release 5.3.1				✓	✓		
StorNext 5 Release 5.4.0.2	✓	✓	✓	✓	✓	✓	✓
StorNext 5 Release 5.4.0.3							
StorNext 5 Release 5.4.0.4							
StorNext 5 Release 5.4.1							
StorNext 5 Release 5.4.1.1							

Quantum Appliance Supported Upgrades / Updates (continued)																		
Xcellis, Artico and M4xx/M6xx and G-series MDCs at StorNext Release…	**StorNext 5**	**StorNext 5 Release 5.0.1**	**StorNext 5 Release 5.1.0**	**StorNext 5 Release 5.1.1**	**StorNext 5 Release 5.2.0**	**StorNext 5 Release 5.2.0.1**	**StorNext 5 Release 5.2.0.2**	**StorNext 5 Release 5.2.1**	**StorNext 5 Release 5.2.2**	**StorNext 5 Release 5.3.0**	**StorNext 5 Release 5.3.1**	**StorNext 5 Release 5.3.1.1**	**StorNext 5 Release 5.3.2.1**	**StorNext 5 Release 5.4.0.1**	**StorNext 5 Release 5.4.0.2**	**StorNext 5 Release 5.4.0.3**	**StorNext 5 Release 5.4.0.4**	**StorNext 5 Release 5.4.1**
…Can upgrade / update to StorNext Release																		
StorNext 5																		
StorNext 5 Release 5.0.1	✓																	
StorNext 5 Release 5.1.0	✓	✓																
StorNext 5 Release 5.1.1	✓	✓	✓															
StorNext 5 Release 5.2.0	✓	✓	✓	✓														
StorNext 5 Release 5.2.0.1	✓	✓	✓	✓	✓													
StorNext 5 Release 5.2.0.2	✓	✓	✓	✓	✓	✓												
StorNext 5 Release 5.2.1	✓	✓	✓	✓	✓	✓	✓											
StorNext 5 Release 5.2.2	✓	✓	✓	✓	✓	✓	✓	✓										
StorNext 5 Release 5.3.0	✓	✓	✓	✓	✓	✓	✓	✓	✓									
StorNext 5 Release 5.3.1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓								
StorNext 5 Release 5.3.1.1 [6]										✓	✓							
StorNext 5 Release 5.3.2.1											✓	✓						
StorNext 5 Release 5.4.0.1																		
StorNext 5 Release 5.4.0.2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
StorNext 5 Release 5.4.0.3																		
StorNext 5 Release 5.4.0.4															✓	✓		
StorNext 5 Release 5.4.1										✓	✓	✓	✓	✓	✓	✓	✓	
StorNext 5 Release 5.4.1.1 [7, 8]																		✓

[6] StorNext 5.3.1.1 is only supported on Xcellis Workflow Directors.
[7] StorNext 5.4.1.1 is a software-only release and is not supported on Quantum Appliances.
[8] You MAY run StorNext 5.4.1.1 clients with StorNext 5.4.1 MDCs.

7.0 Supported Operating Systems and Platforms

Note: HA and GUI are only supported on StorNext M Series Appliances and supported MDCs. Only 64-bit platforms are supported.

Note: StorNext does not install or start on a system today that has Red Hat Security-Linux (SELinux) enabled. There are checks in several configuration files and daemons that prevent the installation and use of StorNext with Red Hat Security-Linux (SELinux).

Windows Vista	**SP1 and SP2**
See Footnotes:	
Kernel:	**n/a**

	MDC	SNSM	DDM	DLS	SAN	DLC	FX
StorNext 5					✓	✓	
5.0.1					✓	✓	✓
5.1.0					✓	✓	✓
5.1.1					✓	✓	✓
5.2.0.x					✓	✓	✓
5.2.1					✓	✓	✓
5.2.2					✓	✓	✓
5.3.0					✓	✓	✓
5.3.1.x							
5.3.2.x							
5.4.0.1							

Windows Server 2008	SP1 and SP2
See Footnotes:	9

Kernel:	n/a						
	MDC	SNSM	DDM	DLS	SAN	DLC	FX
StorNext 5				✓	✓	✓	
5.0.1				✓	✓	✓	✓
5.1.0	✓			✓	✓	✓	✓
5.1.1				✓	✓	✓	✓
5.2.0.x	✓			✓	✓	✓	✓
5.2.1	✓			✓	✓	✓	✓
5.2.2	✓			✓	✓	✓	✓
5.3.0	✓			✓	✓	✓	✓
5.3.1.x	✓			✓	✓	✓	✓
5.3.2.x							
5.4.0.1							

[9]Windows service pack levels listed indicate the supported versions. "Dot" releases, like Windows 8.1, are distinct and not supported unless called out. RedHat Enterprise Linux is specified at the update level. Unless otherwise noted, kernel releases up to and including the release listed in this document is supported. Those beyond the kernel version listed are not supported. SuSE Enterprise Linux is specified at the Service Pack level. Unless otherwise noted, kernel releases up to and including the release listed in this document is supported. Those beyond the kernel version listed are not supported. Debian support is specified at the level of X.Y release levels. Ubuntu support is specified at the level of X.Y.Z release levels.

Windows Server 2008	R2 and R2 SP1
See Footnotes:	9

Kernel:	n/a						
	MDC	SNSM	DDM	DLS	SAN	DLC	FX
StorNext 5				✓	✓	✓	
5.0.1				✓	✓	✓	✓
5.1.0	✓			✓	✓	✓	✓
5.1.1				✓	✓	✓	✓
5.2.0.x	✓			✓	✓	✓	✓
5.2.1	✓			✓	✓	✓	✓
5.2.2	✓			✓	✓	✓	✓
5.3.0	✓			✓	✓	✓	✓
5.3.1.x	✓			✓	✓	✓	✓
5.3.2.x	✓			✓	✓	✓	✓
5.4.0.1	✓			✓	✓	✓	✓
5.4.0.4	✓			✓	✓	✓	✓
5.4.1	✓			✓	✓	✓	✓
5.4.1.1	✓			✓	✓	✓	✓

Windows 7	**Base and SP1**
See Footnotes:	**9**
Kernel:	**n/a**

	MDC	SNSM	DDM	DLS	SAN	DLC	FX
StorNext 5					✓	✓	
5.0.1					✓	✓	✓
5.1.0					✓	✓	✓
5.1.1					✓	✓	✓
5.2.0.x					✓	✓	✓
5.2.1					✓	✓	✓
5.2.2					✓	✓	✓
5.3.0					✓	✓	✓
5.3.1.x					✓	✓	✓
5.3.2.x					✓	✓	✓
5.4.0.1					✓	✓	✓
5.4.0.4					✓	✓	✓
5.4.1					✓	✓	✓

Windows 8	**Base**
See Footnotes:	**9**
Kernel:	**n/a**

	MDC	SNSM	DDM	DLS	SAN	DLC	FX
StorNext 5					✓	✓	
5.0.1					✓	✓	✓
5.1.0					✓	✓	✓
5.1.1					✓	✓	✓
5.2.0.x					✓	✓	✓
5.2.1					✓	✓	✓
5.2.2					✓	✓	✓
5.3.0					✓	✓	✓
5.3.1.x					✓	✓	✓
5.3.2.x					✓	✓	✓
5.4.0.1					✓	✓	✓
5.4.0.4					✓	✓	✓
5.4.1					✓	✓	✓
5.4.1.1					✓	✓	✓

Windows 8.1	**Base**
See Footnotes:	**9**
Kernel:	**n/a**

	MDC	SNSM	DDM	DLS	SAN	DLC	FX
StorNext 5							
5.0.1					✓	✓	✓
5.1.0					✓	✓	✓
5.1.1					✓	✓	✓
5.2.0.x					✓	✓	✓
5.2.1					✓	✓	✓
5.2.2					✓	✓	✓
5.3.0					✓	✓	✓
5.3.1.x					✓	✓	✓
5.3.2.x					✓	✓	✓
5.4.0.1					✓	✓	✓
5.4.0.4					✓	✓	✓
5.4.1, 5.4.1.1					✓	✓	✓

Windows 10	**Base**
See Footnotes:	**9**
Kernel:	**n/a**

	MDC	SNSM	DDM	DLS	SAN	DLC	FX
StorNext 5							
5.0.1							
5.1.0							
5.1.1							
5.2.0.x							
5.2.1							
5.2.2							
5.3.0					✓	✓	✓
5.3.1.x					✓	✓	✓
5.3.2.x					✓	✓	✓
5.4.0.1					✓	✓	✓
5.4.0.4					✓	✓	✓
5.4.1, 5.4.1.1					✓	✓	✓

Windows Server 2012	**Base**
See Footnotes:	
Kernel:	**n/a**

	MDC	SNSM	DDM	DLS	SAN	DLC	FX
StorNext 5				✓	✓	✓	
5.0.1				✓	✓	✓	✓
5.1.0	✓			✓	✓	✓	✓
5.1.1				✓	✓	✓	✓
5.2.0.x	✓			✓	✓	✓	✓
5.2.1	✓			✓	✓	✓	✓
5.2.2	✓			✓	✓	✓	✓
5.3.0	✓			✓	✓	✓	✓
5.3.1.x	✓			✓	✓	✓	✓
5.3.2.x	✓			✓	✓	✓	✓
5.4.0.1	✓			✓	✓	✓	✓
5.4.0.4	✓			✓	✓	✓	✓
5.4.1, 5.4.1.1					✓	✓	✓

Windows Server 2012	**R2**
See Footnotes:	
Kernel:	**n/a**

	MDC	SNSM	DDM	DLS	SAN	DLC	FX
StorNext 5							
5.0.1				✓	✓	✓	✓
5.1.0	✓			✓	✓	✓	✓
5.1.1				✓	✓	✓	✓
5.2.0.x	✓			✓	✓	✓	✓
5.2.1	✓			✓	✓	✓	✓
5.2.2	✓			✓	✓	✓	✓
5.3.0	✓			✓	✓	✓	✓
5.3.1.x	✓			✓	✓	✓	✓
5.3.2.x	✓			✓	✓	✓	✓
5.4.0.1	✓			✓	✓	✓	✓
5.4.0.4	✓			✓	✓	✓	✓
5.4.1, 5.4.1.1	✓			✓	✓	✓	✓

Red Hat 5	Update 4
See Footnotes:	9, 10, 11, 12
Kernel:	2.6.18-164

	MDC	SNSM	DDM	DLS	SAN	DLC	FX
StorNext 5			✓	✓	✓	✓	
5.0.1			✓	✓	✓	✓	✓
5.1.0	✓	✓	✓	✓	✓	✓	✓
5.1.1			✓	✓	✓	✓	✓
5.2.0.x	✓	✓	✓	✓	✓	✓	✓
5.2.1	✓	✓	✓	✓	✓	✓	✓
5.2.2	✓	✓	✓	✓	✓	✓	✓
5.3.0							
5.3.1.x							
5.3.2.x							
5.4.0.1							

Red Hat 5	Update 5
See Footnotes:	9, 10, 11, 12
Kernel:	2.6.18-194

	MDC	SNSM	DDM	DLS	SAN	DLC	FX
StorNext 5			✓	✓	✓	✓	
5.0.1			✓	✓	✓	✓	✓
5.1.0	✓	✓	✓	✓	✓	✓	✓
5.1.1			✓	✓	✓	✓	✓
5.2.0.x	✓	✓	✓	✓	✓	✓	✓
5.2.1	✓	✓	✓	✓	✓	✓	✓
5.2.2	✓	✓	✓	✓	✓	✓	✓
5.3.0							
5.3.1.x							
5.3.2.x							
5.4.0.1							

[10] The “Xen” virtualization software is not supported.
[11] 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.
[12] RHEL developer packs are not part of the standard distribution and are not supported.

Red Hat 5	Update 6
See Footnotes:	9, 10, 11, 12
Kernel:	2.6.18-238

	MDC	SNSM	DDM	DLS	SAN	DLC	FX
StorNext 5			✓	✓	✓	✓	
5.0.1			✓	✓	✓	✓	✓
5.1.0	✓	✓	✓	✓	✓	✓	✓
5.1.1			✓	✓	✓	✓	✓
5.2.0.x	✓	✓	✓	✓	✓	✓	✓
5.2.1	✓	✓	✓	✓	✓	✓	✓
5.2.2	✓	✓	✓	✓	✓	✓	✓
5.3.0							
5.3.1.x							
5.3.2.x							
5.4.0.1							

Red Hat 5	Update 7
See Footnotes:	9, 10, 11, 12
Kernel:	2.6.18-274

	MDC	SNSM	DDM	DLS	SAN	DLC	FX
StorNext 5			✓	✓	✓	✓	
5.0.1			✓	✓	✓	✓	✓
5.1.0	✓	✓	✓	✓	✓	✓	✓
5.1.1			✓	✓	✓	✓	✓
5.2.0.x	✓	✓	✓	✓	✓	✓	✓
5.2.1	✓	✓	✓	✓	✓	✓	✓
5.2.2	✓	✓	✓	✓	✓	✓	✓
5.3.0							
5.3.1.x							
5.3.2.x							
5.4.0.1							

Red Hat 5	Update 8
See Footnotes:	9, 10, 11, 12
Kernel:	2.6.18-308

	MDC	SNSM	DDM	DLS	SAN	DLC	FX
StorNext 5			✓	✓	✓	✓	
5.0.1			✓	✓	✓	✓	✓
5.1.0	✓	✓	✓	✓	✓	✓	✓
5.1.1			✓	✓	✓	✓	✓
5.2.0.x	✓	✓	✓	✓	✓	✓	✓
5.2.1	✓	✓	✓	✓	✓	✓	✓
5.2.2	✓	✓	✓	✓	✓	✓	✓
5.3.0							
5.3.1.x							
5.3.2.x							
5.4.0.1							

Red Hat 5	Update 9
See Footnotes:	9, 10, 11, 12
Kernel:	2.6.18-348

	MDC	SNSM	DDM	DLS	SAN	DLC	FX
StorNext 5			✓	✓	✓	✓	
5.0.1			✓	✓	✓	✓	✓
5.1.0	✓	✓	✓	✓	✓	✓	✓
5.1.1			✓	✓	✓	✓	✓
5.2.0.x	✓	✓	✓	✓	✓	✓	✓
5.2.1	✓	✓	✓	✓	✓	✓	✓
5.2.2	✓	✓	✓	✓	✓	✓	✓
5.3.0							
5.3.1.x							
5.3.2.x							
5.4.0.1							

Red Hat 5	**Update 10**
See Footnotes:	**9, 10, 11, 12**
Kernel:	**2.6.18-371**

	MDC	SNSM	DDM	DLS	SAN	DLC	FX
StorNext 5							
5.0.1			✓	✓	✓	✓	✓
5.1.0	✓	✓	✓	✓	✓	✓	✓
5.1.1			✓	✓	✓	✓	✓
5.2.0.x	✓	✓	✓	✓	✓	✓	✓
5.2.1	✓	✓	✓	✓	✓	✓	✓
5.2.2	✓	✓	✓	✓	✓	✓	✓
5.3.0							
5.3.1.x							
5.3.2.x							
5.4.0.1							

Red Hat 6	**Base**
See Footnotes:	**9, 10, 11, 12**
Kernel:	**2.6.32-71**

	MDC	SNSM	DDM	DLS	SAN	DLC	FX
StorNext 5			✓	✓	✓	✓	
5.0.1			✓	✓	✓	✓	✓
5.1.0	✓	✓	✓	✓	✓	✓	✓
5.1.1			✓	✓	✓	✓	✓
5.2.0.x	✓	✓	✓	✓	✓	✓	✓
5.2.1	✓	✓	✓	✓	✓	✓	✓
5.2.2	✓	✓	✓	✓	✓	✓	✓
5.3.0	✓	✓	✓	✓	✓	✓	✓
5.3.1.x							
5.3.2.x							
5.4.0.1							

Red Hat 6	**Update 1**
See Footnotes:	**9, 10, 11, 12**
Kernel:	**2.6.32-131.0.15**

	MDC	SNSM	DDM	DLS	SAN	DLC	FX
StorNext 5			✓	✓	✓	✓	
5.0.1			✓	✓	✓	✓	✓
5.1.0	✓	✓	✓	✓	✓	✓	✓
5.1.1			✓	✓	✓	✓	✓
5.2.0.x	✓	✓	✓	✓	✓	✓	✓
5.2.1	✓	✓	✓	✓	✓	✓	✓
5.2.2	✓	✓	✓	✓	✓	✓	✓
5.3.0	✓	✓	✓	✓	✓	✓	✓
5.3.1.x	✓	✓	✓	✓	✓	✓	✓
5.3.2.x	✓	✓	✓	✓	✓	✓	✓
5.4.0.1	✓	✓	✓	✓	✓	✓	✓
5.4.0.4	✓	✓	✓	✓	✓	✓	✓
5.4.1, 5.4.1.1	✓	✓	✓	✓	✓	✓	✓

Red Hat 6	**Update 2**
See Footnotes:	**9, 10, 11, 12**
Kernel:	**2.6.32-220**

	MDC	SNSM	DDM	DLS	SAN	DLC	FX
StorNext 5			✓	✓	✓	✓	
5.0.1			✓	✓	✓	✓	✓
5.1.0	✓	✓	✓	✓	✓	✓	✓
5.1.1			✓	✓	✓	✓	✓
5.2.0.x	✓	✓	✓	✓	✓	✓	✓
5.2.1	✓	✓	✓	✓	✓	✓	✓
5.2.2	✓	✓	✓	✓	✓	✓	✓
5.3.0	✓	✓	✓	✓	✓	✓	✓
5.3.1.x	✓	✓	✓	✓	✓	✓	✓
5.3.2.x	✓	✓	✓	✓	✓	✓	✓
5.4.0.1	✓	✓	✓	✓	✓	✓	✓
5.4.0.4	✓	✓	✓	✓	✓	✓	✓
5.4.1, 5.4.1.1	✓	✓	✓	✓	✓	✓	✓

Red Hat 6	**Update 3**
See Footnotes:	**9, 10, 11, 12**
Kernel:	**2.6.32-279**

	MDC	SNSM	DDM	DLS	SAN	DLC	FX
StorNext 5			✓	✓	✓	✓	
5.0.1			✓	✓	✓	✓	✓
5.1.0	✓	✓	✓	✓	✓	✓	✓
5.1.1			✓	✓	✓	✓	✓
5.2.0.x	✓	✓	✓	✓	✓	✓	✓
5.2.1	✓	✓	✓	✓	✓	✓	✓
5.2.2	✓	✓	✓	✓	✓	✓	✓
5.3.0	✓	✓	✓	✓	✓	✓	✓
5.3.1.x	✓	✓	✓	✓	✓	✓	✓
5.3.2.x	✓	✓	✓	✓	✓	✓	✓
5.4.0.1	✓	✓	✓	✓	✓	✓	✓
5.4.0.4	✓	✓	✓	✓	✓	✓	✓
5.4.1, 5.4.1.1	✓	✓	✓	✓	✓	✓	✓

Red Hat 6	**Update 4**
See Footnotes:	**9, 10, 11, 12**
Kernel:	**2.6.32-358**

	MDC	SNSM	DDM	DLS	SAN	DLC	FX
StorNext 5			✓	✓	✓	✓	
5.0.1			✓	✓	✓	✓	✓
5.1.0	✓	✓	✓	✓	✓	✓	✓
5.1.1			✓	✓	✓	✓	✓
5.2.0.x	✓	✓	✓	✓	✓	✓	✓
5.2.1	✓	✓	✓	✓	✓	✓	✓
5.2.2	✓	✓	✓	✓	✓	✓	✓
5.3.0	✓	✓	✓	✓	✓	✓	✓
5.3.1.x	✓	✓	✓	✓	✓	✓	✓
5.3.2.x	✓	✓	✓	✓	✓	✓	✓
5.4.0.1	✓	✓	✓	✓	✓	✓	✓
5.4.0.4	✓	✓	✓	✓	✓	✓	✓
5.4.1, 5.4.1.1	✓	✓	✓	✓	✓	✓	✓

Red Hat 6	**Update 5**
See Footnotes:	**9, 10, 11, 12**
Kernel:	**2.6.32-431**

	MDC	SNSM	DDM	DLS	SAN	DLC	FX
StorNext 5							
5.0.1			✓	✓	✓	✓	✓
5.1.0	✓	✓	✓	✓	✓	✓	✓
5.1.1			✓	✓	✓	✓	✓
5.2.0.x	✓	✓	✓	✓	✓	✓	✓
5.2.1	✓	✓	✓	✓	✓	✓	✓
5.2.2	✓	✓	✓	✓	✓	✓	✓
5.3.0	✓	✓	✓	✓	✓	✓	✓
5.3.1.x	✓	✓	✓	✓	✓	✓	✓
5.3.2.x	✓	✓	✓	✓	✓	✓	✓
5.4.0.1	✓	✓	✓	✓	✓	✓	✓
5.4.0.4	✓	✓	✓	✓	✓	✓	✓
5.4.1, 5.4.1.1	✓	✓	✓	✓	✓	✓	✓

Red Hat 6	**Update 6**
See Footnotes:	**9, 10, 11, 12**
Kernel:	**2.6.32-504**

	MDC	SNSM	DDM	DLS	SAN	DLC	FX
StorNext 5							
5.0.1							
5.1.0							
5.1.1							
5.2.0.x							
5.2.1	✓	✓	✓	✓	✓	✓	✓
5.2.2	✓	✓	✓	✓	✓	✓	✓
5.3.0	✓	✓	✓	✓	✓	✓	✓
5.3.1.x	✓	✓	✓	✓	✓	✓	✓
5.3.2.x	✓	✓	✓	✓	✓	✓	✓
5.4.0.1	✓	✓	✓	✓	✓	✓	✓
5.4.0.4	✓	✓	✓	✓	✓	✓	✓
5.4.1, 5.4.1.1	✓	✓	✓	✓	✓	✓	✓

Red Hat 6	Update 7
See Footnotes:	9, 10, 11, 12
Kernel:	2.6.32-573

	MDC	SNSM	DDM	DLS	SAN	DLC	FX
StorNext 5							
5.0.1							
5.1.0							
5.1.1							
5.2.0.x							
5.2.1							
5.2.2							
5.3.0							
5.3.1.x	✓	✓	✓	✓	✓	✓	✓
5.3.2.x	✓	✓	✓	✓	✓	✓	✓
5.4.0.1	✓	✓	✓	✓	✓	✓	✓
5.4.0.4	✓	✓	✓	✓	✓	✓	✓
5.4.1, 5.4.1.1	✓	✓	✓	✓	✓	✓	✓

Red Hat 6	Update 8

	MDC	SNSM	DDM	DLS	SAN	DLC	FX
StorNext 5.x	This release is not supported for use as an MDC, Storage Manager, Distributed Data Mover or client.						

Red Hat 6	**Update 9**
See Footnotes:	**9, 10, 11, 12**
Kernel:	**2.6.32-696**

	MDC	SNSM	DDM	DLS	SAN	DLC	FX
StorNext 5							
5.0.1							
5.1.0							
5.1.1							
5.2.0.x							
5.2.1							
5.2.2							
5.3.0							
5.3.1.x							
5.3.2.x							
5.4.0.1							
5.4.0.4							
5.4.1	✓	✓	✓	✓	✓	✓	✓
5.4.1.1	✓	✓	✓	✓	✓	✓	✓

Red Hat 7	**Base**
See Footnotes:	**9, 10, 11, 12**
Kernel:	**3.10.0**

	MDC	SNSM	DDM	DLS	SAN	DLC	FX
StorNext 5							
5.0.1							
5.1.0							
5.1.1							
5.2.0.x							
5.2.1					✓	✓	
5.2.2					✓	✓	✓
5.3.0	✓	✓	✓		✓	✓	✓
5.3.1.x	✓	✓	✓		✓	✓	✓
5.3.2.x	✓	✓	✓		✓	✓	✓
5.4.0.1	✓	✓	✓		✓	✓	✓
5.4.0.4	✓	✓	✓		✓	✓	✓
5.4.1, 5.4.1.1	✓	✓	✓		✓	✓	✓

Red Hat 7	**Update 1**
See Footnotes:	**9, 10, 11, 12**
Kernel:	**3.10.0-229**

	MDC	SNSM	DDM	DLS	SAN	DLC	FX
StorNext 5							
5.0.1							
5.1.0							
5.1.1							
5.2.0.x							
5.2.1					✓	✓	
5.2.2					✓	✓	✓
5.3.0	✓	✓	✓		✓	✓	✓
5.3.1.x	✓	✓	✓		✓	✓	✓
5.3.2.x	✓	✓	✓		✓	✓	✓
5.4.0.1	✓	✓	✓		✓	✓	✓
5.4.0.4	✓	✓	✓		✓	✓	✓
5.4.1, 5.4.1.1	✓	✓	✓		✓	✓	✓

Red Hat 7	**Update 2**
See Footnotes:	**9, 10, 11, 12**
Kernel:	**3.10.0-327**

	MDC	SNSM	DDM	DLS	SAN	DLC	FX
StorNext 5							
5.0.1							
5.1.0							
5.1.1							
5.2.0.x							
5.2.1							
5.2.2							
5.3.0							
5.3.1.x					✓	✓	✓
5.3.2.x					✓	✓	✓
5.4.0.1	✓	✓	✓		✓	✓	✓
5.4.0.4	✓	✓	✓		✓	✓	✓
5.4.1, 5.4.1.1	✓	✓	✓		✓	✓	✓

Red Hat and CentOS 7	**Update 4**
	9, 10, 11, 12
See Footnotes:	StorNext 5.4.1.1 has been successfully tested with Red Hat EL and CentOS 7 update 4. Support for this distribution requires using the updated kernel, which includes the fixes necessary to correct *Spectre* and *Meltdown* security vulnerabilities 1, 2 and 3.
Kernel:	**3.10.0-693**

	MDC	SNSM	DDM	DLS	SAN	DLC	FX
5.4.1, 5.4.1.1	✓	✓	✓		✓	✓	✓

Red Hat and CentOS 7	**Update 5**
	9, 10, 11, 12
See Footnotes:	StorNext 5.4.1.1 has been successfully tested with Red Hat EL and CentOS 7 update 5. Support for this distribution requires using the updated kernel, which includes the fixes necessary to correct *Spectre* and *Meltdown* security vulnerabilities 1, 2, 3, and 4. StorNext 5.4.1 is not supported with Red Hat EL and CentOS 7 update 5.
Kernel:	**3.10.0-862**

	MDC	SNSM	DDM	DLS	SAN	DLC	FX
5.4.1.1	✓	✓	✓		✓	✓	✓

SUSE SLES 11	**Base**
See Footnotes:	**9, 10, 11, 13**
Kernel:	**2.6.27.19-5**

	MDC	SNSM	DDM	DLS	SAN	DLC	FX
StorNext 5					✓	✓	
5.0.1					✓	✓	✓
5.1.0	✓	✓	✓	✓	✓	✓	✓
5.1.1			✓	✓	✓	✓	✓
5.2.0.x	✓	✓	✓	✓	✓	✓	✓
5.2.1	✓	✓	✓	✓	✓	✓	✓
5.2.2	✓	✓	✓	✓	✓	✓	✓
5.3.0	✓	✓	✓	✓	✓	✓	✓
5.3.1.x							
5.3.2.x							
5.4.0.1							

SUSE SLES 11	**SP1**
See Footnotes:	**9, 10, 11, 13**
Kernel:	**2.6.32.12-0**

	MDC	SNSM	DDM	DLS	SAN	DLC	FX
StorNext 5			✓	✓	✓	✓	
5.0.1			✓	✓	✓	✓	✓
5.1.0	✓	✓	✓	✓	✓	✓	✓
5.1.1			✓	✓	✓	✓	✓
5.2.0.x	✓	✓	✓	✓	✓	✓	✓
5.2.1	✓	✓	✓	✓	✓	✓	✓
5.2.2	✓	✓	✓	✓	✓	✓	✓
5.3.0	✓	✓	✓	✓	✓	✓	✓
5.3.1.x							
5.3.2.x							
5.4.0.1							

[13] A change to any digit within a release number does not indicate that a new service pack has been released by Novell.

SUSE SLES 11	**SP2**
See Footnotes:	**9, 10, 11, 13**
Kernel:	**3.0.13-0.27**

	MDC	SNSM	DDM	DLS	SAN	DLC	FX
StorNext 5			✓	✓	✓	✓	
5.0.1			✓	✓	✓	✓	✓
5.1.0	✓	✓	✓	✓	✓	✓	✓
5.1.1			✓	✓	✓	✓	✓
5.2.0.x	✓	✓	✓	✓	✓	✓	✓
5.2.1	✓	✓	✓	✓	✓	✓	✓
5.2.2	✓	✓	✓	✓	✓	✓	✓
5.3.0	✓	✓	✓	✓	✓	✓	✓
5.3.1.x	✓	✓	✓	✓	✓	✓	✓
5.3.2.x	✓	✓	✓	✓	✓	✓	✓
5.4.0.1	✓	✓	✓	✓	✓	✓	✓
5.4.0.4	✓	✓	✓	✓	✓	✓	✓
5.4.1, 5.4.1.1	✓	✓	✓	✓	✓	✓	✓

SUSE SLES 11	**SP3**
See Footnotes:	**9, 10, 11, 13**
Kernel:	**3.0.76-0.11**

	MDC	SNSM	DDM	DLS	SAN	DLC	FX
StorNext 5							
5.0.1			✓	✓	✓	✓	✓
5.1.0	✓	✓	✓	✓	✓	✓	✓
5.1.1			✓	✓	✓	✓	✓
5.2.0.x	✓	✓	✓	✓	✓	✓	✓
5.2.1	✓	✓	✓	✓	✓	✓	✓
5.2.2	✓	✓	✓	✓	✓	✓	✓
5.3.0	✓	✓	✓	✓	✓	✓	✓
5.3.1.x	✓	✓	✓	✓	✓	✓	✓
5.3.2.x	✓	✓	✓	✓	✓	✓	✓
5.4.0.1	✓	✓	✓	✓	✓	✓	✓
5.4.0.4	✓	✓	✓	✓	✓	✓	✓
5.4.1, 5.4.1.1	✓	✓	✓	✓	✓	✓	✓

SUSE SLES 11	**SP4**
See Footnotes:	**9, 10, 11, 13**
Kernel:	**3.0.101-63**

	MDC	SNSM	DDM	DLS	SAN	DLC	FX
StorNext 5							
5.0.1							
5.1.0							
5.1.1							
5.2.0.x							
5.2.1							
5.2.2							
5.3.0							
5.3.1.x	✓	✓	✓	✓	✓	✓	✓
5.3.2.x	✓	✓	✓	✓	✓	✓	✓
5.4.0.1	✓	✓	✓	✓	✓	✓	✓
5.4.0.4	✓	✓	✓	✓	✓	✓	✓
5.4.1, 5.4.1.1	✓	✓	✓	✓	✓	✓	✓

SUSE SLES 12	**Base**
See Footnotes:	**9, 10, 11, 13**
Kernel:	**3.12.28-4**

	MDC	SNSM	DDM	DLS	SAN	DLC	FX
StorNext 5							
5.0.1							
5.1.0							
5.1.1							
5.2.0.x							
5.2.1					✓	✓	
5.2.2					✓	✓	
5.3.0					✓	✓	
5.3.1.x					✓	✓	
5.3.2.x					✓	✓	
5.4.0.1	✓	✓	✓		✓	✓	
5.4.0.4	✓	✓	✓		✓	✓	
5.4.1, 5.4.1.1	✓	✓	✓		✓	✓	

SUSE SLES 12	**SP1**
See Footnotes:	**9, 10, 11, 13**
Kernel:	**3.12.49.11**

	MDC	SNSM	DDM	DLS	SAN	DLC	FX
StorNext 5							
5.0.1							
5.1.0							
5.1.1							
5.2.0.x							
5.2.1							
5.2.2							
5.3.0							
5.3.1.x							
5.3.2.x							
5.4.0.1	✓	✓	✓		✓	✓	
5.4.0.4	✓	✓	✓		✓	✓	
5.4.1, 5.4.1.1	✓	✓	✓		✓	✓	

Supported as Clients Only

Debian	**6.0.5**
See Footnotes:	**9**
Kernel:	**n/a**

	SAN	**DLC**	**FX**
StorNext 5	✓	✓	
5.0.1	✓	✓	
5.1.0	✓	✓	
5.1.1	✓	✓	
5.2.0.x	✓	✓	
5.2.1	✓	✓	
5.2.2	✓	✓	
5.3.0	✓	✓	
5.3.1.x	✓	✓	
5.3.2.x	✓	✓	
5.4.0.1	✓	✓	
5.4.0.4	✓	✓	
5.4.1, 5.4.1.1	✓	✓	

Debian	7.0, 7.1 and 7.2 only
See Footnotes:	9
Kernel:	n/a

	SAN	DLC	FX
StorNext 5			
5.0.1	✓	✓	
5.1.0	✓	✓	
5.1.1	✓	✓	
5.2.0.x	✓	✓	
5.2.1	✓	✓	
5.2.2	✓	✓	
5.3.0	✓	✓	
5.3.1.x	✓	✓	
5.3.2.x	✓	✓	
5.4.0.1	✓	✓	
5.4.0.4	✓	✓	
5.4.1, 5.4.1.1	✓	✓	

Debian	7.8		
See Footnotes:	9		
Kernel:	n/a		
	SAN	DLC	FX
StorNext 5			
5.0.1			
5.1.0			
5.1.1			
5.2.0.x			
5.2.1			
5.2.2			
5.3.0	✓	✓	
5.3.1.x	✓	✓	
5.3.2.x	✓	✓	
5.4.0.1	✓	✓	
5.4.0.4	✓	✓	
5.4.1, 5.4.1.1	✓	✓	

Debian	8.x		
See Footnotes:	9		
Kernel:	n/a		
	SAN	DLC	FX
StorNext 5			
5.0.1			
5.1.0			
5.1.1			
5.2.0.x			
5.2.1			
5.2.2			
5.3.0	✓	✓	
5.3.1.x	✓	✓	
5.3.2.x	✓	✓	
5.4.0.1	✓	✓	
5.4.0.4	✓	✓	
5.4.1, 5.4.1.1	✓	✓	

Oracle Solaris See Footnotes:	10, 11, 11.1, 11.2 and 11.3		
Kernel:	n/a		
	SAN	DLC	FX
StorNext 5	✓	✓	
5.0.1	✓	✓	
5.1.0	✓	✓	
5.1.1	✓	✓	
5.2.0.x	✓	✓	
5.2.1	✓	✓	
5.2.2	✓	✓	
5.3.0	✓	✓	
5.3.1.x	✓	✓	
5.3.2.x	✓	✓	
5.4.0.1	✓	✓	
5.4.0.4	5.4.0.1	5.4.0.1	
5.4.1, 5.4.1.1	5.4.0.1	5.4.0.1	

IBM AIX See Footnotes:	7.1		
Kernel:	n/a		
	SAN	DLC	FX
StorNext 5	✓		
5.0.1	✓		
5.1.0	✓		
5.1.1	✓		
5.2.0.x	✓		
5.2.1	✓		
5.2.2	✓		
5.3.0	✓		
5.3.1.x	✓		
5.3.2.x	✓		
5.4.0.1	✓		
5.4.0.4	5.4.0.1		
5.4.1, 5.4.1.1	5.4.0.1		

HPE HP-UX	11i version 3		
See Footnotes:	14		
Kernel:	n/a		
	SAN	DLC	FX
StorNext 5	✓		
5.0.1	✓		
5.1.0	✓		
5.1.1	✓		
5.2.0.x	✓		
5.2.1	✓		
5.2.2	✓		
5.3.0	✓		
5.3.1.x	✓		
5.3.2.x	✓		
5.4.0.1	✓		
5.4.0.4	5.4.0.1		
5.4.1, 5.4.1.1	5.4.0.1		

CentOS	Red Hat 6.6 equivalent		
See Footnotes:	15		
Kernel:	2.6.32-504.16.2.EL		
	SAN	DLC	FX
StorNext 5	✓	✓	
5.0.1	✓	✓	
5.1.0	✓	✓	
5.1.1	✓	✓	
5.2.0.x	✓	✓	
5.2.1	✓	✓	
5.2.2	✓	✓	
5.3.0	✓	✓	
5.3.1.x	✓	✓	
5.3.2.x	✓	✓	
5.4.0.1	✓	✓	
5.4.0.4	✓	✓	
5.4.1, 5.4.1.1	✓	✓	

[14] HPE UX 11iv3 requires the “0909 Patch set”.

[15] 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.

CentOS	Red Hat 6.7 equivalent		
See Footnotes:	15		
Kernel:	2.6.32-573.EL6		
	SAN	DLC	FX
StorNext 5	✓	✓	
5.0.1	✓	✓	
5.1.0	✓	✓	
5.1.1	✓	✓	
5.2.0.x	✓	✓	
5.2.1	✓	✓	
5.2.2	✓	✓	
5.3.0	✓	✓	
5.3.1.x	✓	✓	
5.3.2.x	✓	✓	
5.4.0.1	✓	✓	
5.4.0.4	✓	✓	
5.4.1, 5.4.1.1	✓	✓	

CentOS	Red Hat 7.1 equivalent		
See Footnotes:	15		
Kernel:	3.10.0-229.EL7		
	SAN	DLC	FX
StorNext 5			
5.0.1			
5.1.0			
5.1.1			
5.2.0.x			
5.2.1			
5.2.2			
5.3.0	✓	✓	
5.3.1.x	✓	✓	
5.3.2.x	✓	✓	
5.4.0.1	✓	✓	
5.4.0.4	✓	✓	
5.4.1, 5.4.1.1	✓	✓	

CentOS	Red Hat 7.2 equivalent		
See Footnotes:	15		
Kernel:	3.10.0-327.4.5.EL7		
	SAN	DLC	FX
StorNext 5			
5.0.1			
5.1.0			
5.1.1			
5.2.0.x			
5.2.1			
5.2.2			
5.3.0	✓	✓	
5.3.1.x	✓	✓	
5.3.2.x	✓	✓	
5.4.0.1	✓	✓	
5.4.0.4	✓	✓	
5.4.1, 5.4.1.1	✓	✓	

Scientific Linux	Red Hat 6 equivalent		
See Footnotes:	15		
Kernel:	n/a		
	SAN	DLC	FX
StorNext 5	✓	✓	
5.0.1	✓	✓	
5.1.0	✓	✓	
5.1.1	✓	✓	
5.2.0.x	✓	✓	
5.2.1	✓	✓	
5.2.2	✓	✓	
5.3.0	✓	✓	
5.3.1.x	✓	✓	
5.3.2.x	✓	✓	
5.4.0.1	✓	✓	
5.4.0.4	✓	✓	
5.4.1, 5.4.1.1	✓	✓	

Scientific Linux	Red Hat 7 based versions		
See Footnotes:	15		
Kernel:	n/a		
	SAN	DLC	FX
StorNext 5			
5.0.1			
5.1.0			
5.1.1			
5.2.0.x			
5.2.1			
5.2.2			
5.3.0	✓	✓	
5.3.1.x	✓	✓	
5.3.2.x	✓	✓	
5.4.0.1	✓	✓	
5.4.0.4	✓	✓	
5.4.1, 5.4.1.1	✓	✓	

Oracle OEL	Red Hat 6 equivalent		
See Footnotes:	15		
Kernel:	n/a		
	SAN	DLC	FX
StorNext 5	✓	✓	
5.0.1	✓	✓	
5.1.0	✓	✓	
5.1.1	✓	✓	
5.2.0.x	✓	✓	
5.2.1	✓	✓	
5.2.2	✓	✓	
5.3.0	✓	✓	
5.3.1.x	✓	✓	
5.3.2.x	✓	✓	
5.4.0.1	✓	✓	
5.4.0.4	✓	✓	
5.4.1, 5.4.1.1	✓	✓	

Oracle OEL	Red Hat 7 equivalent		
See Footnotes:	15		
Kernel:	n/a		
	SAN	DLC	FX
StorNext 5			
5.0.1			
5.1.0			
5.1.1			
5.2.0.x			
5.2.1			
5.2.2			
5.3.0	✓	✓	
5.3.1.x	✓	✓	
5.3.2.x	✓	✓	
5.4.0.1	✓	✓	
5.4.0.4	✓	✓	
5.4.1, 5.4.1.1	✓	✓	

Ubuntu Linux	14.04.0 and 14.04.1 LTS versions		
See Footnotes:	9		
Kernel:	n/a		
	SAN	DLC	FX
StorNext 5			
5.0.1			
5.1.0			
5.1.1			
5.2.0.x	✓	✓	
5.2.1	✓	✓	
5.2.2	✓	✓	
5.3.0	✓	✓	
5.3.1.x	✓	✓	
5.3.2.x	✓	✓	
5.4.0.1	✓	✓	
5.4.0.4	✓	✓	
5.4.1, 5.4.1.1	✓	✓	

Ubuntu Linux	14.04.2 LTS		
See Footnotes:	9		
Kernel:	n/a		
	SAN	DLC	FX
StorNext 5			
5.0.1			
5.1.0			
5.1.1			
5.2.0.x			
5.2.1	✓	✓	
5.2.2	✓	✓	
5.3.0	✓	✓	
5.3.1.x	✓	✓	
5.3.2.x	✓	✓	
5.4.0.1	✓	✓	
5.4.0.4	✓	✓	
5.4.1, 5.4.1.1	✓	✓	

8.0 StorNext Client Interoperability

In general back-revision clients (e.g., StorNext 4.3.x clients with StorNext 5.0.x MDC) are supported for the interval of time that is required to upgrade a configuration; with the assumption that once the configuration process is complete, all clients would be at the same level.

The following table describes back-revision clients that are supported with this release.

StorNext Client Interoperability	
StorNext SAN Client Version	**Platform**
StorNext 4.3.x	Quantum recommends that clients be upgraded along with the MDC.[16]
StorNext 4.6.x	Quantum recommends that clients be upgraded along with the MDC.[16]
StorNext 4.7.x	Certain back-revision clients, as follows, are supported: • Windows 2003 • SLES10 • AIX 6.1 Quantum recommends that clients be upgraded along with the MDC.[16]
StorNext 5 Release 5.x	Quantum recommends that clients be upgraded along with the MDC.[16]

Important Notes

- If a StorNext version is not listed, it is not supported as a back-revision client, even during the upgrade process.
- Clients ahead of a particular MDC (for example, StorNext 4.7.1 clients with StorNext 4.7.0 MDC) are not supported.
- The StorNext MDC must be running an equivalent or more recent version of StorNext than the client is running.
- StorNext G300 or DLS Gateways must be running the equivalent version of the StorNext MDC or earlier and must be running equivalent to all of their clients or newer.
- All components (for example, File System, Storage Manager, and so on) 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.

[16] Except as noted to be incompatible in the table in section 6.0

9.0 StorNext Virtual Machine Support

StorNext supports SAN client and DLC clients running within VMware virtual machines where the operating system the client is running on is Linux or Windows. Only 64-bit platforms are supported. The following table shows general compatibility.

Operating System	Kernel or Release	File System SAN Client (See Note A)	File System LAN Client (See Note B)
Server 2008 Server 2012 Windows 7, 8.0, 8.1, 10	All SN supported service packs in the supported operating systems and platforms table	✓	✓
RHEL 6.x	All SN supported service packs in the supported operating systems and platforms table	✓	✓
RHEL 7.x	All SN supported service packs in the supported operating systems and platforms table	✓	✓
SLES 11.x	All SN supported service packs in the supported operating systems and platforms table	✓	✓
SLES 12.x	All SN supported service packs in the supported operating systems and platforms table	✓	✓

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.

10.0 General Compatibility with other Products

Product	Reference
StorNext API (SNAPI)	SNAPI 2.0.3 is the latest and final release of SNAPI; no additional enhancements will be made. Effective with the next major release of StorNext software after StorNext 5 release 5.4.0.1, SNAPI will no longer be offered or supported. For compatibility between SNAPI and StorNext, see the *StorNext SNAPI 2.0.x Compatibility* document available online at http://www.quantum.com/sn5docs. StorNext Web Services enables you to run third-party application program interfaces (APIs) with StorNext. To view the latest commands supported by the StorNext Web Services, refer to the *StorNext 5 Web Services Guide* available online at http://www.quantum.com/sn5docs.
StorNext Partial File Retrieval (PFR)	For compatibility between PFR and StorNext, see the *StorNext Partial File Retrieval 1.x Compatibility* document available online at http://www.quantum.com/sn5docs.
StorNext Connect	For compatibility between StorNext Connect and StorNext, see the *StorNext Connect Compatibility Guide* available online at http://qsupport.quantum.com/kb/flare/Content/connect/DocSite/PDFs/PDF_Downloads.htm.
StorNext NAS	For compatibility between StorNext NAS and StorNext, see the StorNext NAS compatibility matrix available online at http://www.quantum.com/snnas_cg.
Lattus	For compatibility between Lattus and StorNext, see the appropriate *Lattus Release Notes* document available online at http://www.quantum.com/lattusdocs.
DXi	For compatibility between DXi and StorNext, see the appropriate DXi product page online at http://www.quantum.com/serviceandsupport/softwareanddocumentationdownloads/index.aspx.

11.0 Quantum Appliance Compatibility

- This table uses StorNext M440 as a generic term that applies to the StorNext M441D, M441Q, M445D SSD and M445Q SSD models.
- This table uses StorNext M660 as a generic term that applies to the StorNext M661, M661XL, M662 M662XL and M665 SSD models.
- This table uses G300 as a generic term that applies to the StorNext G301 and G302 models.
- Appliances must be at 5.3.1 in order to update to 5.3.2.
- If your system is running StorNext 5.4.0.3 with Storage Manager, then you must read and execute the instructions in Product Alert Number 48 when upgrading to later versions of StorNext.

Quantum Appliance Compatibility with StorNext Releases

Appliance	M330	M440	M660	Pro Foundation	Artico	Xcellis Workflow Director	Xcellis Workflow Extender	G300
StorNext Release								
StorNext 4.3.2	✓	✓	✓					✓
StorNext 4.3.3	✓	✓	✓					✓
StorNext 4.7								
StorNext 4.7.0.1	✓	✓	✓					✓
StorNext 4.7.1	✓	✓	✓					✓
StorNext 4.7.2								
StorNext 4.7.3								
StorNext 5	✓	✓	✓					✓
StorNext 5 release 5.0.1	✓	✓	✓					✓
StorNext 5 release 5.1.0	✓	✓	✓					✓
StorNext 5 release 5.1.1		✓	✓					✓
StorNext 5 release 5.2.0	✓	✓	✓	✓				✓
StorNext 5 release 5.2.0.1		✓	✓	✓				✓
StorNext 5 release 5.2.0.2					✓			
StorNext 5 release 5.2.1	✓	✓	✓	✓	✓			✓
StorNext 5 release 5.2.2	✓	✓	✓	✓	✓			✓
StorNext 5 release 5.3.0		✓	✓	✓	✓	✓		✓
StorNext 5 release 5.3.1	✓	✓	✓	✓	✓	✓		✓
StorNext 5 release 5.3.1.1						✓		

Quantum Appliance Compatibility with StorNext Releases								
Appliance	**M330**	**M440**	**M660**	**Pro Foundation**	**Artico**	**Xcellis Workflow Director**	**Xcellis Workflow Extender**	**G300**
StorNext 5 release 5.3.2.1		✓	✓	✓	✓	✓		✓
StorNext 5 release 5.4.0.1		✓	✓	✓	✓	✓	✓	✓
StorNext 5 release 5.4.0.2		✓	✓	✓	✓	✓	✓	✓
StorNext 5 release 5.4.0.3 is not supported								
StorNext 5 release 5.4.0.4		✓	✓	✓	✓	✓	✓	✓
StorNext 5 release 5.4.1		✓	✓	✓	✓	✓	✓	✓
StorNext 5 release 5.4.1.1		✓	✓	✓	✓	✓	✓	✓

12.0 StorNext Browser Support

Important note regarding the Software Online Help: The tool that we used to generate the StorNext Software Online Help in the past, RoboHelp, is not supported with newer versions of supported web browsers. This issue only affects StorNext versions 5.2.0 and earlier. For combinations that are not supported, the StorNext Software Online Help does not display correctly in StorNext GUI.

The following browser versions are supported with StorNext versions 5.2.0 and earlier:

- Firefox version 36 and later
- Google Chrome version 40 and later
- Microsoft Internet Explorer version 10 and later, only if Secure Socket Layer 3.0 is disabled

Quantum recommends using the latest released version of the following browsers for the StorNext GUI:

- Firefox versions 51
- Internet Explorer version 11
- Chrome version 56
- Safari version 10.12
- Microsoft Edge version 38.14393.0.0

13.0 Supported Quantum Library and Drive List

Quantum Supported Libraries and Tape Drives														
Vendor	**Libraries**	**Drive Types** [17]	**StorNext 5**	**StorNext 5 Release 5.0.1**	**StorNext 5 Release 5.1.0**	**StorNext 5 release 5.1.1**	**StorNext 5 release 5.2.0.x**	**StorNext 5 release 5.2.1**	**StorNext 5 release 5.2.2**	**StorNext 5 release 5.3.0**	**StorNext 5 release 5.3.1.x**	**StorNext 5 release 5.3.2.x**	**StorNext 5 release 5.4.x**	**Notes**
Quantum	Scalar i500	IBM LTO-2	✓	✓	✓	✓	✓	✓	✓	✓				LTFS is only available for LTO-5/6/7 drives which support partitioning. Support for LTFS with LTO-7 drives requires StorNext 5.4.0 or later
		IBM LTO-3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		IBM LTO-4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		IBM LTO-5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		IBM LTO-6	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓ 18	✓ 18	
		IBM LTO-7								✓ 19	✓ 19	✓ 18 19	✓ 18 19	
		HPE LTO-4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		HPE LTO-5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		HPE LTO-6	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	Scalar i6000 / i2000	IBM LTO-1	✓	✓	✓	✓	✓	✓	✓	✓				LTFS is only available for LTO-5/6/7 drives which support partitioning. Support for LTFS with LTO-7 drives requires StorNext 5.4.0 or later
		IBM LTO-2	✓	✓	✓	✓	✓	✓	✓	✓				
		IBM LTO-3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		IBM LTO-4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		IBM LTO-5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		IBM LTO-6	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓ 20	✓ 20	
		IBM LTO-7								✓ 21	✓ 21	✓ 20 21	✓ 20 21	
		HPE LTO-3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	

[17] StorNext supports LTO WORM functionality where offered by the drive vendor. Please see the vendor website for more details.
[18] APFO supported
[19] The i500 requires firmware version 8.4 or later to support LTO-7
[20] APFO supported i6k only with LTO-6 or LTO-7
[21] LTO-7 is not available in the Scalar i2000 library.

Quantum Supported Libraries and Tape Drives														
Vendor	Libraries	Drive Types [17]	StorNext 5	StorNext 5 Release 5.0.1	StorNext 5 Release 5.1.0	StorNext 5 release 5.1.1	StorNext 5 release 5.2.0.x	StorNext 5 release 5.2.1	StorNext 5 release 5.2.2	StorNext 5 release 5.3.0	StorNext 5 release 5.3.1.x	StorNext 5 release 5.3.2.x	StorNext 5 release 5.4.x	Notes
		HPE LTO-4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		HPE LTO-5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		HPE LTO-6	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		Quantum DLT-S4	✓	✓	✓	✓	✓	✓	✓	✓				
		Quantum SDLT 320 SCSI	✓	✓	✓	✓	✓	✓	✓	✓				
		Quantum SDLT 600 FC	✓	✓	✓	✓	✓	✓	✓	✓				
	Scalar i40 / i80	HPE LTO-4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	LTFS is only available for LTO-5/6/7 drives which support partitioning. Support for LTFS with LTO-7 drives requires StorNext 5.4.0 or later.
		HPE LTO-5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		HPE LTO-6	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		IBM LTO-5								✓	✓	✓	✓	
		IBM LTO-6								✓	✓	✓	✓	
		IBM LTO-7									✓	✓	✓	
	Scalar i3	IBM LTO-6											✓	LTO-5/6/7 drives which support partitioning. Support for LTFS with LTO-7 drives requires StorNext 5.4.0 or later.
		IBM LTO-7											✓	
	Scalar i6	IBM LTO-6											✓	Fibre Channel Drives LTFS is only available for LTO-5/6/7 drives which support partitioning. Support for LTFS with LTO-7 drives requires StorNext 5.4.0 or later.
		IBM LTO-7											✓	
	Scalar 24	IBM LTO-1	✓	✓	✓	✓	✓	✓	✓	✓				
		IBM LTO-2	✓	✓	✓	✓	✓	✓	✓	✓				
		IBM LTO-3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		IBM LTO-4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	

Quantum Supported Libraries and Tape Drives														
Vendor	Libraries	Drive Types [17]	StorNext 5	StorNext 5 Release 5.0.1	StorNext 5 Release 5.1.0	StorNext 5 release 5.1.1	StorNext 5 release 5.2.0.x	StorNext 5 release 5.2.1	StorNext 5 release 5.2.2	StorNext 5 release 5.3.0	StorNext 5 release 5.3.1.x	StorNext 5 release 5.3.2.x	StorNext 5 release 5.4.x	Notes
	Scalar 50	HP LTO-4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	Scalar 100	IBM LTO-1	✓	✓	✓	✓	✓	✓	✓	✓				NOTE: 2.10.0013 firmware not to be used
		IBM LTO-2	✓	✓	✓	✓	✓	✓	✓	✓				
		IBM LTO-3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		AIT-2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	Scalar 1000	IBM LTO-2	✓	✓	✓	✓	✓	✓	✓	✓				Must use SDLC [22] - SCSI Target Mode or Native SCSI DAS/ACI is no longer supported
		IBM 3590B1A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		AIT-1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	Scalar 10000	IBM LTO-1	✓	✓	✓	✓	✓	✓	✓	✓				Must use SDLC [22] SCSI Target Mode or Native SCSI DAS/ACI is no longer supported
		IBM LTO-2	✓	✓	✓	✓	✓	✓	✓	✓				
		IBM LTO-3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		IBM LTO-4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		IBM LTO-5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		AIT-2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		AIT-2 WORM	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		IBM 3592	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	PX500	HPE LTO-3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	PX720	HPE LTO-2	✓	✓	✓	✓	✓	✓	✓	✓				
		HPE LTO-3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		DLT S4	✓	✓	✓	✓	✓	✓	✓	✓				

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

14.0 Supported Non-Quantum Library and Drive List

Large, complex StorNext Storage Manager solutions support the use of non-Quantum software such as Oracle StorageTek Automated Cartridge System Library Software (ACSLS) for centralized, multi-platform tape library management. Additionally, Storage Manager supports physical library partitioning to improve the utilization and logical sharing of enterprise-level tape libraries.

Non-Quantum Supported Libraries and Tape Drives														
Vendor	Libraries	Drive Types [17]	StorNext 5	StorNext 5 Release 5.0.1	StorNext 5 Release 5.1.0	StorNext 5 release 5.1.1	StorNext 5 release 5.2.0.x	StorNext 5 release 5.2.1	StorNext 5 release 5.2.2	StorNext 5 release 5.3.0	StorNext 5 release 5.3.1.x	StorNext 5 release 5.3.2.x	StorNext 5 release 5.4.x	Notes
Dell	PV136T	IBM LTO-2	✓	✓	✓	✓	✓	✓	✓	✓				
		IBM LTO-3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		IBM LTO-4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	PowerVault ML6000 6010 / 6020 / 6030	IBM LTO-3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		IBM LTO-4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		IBM LTO-5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		IBM LTO-6	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
HPE	ESL E Series	HPE LTO-3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		HPE LTO-4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		HPE LTO-5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	MSL 6000	HPE LTO-2	✓	✓	✓	✓	✓	✓	✓	✓				
		HPE LTO-3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		HPE LTO-4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	MSL G3 Series 2024 / 4048 / 8096	HPE LTO-2	✓	✓	✓	✓	✓	✓	✓	✓				
		HPE LTO-3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		HPE LTO-4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		HPE LTO-5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		HPE LTO-6	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	EML E Series	HPE LTO-3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		HPE LTO-4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		HPE LTO-5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	ESL G3	HPE LTO-4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		HPE LTO-5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		HPE LTO-6	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		HPE LTO-7										✓	✓	
	MSL 6480	HPE LTO-3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		HPE LTO-4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		HPE LTO-5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	

Non-Quantum Supported Libraries and Tape Drives														
Vendor	**Libraries**	**Drive Types** [17]	**StorNext 5**	**StorNext 5 Release 5.0.1**	**StorNext 5 Release 5.1.0**	**StorNext 5 release 5.1.1**	**StorNext 5 release 5.2.0.x**	**StorNext 5 release 5.2.1**	**StorNext 5 release 5.2.2**	**StorNext 5 release 5.3.0**	**StorNext 5 release 5.3.1.x**	**StorNext 5 release 5.3.2.x**	**StorNext 5 release 5.4.x**	**Notes**
		HPE LTO-6	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
IBM	**TS3100**	**IBM LTO-7**									✓	✓	✓	
	TS3500	**IBM LTO-2**	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		IBM LTO-3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		IBM LTO-4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		IBM LTO-5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		IBM LTO-6	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		IBM LTO-7									✓	✓	✓	
		IBM 3592 (J1A and E05)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		IBM TS1120	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		IBM TS1130	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		IBM TS1140	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		IBM TS1150									✓	✓	✓	
	TS3310	**IBM LTO-3**	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		IBM LTO-4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		IBM LTO-5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		IBM LTO-6	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		IBM LTO-7									✓	✓	✓	
	TS4500	**TS1140**									23	23	23	
		TS1150									✓	✓	✓	
		IBM LTO-7									✓	✓	✓	
Oracle SCSI / FC	**L180 / L700 / L1400**	**T9840C**	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		T9840D	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		T10000A [26]	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		T10000B [26]	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		HPE LTO-3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		HPE LTO-4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		IBM LTO-3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	

[23] The tape device and library have been tested individually, but this specific combination has not been tested. Although not formally tested, this drive and library pair is expected to work without any issues.

Non-Quantum Supported Libraries and Tape Drives														
Vendor	**Libraries**	**Drive Types** [17]	**StorNext 5**	**StorNext 5 Release 5.0.1**	**StorNext 5 Release 5.1.0**	**StorNext 5 release 5.1.1**	**StorNext 5 release 5.2.0.x**	**StorNext 5 release 5.2.1**	**StorNext 5 release 5.2.2**	**StorNext 5 release 5.3.0**	**StorNext 5 release 5.3.1.x**	**StorNext 5 release 5.3.2.x**	**StorNext 5 release 5.4.x**	**Notes**
		IBM LTO-4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	SL3000	**T9840C**	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		T9840D	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		T10000A [26]	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		T10000B [26]	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		T10000C [24] [26]	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		T10000D [26]	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		HPE LTO-3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		HPE LTO-4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		HPE LTO-5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		HPE LTO-6	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		IBM LTO-3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		IBM LTO-4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		IBM LTO-5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		IBM LTO-6	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	SL500	**HPE LTO-3**	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		HPE LTO-4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		HPE LTO-5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		IBM LTO-3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		IBM LTO-4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		IBM LTO-5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	SL150	**HPE LTO-5**	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		HPE LTO-6	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	9740	**Sun/STK 9840**	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Obsolete
Oracle ACSLS 7.3 / 7.3.1 / 8.0.x / 8.1.x / 8.2.x / 8.3 [25]	**L180 / L700 / L1400**	**T9840C**	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		T9840D	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		T10000A [26]	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		T10000B [26]	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	

[24] When using a T10000 Rev C drive with ACSLS 8.0.x, please assure that your cleaning cartridges are supported 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.

[25] ACSLS versions are supported on Solaris installs only, ACSLS 8.3 is the first version that supports Oracle Linux.

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

Non-Quantum Supported Libraries and Tape Drives														
Vendor	Libraries	Drive Types [17]	StorNext 5	StorNext 5 Release 5.0.1	StorNext 5 Release 5.1.0	StorNext 5 release 5.1.1	StorNext 5 release 5.2.0.x	StorNext 5 release 5.2.1	StorNext 5 release 5.2.2	StorNext 5 release 5.3.0	StorNext 5 release 5.3.1.x	StorNext 5 release 5.3.2.x	StorNext 5 release 5.4.x	Notes
		HPE LTO-3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		HPE LTO-4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		IBM LTO-3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		IBM LTO-4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	SL3000	T9840C	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		T9840D	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		T10000A [26]	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		T10000B [26]	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		T10000C [24 26]	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		T10000D [26]	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		HPE LTO-3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		HPE LTO-4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		HPE LTO-5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Requires minimum of ACSLS 7.3.1
		HPE LTO-6	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Requires minimum of ACSLS 8.2
		IBM LTO-3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		IBM LTO-4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		IBM LTO-5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Requires minimum of ACSLS 7.3.1
		IBM LTO-6	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Requires minimum of ACSLS 8.2
		IBM LTO-7											✓	Requires minimum of ACSLS 8.4
	SL500	HPE LTO-3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		HPE LTO-4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		HPE LTO-5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Requires minimum of ACSLS 7.3.1
		IBM LTO-3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		IBM LTO-4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		IBM LTO-5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Requires minimum of ACSLS 7.3.1
	SL8500	T9840C	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		T9840D	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		T10000A [26]	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		T10000B [26]	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	

Non-Quantum Supported Libraries and Tape Drives														
Vendor	**Libraries**	**Drive Types** [17]	**StorNext 5**	**StorNext 5 Release 5.0.1**	**StorNext 5 Release 5.1.0**	**StorNext 5 release 5.1.1**	**StorNext 5 release 5.2.0.x**	**StorNext 5 release 5.2.1**	**StorNext 5 release 5.2.2**	**StorNext 5 release 5.3.0**	**StorNext 5 release 5.3.1.x**	**StorNext 5 release 5.3.2.x**	**StorNext 5 release 5.4.x**	**Notes**
		T10000C [24] [26]	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		T10000D [26]	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		HPE LTO-3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		HPE LTO-4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		HPE LTO-5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Requires minimum of ACSLS 7.3.1
		HPE LTO-6	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Requires minimum of ACSLS 8.2
		IBM LTO-3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		IBM LTO-4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		IBM LTO-5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Requires minimum of ACSLS 7.3.1
		IBM LTO-6	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Requires minimum of ACSLS 8.2
		IBM LTO-7										✓	✓	Requires minimum of ACSLS 8.4
	SL150	**HPE LTO-5**	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		HPE LTO-6	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Requires minimum of ACSLS 8.2
Qualstar	**XLS**	**IBM LTO-3**	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		IBM LTO-4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		IBM LTO-5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Sony	**Petasite CSM-200**	**IBM LTO-4 (T1600)**	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Spectra Logic	**T-Series T50e / T120 / T200 / T380 / T680 / T950 / T-Finity**	**LTO-3**	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**LTO-7 with T50e library only.** 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
		LTO-4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		LTO-5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		LTO-6	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		LTO-7											✓	
		IBM TS1140	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	

Non-Quantum Supported Libraries and Tape Drives														
Vendor	**Libraries**	**Drive Types** [17]	**StorNext 5**	**StorNext 5 Release 5.0.1**	**StorNext 5 Release 5.1.0**	**StorNext 5 release 5.1.1**	**StorNext 5 release 5.2.0.x**	**StorNext 5 release 5.2.1**	**StorNext 5 release 5.2.2**	**StorNext 5 release 5.3.0**	**StorNext 5 release 5.3.1.x**	**StorNext 5 release 5.3.2.x**	**StorNext 5 release 5.4.x**	**Notes**
														as LTO-4, limiting the capacity of the media.

15.0 Advanced Path Failover Compatibility

Using the StorNext Distributed Data Mover (DDM) feature can boost overall data movement performance by distributing data movement across multiple systems. To ensure data integrity, StorNext software requires the use of SCSI Persistent Reservations on StorNext metadata controllers and DDM clients. As SCSI persistent reservations control access to shared devices, such as tape, Storage Manager retains control of the tape device paths, even if a failover were to occur.

StorNext 5 introduces support for IBM Advanced Path Failover (APFO) for redundant paths to IBM LTO-6 and LTO-7 tape devices. Using IBM APFO requires SCSI Persistent Reservations to be turned off, as device reservations are handled by IBM's software, not StorNext.

The tape driver for Linux (**lin_tape**) and the tape driver daemon (**lin_taped**) were developed by IBM to support various versions of Linux. For details on supported tape attachment please refer to the IBM System Storage Interoperation Center website, which can be found here: http://www.ibm.com/systems/support/storage/config/ssic/.

- StorNext 5 supports IBM Advanced Path Failover (APFO) with IBM LTO-6 and LTO-7 tape devices installed in Scalar i500 and i6k libraries.
- Other Quantum and non-Quantum libraries will be supported with a future version of StorNext.

Notes:

- LTFS tape format is not currently supported with Advanced Path Failover.
- IBM **lin_tape** driver versions 3.0.10 and 3.0.18 are not compatible with StorNext and cannot be used with StorNext.
- Refer to the IBM **lin_tap.ReadMe** for the latest details about supported operating system versions and OS version support and for a listing of supported/non supported versions of the **Join Driver**.
- You must enable SCSI-3 persistent reservations in the **lin_tape.conf** file for IBM APFO **lin_tape** driver in the **lin_tape.conf** if data path failover is not enabled.

For additional information on how to configure **SCSI Persistent Reservations**, see the **Tape Devices and Persistent SCSI Reserve** section in the *StorNext 5 User's Guide* available online at http://www.quantum.com/sn5docs.

Minimum Tested Versions of Firmware / Driver	
	StorNext Release
	StorNext 5 Release 5.4.x
IBM lin_tape driver version	3.0.12
Quantum Scalar i6k	735Q.GS04400 - i12.4.1
Quantum Scalar i500	670G.GS003 – i8.4
IBM LTO-6 Drive	G350
IBM LTO-7 Drive	G5S0

Supported Operating Environments for IBM Advanced Path Failover
The tape driver for Linux (**lin_tape**) and the tape driver daemon (**lin_taped**) were developed by IBM to support various versions of Linux.

For details on supported tape attachment please refer to the IBM System Storage Interoperation Center website, which can be found here: http://www.ibm.com/systems/support/storage/config/ssic/.

16.0 Xsan Compatibility

Apple Xsan server with StorNext FX clients							
Xsan controller version ↓	**StorNext 6.0.x (all versions)**	**StorNext 5.4.x (all versions)**	**StorNext 5.3.2.x**	**StorNext 5.3.1**	**StorNext 5.3.0**	**StorNext 5.2.2**	**StorNext 5.2.0 or 5.2.1**
All versions of Xsan 5.X				✓	✓		
Xsan 4.1					✓	✓	
Xsan 4					✓	✓	✓

StorNext MDC with Apple Xsan clients				
StorNext controller version	**Xsan 5.0.1 macOS 10.13**	**Xsan 5 macOS 10.12**	**Xsan 4.1 macOS 10.11**	**Xsan 4 macOS 10.10**
StorNext 6.0.5 and later	✓	✓		
StorNext 6.0/6.0.1/6.0.1.1		✓		
StorNext 5.4.x		✓	✓	✓
StorNext 5.3.2.x		✓	✓	✓
StorNext 5.3.1			✓	✓
StorNext 5.3.0			✓	✓
StorNext 5.2.2			✓	✓
StorNext 5.2.0 / 5.2.1				✓

17.0 StorNext Security

StorNext supports two security models:

- UNIX permission bits
- Access Control Lists (ACL)

Although StorNext supports both security models, the version used depends on the client platform and system configuration settings within StorNext.

Display and manipulation of ACLs for NFSv4 is only supported when the NFS server is a StorNext Appliance running StorNext 5 release 5.4.0.1 or later.

The *StorNext 5 User's Guide* (**Appendix F: Security**) section **StorNext Security** provides information considerations when selecting a security model, access-checking functionality and configuring identity mapping. The *StorNext 5 User's Guide* is available online at http://www.quantum.com/sn5docs.

18.0 Network File System Support

With some limitations outlined below, StorNext supports Network File System versions 3 and 4.

Limitations

- NFSv3 is not supported in an NFS-HA configuration.
- NFS-HA is only supported on the Xcellis Workflow Director.
- Due to issues with lock recovery that may occur after rebooting, file locking is not supported when concurrently sharing the same StorNext file system from multiple NFS servers.
- Concurrently sharing the same StorNext file system from multiple NFS servers is not supported when used with the StorNext NAS option.
- NFSv4 is only supported when using Linux NFS servers.
- The display and manipulation of ACLs is not supported for NFSv3. However, ACLs are still enforced.
- The display and manipulation of ACLs for NFSv4 is only supported when the NFS server is a StorNext Appliance running StorNext version 5.4.0.1 or later releases.
- NFSv4 delegations are not supported.

19.0 Data Replication Compatibility

The following table provides compatibility between StorNext releases when using the replication feature.

To ensure maximum replication performance Quantum strongly recommends that all systems utilizing replication upgrade to 4.7.1 or higher.

Note: If a source replication policy uses deduplication, the target policy must also use deduplication.

	Target Release							
Source Release	**StorNext 4.2**	**StorNext 4.3**	**StorNext 4.7.x**	**StorNext 5 release 5.0.x**	**StorNext 5 release 5.1.x**	**StorNext 5 release 5.2.x**	**StorNext 5 release 5.3.x**	**StorNext 5 release 5.4.x**
StorNext 4.2	✓							
StorNext 4.3		✓	✓	✓	✓			
StorNext 4.7.x		✓	✓	✓	✓	✓	✓	✓
StorNext 5 release 5.0.x		✓	✓	✓	✓	✓	✓	✓
StorNext 5 release 5.1.x		✓	✓	✓	✓	✓	✓	✓
StorNext 5 release 5.2.x			✓	✓	✓	✓	✓	✓
StorNext 5 release 5.3.x			✓	✓	✓	✓	✓	✓
StorNext 5 release 5.4.x			✓	✓	✓	✓	✓	✓

20.0 FlexTier License Compatibility

Public Cloud		
Provider	**Service**	**StorNext 5.4.x**
Amazon S3	Simple Storage Service (S3)	✓
	Infrequent Access	✓
	Glacier	✓
	Gov Cloud	✓
	Commercial Cloud Services	✓
Microsoft	Azure	✓

Private Cloud		
Provider	**Platform**	**StorNext 5.4.x**
NetApp	Webscale StorageGRID	✓
IBM	IBM Cloud Object Storage (formerly Cleversafe)	✓
SCALITY	RING	✓