

Quantum®

StorNext®



Licensing Guide

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StorNext 6 and StorNext FX 6 Licensing Guide, 6-68083-02, March 2018, Product of USA.

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Preface

StorNext features must be licensed, and those licenses are enforced. If you do not have the appropriate license, you will not be able to use that StorNext feature.

This document describes the license types and the procedure for obtaining licenses. Licensing implications for StorNext and StorNext FX (**FX** stands for **F**ile System for **X**san) upgrades are also explained.

Unique licensing considerations for Xcellis Workflow Director, Xcellis Workflow Extender, Artico, the StorNext M660, StorNext M440, and StorNext M330 Metadata Appliances, the StorNext G300 Gateway Appliance, StorNext Pro Foundation, and StorNext FX are listed throughout the document.

i Note: All license strings reside on StorNext Metadata Controllers (MDCs) except for the StorNext Gateway License. The StorNext Gateway license only resides on the StorNext G300 Gateway Appliance and the StorNext M660 Metadata Appliance.

This manual contains the following chapters:

- [Chapter 1: StorNext License Types](#)
- [Chapter 2: StorNext Licenses for Xcellis, Metadata Appliances and the G300](#)
- [Chapter 3: License Expiration and Limits](#)
- [Chapter 4: Auto-Generated and Evaluation Licenses](#)
- [Chapter 5: Enable and Install Licenses](#)
- [Chapter 6: StorNext Disk Licensing and Disk Certification](#)

Audience


This manual is written for StorNext 6 and StorNext FX 6 operators, system administrators, and field service engineers.


Notational Conventions


This manual uses the following conventions:

Convention	Example
User input is shown in bold monospace font.	./DARTinstall
Computer output and command line examples are shown in monospace font.	./DARTinstall
User input variables are enclosed in angle brackets.	http://<ip_address>/cgi-bin/stats
For UNIX and Linux commands, the command prompt is implied.	./DARTinstall is the same as # ./DARTinstall
File and directory names, menu commands, button names, and window names are shown in bold font.	/data/upload
Menu names separated by arrows indicate a sequence of menus to be navigated.	Utilities > Firmware

The following formats indicate important information:

 **Note:** Note emphasizes important information related to the main topic.

 **Caution:** Caution indicates potential hazards to equipment or data.



 **WARNING:** Warning indicates potential hazards to personal safety.

- Right side of the system - Refers to the right side as you face the component being described.
- Left side of the system - Refers to the left side as you face the component being described.
- Data sizes are reported in base 10 (decimal) rather than base 2¹⁰ (binary). For example:
10,995, 116,277,769 Bytes are reported as 11.0 TB (decimal/1000). In binary, this value is 10 TiB (binary/1024).

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For the most up to date information on StorNext 6 and StorNext FX 6, see:

<http://www.quantum.com/serviceandsupport/get-help/index.aspx#contact-support>

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<http://www.quantum.com/aboutus/contactus/index.aspx>

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Worldwide End-User Product Warranty

For more information on the Quantum Worldwide End-User Standard Limited Product Warranty:

<http://www.quantum.com/serviceandsupport/warrantyinformation/index.aspx>



Chapter 1: StorNext License Types

This chapter contains the following topics:

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StorNext Licenses

License Type	Description
Certified Disk	A Certified Disk license allows a Metadata Controller (MDC) to use a specified amount of Quantum-certified disks. For additional information, see StorNext Disk Licensing on page 39 and StorNext Disk Certification Catalog (DCC) on page 41 .
Encryption	An Encryption license is required to create encryption keys and use them in storage manager policies for client-side encryption.


License Type	Description
FlexTier™ Private Cloud Subscription	<p>A FlexTier™ for Private Cloud Subscription license enables StorNext Storage Manager to manage data residing on a Quantum Lattus P-100 or X-100, or Quantum Approved 3rd Party object storage platforms.</p> <ul style="list-style-type: none">Note: A minimum requirement of StorNext 6.0.5 (or later) is necessary in order to obtain and install a FlexTier™ Private Cloud Subscription license.Note: FlexTier™ licenses are purchased and renewed periodically. If your FlexTier™ license expires prior to being renewed, or if you exceed the amount of licensed capacity, Storage Manager does not store new files to the destination.
FlexTier™ Public Cloud Subscription	<p>A FlexTier™ Public Cloud Subscription license allows StorNext Storage Manager to store data onto a supported public cloud destination such as Amazon S3 or Microsoft Azure.</p> <ul style="list-style-type: none">Note: A minimum requirement of StorNext 6.0.5 (or later) is necessary in order to obtain and install a FlexTier™ Public Cloud Subscription license.Note: FlexTier™ licenses are purchased and renewed periodically. If your FlexTier™ license expires prior to being renewed, or if you exceed the amount of licensed capacity, Storage Manager does not store new files to the destination.Caution: If you have installed a FlexTier™ Public Cloud Subscription license and are running any release prior to StorNext 6.0.5, see Product Bulletin 100.
LAN Client	<p>StorNext LAN Clients use IP protocols to read and write data to the StorNext File System through Quantum appliances that can operate as a StorNext LAN Gateway. You must have a LAN Client license for each LAN Client you intend to use with StorNext (in addition to any SAN Client licenses).</p> <ul style="list-style-type: none">Note: For Quantum appliances that can operate as a StorNext LAN Gateway, LAN Clients are referred to as Gateway Clients, and are not licensed on a "per-seat" basis. See the StorNext LAN Gateway License on page 20.
Maintenance	<p>A Maintenance license is associated with the expiration date of your current service contract. A valid Maintenance License is required to enable StorNext software upgrades. This license is a time-based license key that expires on the same date as the maintenance contract. Each time the maintenance contract is extended, a new maintenance license key is generated.</p> <ul style="list-style-type: none">Note: License enforcement is based on the date of the software to which you are upgraded, regardless of the current date. For example, if your maintenance license key is valid between January 16th, 2017 and January 16th, 2018, you could upgrade to a software version that is released prior to the expiration date of the maintenance license (and of the associated underlying service contract) expiration date, but not to a version released after January 16th, 2018. <p>See Quantum Appliance Licenses on page 11 for information about Maintenance Licenses on StorNext appliances.</p>

License Type	Description
Object Storage	<p>The Object Storage license specifies the amount of data that StorNext Storage Manager can place onto a Quantum Lattus object store platform.</p> <p>The Object Storage license must be installed on supported Quantum appliances and MDC with dedicated 10GbE NIC connections in order to configure StorNext to use Object Storage as a storage destination. Prior to StorNext 5 Release 5.1, this license was called SNSM Wide Area Storage, which was first supported in StorNext 4.6. This license name was deprecated in StorNext 5 Release 5.1, and is superseded by the Object Storage license.</p>
SAN Client	<p>A StorNext SAN Client enables a host computer to mount a StorNext file system with direct block-level access to the disk arrays using Fibre Channel or iSCSI connections. The StorNext file system is licensed on a per-client basis. Any machine that directly mounts the file system is considered a client.</p>
SNSM Wide Area Storage	<p>The StorNext Storage Manager (SNSM) for Wide Area Storage (WAS) license was used to enable Object Storage access for supported Quantum appliances and WAS-capable MDCs configured for use with Lattus systems. This license is deprecated in StorNext 5 release 5.1. For systems running StorNext 5 release 5.1 or later, see the Object Storage license.</p> <p>The SNSM Wide Area Storage license is installed but not enabled by default as part of StorNext 4.6.x until StorNext 5 release 5.1, and from StorNext 5 release 5.1 forward the Object Storage license for supported Quantum Appliances and MDCs. A license key must be applied through the StorNext GUI in order to enable the license.</p>
Storage Manager	<p>StorNext Storage Manager is licensed based on the capacity of data stored to secondary tiers of storage (Tape or Storage Disk).</p> <p>For StorNext 5 releases 5.4 and later, a Storage Manager <i>manager</i> license provides full access to the base functionality of StorNext Storage Manager.</p> <p>Support for non-Quantum object storage on public or private clouds are licensed using the annual capacity-based subscription model (see the FlexTier™ subscription licenses).</p> <p>For StorNext 5 releases up to and including 5.3.x, a Storage Manager license provides full access to the data management capabilities of Storage Manager.</p>
StorNext FX	<p>A StorNext FX license enables a StorNext FX client, or a StorNext SAN client, to connect to an Apple Xsan MDC and mount an Xsan file system with direct block level access to disk arrays using Fibre Channel or iSCSI connectivity. StorNext FX is licensed on a per-client basis. Any machine that directly mounts the file system is considered a client. StorNext FX licenses are applied on the Xsan MDC.</p>
StorNext LAN Gateway	<p>A StorNext LAN Gateway license is a StorNext SAN Client that allows LAN-based client connectivity to a StorNext File System.</p>
Uncertified Disk	<p>An Uncertified Disk license allows a Metadata Controller (MDC) to use a specified amount of non-Quantum-certified disks. For additional information, see StorNext Disk Licensing on page 39 and StorNext Disk Certification Catalog (DCC) on page 41.</p>

Licenses for Features

i Note: The **Checksum** license key is no longer required to enable Generation and Validation of checksums within a Policy. Existing checksum license keys are ignored, and new licenses do not include checksum licenses keys.

Feature License	Description
Alternate Store Location	An Alternate Store Location license is required for the automated copying of files from a main instance of StorNext to a remote instance of StorNext. For additional information, see the section "Alternate Store Location" in the <i>StorNext User's Guide</i> .
Deduplication	A deduplication license is required to use the StorNext Data Deduplication (blockpool) feature. This license is available for either File System only or Storage Manager environments. Deduplication is licensed per terabyte (TB) of the blockpool.
Distributed Data Mover (DDM)	A DDM license is required to retrieve data using additional servers besides the system functioning as a StorNext metadata controller (MDC). This license is available only for Storage Manager environments, and is required for each DDM host. i Note: Each DDM host also requires one File System SAN Client license, in addition to the DDM license.
Dynamic Application Environment (DAE)	A Dynamic Application Environment (DAE) license allows virtual machine (VM) environments to be installed on the system. DAE-supported applications can be installed and run in the VM operating system. DAE-supported systems: <ul style="list-style-type: none">• aiWARE for Xcellis Embedded (DAE)• Xcellis Foundation• Xcellis Workflow Director• Artico (R630) i Note: While multiple DAE VMs may be installed (or imported) and configured for use on the system, only one (1) VM can be operating a time. i Note: aiWARE for Xcellis systems host a VM environment which is similar to, but different from a DAE VM. While not recommended, aiWARE for Xcellis Embedded (DAE) systems can be licensed simultaneously for both aiWARE and DAE. However, only a DAE VM or the aiWARE VM can be operational at a single time. When a DAE VM is running, the aiWARE VM docker is prevented from running. Likewise, when the aiWARE VM is running, a DAE VM is prevented from running.

Feature License	Description
Failover (HA)	A Failover HA (High Availability) license enables automated failover from the primary server node to the secondary server node, in the event of a primary server node failure. This license is available for either File System only or Storage Manager environments. One HA license is required for each server node pair. The HA license is applied to both server nodes. In addition to the client licenses applied to each server node, a third client must be installed in is also required to ensure proper failover functionality. This client can be one that is already accessing a StorNext file system. However, this third client must be purchased separately. See the StorNext File System Client Mount Requirement .
FlexSpace™	FlexSpace is a separately licensed feature that allows one or more FlexSpace clients to leverage cloud-based storage to create sharable work-spaces distributed across multiple StorNext systems. See the FlexSpace Documentation Center for additional details.
FlexSync™	FlexSync is a licensed feature that uses advanced metadata capabilities to create local or remote replicas of an entire file system, or any portion of a file system. FlexSync solutions are easily configured using a simple, but powerful user interface, deliver sustained scalable performance, and are very resource efficient. Whether protecting files locally or across a network connection, FlexSync creates file replicas in near real time to ensure that file data is protected and easily recoverable. See the FlexSync Licensing Guidelines section available in the FlexSync Documentation Center for additional details.
NAS	A NAS license is used to enable Network File Sharing (NFS) and Server Message Block (SMB) sharing of StorNext file systems using Quantum-supplied NFS and SMB software. <div data-bbox="381 1096 1458 1339" style="background-color: #e6f2ff; padding: 10px;"><p>Additional Resources</p><ul style="list-style-type: none">• Learn more about Xcellis Scale-out NAS: www.quantum.com/products/scale-out-storage/nas/index.aspx• Watch a video featuring Quantum's Molly Presley discussing the new Xcellis Scale-out NAS appliance: www.quantum.com/nas-video</div> <p>For StorNext Connect configuration, see the StorNext Connect Documentation Center at www.quantum.com/sncdocs.</p> <p>For Appliance Controller configuration, see the Appliance Controller Documentation Center at www.quantum.com/accdocs.</p>
Archive Conversion	An Archive Conversion Utility (ACU) license is required to enable the reading and migrating of a non-StorNext Storage Manager archive into StorNext. An ACU license is only available as part of a Quantum professional services project. <p> Note: Contact your Quantum sales representative for more information about Archive Conversion Utility.</p>

Feature License	Description
Partial File Retrieval (PFR)	A StorNext Partial File Retrieval (PFR) license enables you to quickly retrieve and use segments of large media files, rather than the entire file, based on timecode parameters. PFR licenses are not included in the license.dat file. PFR uses a different licensing and installation process, as described in the StorNext PFR 1.2 Users Guide .
Replication	<p>A replication license is required if you want to use the StorNext Data Replication feature. Replication is licensed on a per-MDC (or MDC pair) basis. If replication is used between multiple MDC sets, each MDC set must have a replication license. If deduplication is used in conjunction with replication, a separate deduplication license is also required.</p> <p>i Note: There are two types of replication licenses - the File System only Replication license, and the Storage Manager replication license. If Storage Manager is in use on the MDCs, the Storage Manager replication license must be purchased even if the file system being replicated is not managed.</p>
Storage Disk	You must have a Storage Disk (SDISK) license to configure and use StorNext storage disks. This license enables the SDISK feature, but data written still counts toward the per TB capacity of the Storage Manager.
Vaulting	<p>A Vault Option license allows you to move seldom-used media from a Quantum or supported third-party library to a manual archive vault, freeing room for media in the managed archives. This license is available only for Storage Manager environments.</p> <p>If a vault option license is purchased, any data that is stored in a vault does not apply to the Storage Manager capacity license.</p>

Information Contained within a License File

[Table 1 below](#) illustrates the type of information contained within a license file.

Table 1: Parameters and Values Found Within a License File

License Parameter	License Value
Product	server
System	Your System Name
Company	Your Company Name
Serial Number	Your Serial Number
Identifier	C201F8620
Number of Clients	1

License Parameter	License Value
Expiration	mm-dd-yyyy
License	AAAAA/DAAAE/AJCLJ/9S2WA/M7RA9/9NH4W/XTL7T/5ARNQ/TYYRJ/4J222/RS
Authorization String	server 1 C201F8620 1 AAAAADAAAEAJCLJ9S2WAM7RA99NH4WXTL7T5ARNQTYRJ4J222RS <Your System Name> <Your Company Name> <Your Serial Number>

Note: The **Authorization String** license value includes a prefix applicable to the type of license. In the example below, it is server.

```
Authorization String: server 1 C201F8620 1
AAAAADAAAEAJCLJ9S2WAM7RA99NH4WXTL7T5ARNQTYRJ4J222RS <Your System Name> <Your Company Name> <Your Serial Number>
```

[Table 2 below](#) provides a conversion table illustrating the type of license and its equivalent prefix as shown in the **Authorization String** license value.

Table 2: Authorization String License Value Conversion

License Type	License Name in Authorization String
Certified Disk	disk_certified
Checksum	checksum
Deduplication	dedup
Distributed Data Mover (DDM)	ddm
Dynamic Application Environment (DAE)	dae
Encryption	encryption
Failover (HA)	failover
FlexSpace	flexspace
FlexSync	flexsync
FlexTier Private Cloud Subscription	flex_private_cloud
FlexTier Public Cloud Subscription	flex_public_cloud
Gateway Licensed MDC	gateway
LAN Client	proxy

License Type	License Name in Authorization String
Maintenance	maintenance
NAS	nas
Object Storage	object_storage
Replication	replication
SAN Client	server
SNFS Wide Area Storage	snfs_was
SNSM Wide Area Storage	snsnsm_was
	i Note: The SNSM Wide Area Storage license was deprecated in StorNext 5 release 5.1, and renamed to the Object Storage license.
Storage Disk	sdisk
Storage Manager	manager
Uncertified Disk	disk_uncertified
Vaulting	vaulting

Information Regarding the Multi-mount Feature

The Multi-mount feature enables StorNext File System SAN or LAN clients to mount file systems from multiple StorNext Metadata Controllers (MDCs). Multi-mounting is sometimes referred to as cross-mounting. A Multi-mount feature is actually a package of features to enable clients to mount multiple MDCs.

i **Note:** A Multi-mount feature is a mechanism for purchasing a single set of client features for more than one StorNext MDC set (single or pair), rather than purchasing a separate set of client features for each StorNext MDC set. There is no Multi-mount item in the license list, and there is no Multi-mount specific configuration.

The multi-mount fee covers the administrative costs of having multiple MDC sets (single MDCs or failover pairs of MDCs) presenting file systems to one or more common StorNext clients. For each MDC set (single or pair) beyond the first MDC set, a multi-mount option is required. For example, if there are 20 clients that need to access file systems on 3 sets of MDC pairs, two multi-mount options are required, one for each of the second and third MDC pairs.

i **Note:** Additional StorNext features are not included with the multi-mount feature. If additional features are needed, they must be purchased separately. In particular, multi-mount does not cover the Group Logic LAN clients, Group Logic Archive connect, which are licensed on the Group Logic LAN server, rather than the StorNext MDC. All environments participating in multi-mount must be at the same software support level, and have the same support contract termination date.

i **Note:** The **Partial File Retrieval** (PFR) feature must be installed separately. For information about installing and licensing Partial File Retrieval, refer to Chapter 3 and Chapter 4 in the [StorNext PFR 1.2 Users Guide](#).



Chapter 2: StorNext Licenses for Xcellis, Metadata Appliances and the G300

This chapter contains the following topics:

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Quantum Appliance Licenses

The following Licenses apply to Quantum appliances hosting StorNext software.

i Note: Do not mix auto-generated/evaluation and permanent licenses. When one or more permanent licenses are entered in StorNext, all auto-generated/evaluation licenses are deleted. If an auto-generated or evaluation license period is used to evaluate new features, be aware that any remaining time on those licenses is lost as soon as one or more permanent licenses is entered. Maintenance and LAN Client licenses can be mixed with other types of licenses. After permanent licenses are entered, do not install an evaluation license.

Xcellis Foundation Licenses

Pre-Installed StorNext Licenses

License Name	Quantity/Capacity/Specifics
LAN Client	For this system, LAN Client licenses are not included, and must be purchased separately. i Note: For this system, when configured as a StorNext LAN Gateway, its LAN Clients are referred to as Gateway Clients, and are not licensed on a "per-seat" basis. See the StorNext LAN Gateway license.
Maintenance	The Maintenance License comes with 12 months of Bronze-level support. At the time of installation, the Maintenance License is typically updated to correspond exactly to the duration of the service contract.
SAN Client	

Optional Supported StorNext Feature Licenses

License Name	Quantity/Capacity/Notes
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StorNext Feature Licenses Not Supported

License Name	Quantity/Capacity/Notes
Other Supported StorNext Features	All other optional StorNext features are not supported

aiWARE for Xcellis Embedded (DAE) Licenses

Pre-Installed StorNext Licenses

License Name	Quantity/Capacity/Specifics
LAN Client	<p>For this system, LAN Client licenses are not included, and must be purchased separately.</p> <p>i Note: For this system, when configured as a StorNext LAN Gateway, its LAN Clients are referred to as Gateway Clients, and are not licensed on a "per-seat" basis. See the StorNext LAN Gateway license.</p>
Maintenance	<p>The Maintenance License comes with 12 months of Bronze-level support. At the time of installation, the Maintenance License is typically updated to correspond exactly to the duration of the service contract.</p>
SAN Client	

Optional Supported StorNext Feature Licenses

License Name	Quantity/Capacity/Notes
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StorNext Feature Licenses Not Supported

License Name	Quantity/Capacity/Notes
Other Supported StorNext Features	All other optional StorNext features are not supported

Xcellis Workflow Director Licenses

Pre-Installed StorNext Licenses

License Name	Quantity/Capacity/Specifics
LAN Client	<p>For this system, LAN Client licenses are not included, and must be purchased separately.</p> <p>i Note: For this system, when configured as a StorNext LAN Gateway, its LAN Clients are referred to as Gateway Clients, and are not licensed on a "per-seat" basis. See the StorNext LAN Gateway license.</p>

License Name	Quantity/Capacity/Specifics
Maintenance	The Maintenance License comes with 12 months of Bronze-level support. At the time of installation, the Maintenance License is typically updated to correspond exactly to the duration of the service contract.
SAN Client	

Optional Supported StorNext Feature Licenses

License Name	Quantity/Capacity/Notes
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StorNext Feature Licenses Not Supported

License Name	Quantity/Capacity/Notes
Other Supported StorNext Features	All other optional StorNext features are not supported

aiWARE for Xcellis Standard and High Performance Licenses

Pre-Installed StorNext Licenses

License Name	Quantity/Capacity/Specifics
LAN Client	For this system, LAN Client licenses are not included, and must be purchased separately. i Note: For this system, when configured as a StorNext LAN Gateway, its LAN Clients are referred to as Gateway Clients, and are not licensed on a "per-seat" basis. See the StorNext LAN Gateway license.
Maintenance	The Maintenance License comes with 12 months of Bronze-level support. At the time of installation, the Maintenance License is typically updated to correspond exactly to the duration of the service contract.
SAN Client	

Optional Supported StorNext Feature Licenses

License Name	Quantity/Capacity/Notes
--------------	-------------------------

StorNext Feature Licenses Not Supported

License Name	Quantity/Capacity/Notes
Other Supported StorNext Features	All other optional StorNext features are not supported

Xcellis Workflow Extender (R630) Licenses

Pre-Installed StorNext Licenses

License Name	Quantity/Capacity/Specifics
LAN Client	<p>For this system, LAN Client licenses are not included, and must be purchased separately.</p> <p>i Note: For this system, when configured as a StorNext LAN Gateway, its LAN Clients are referred to as Gateway Clients, and are not licensed on a "per-seat" basis. See the StorNext LAN Gateway license.</p>
Maintenance	The Maintenance License comes with 12 months of Bronze-level support. At the time of installation, the Maintenance License is typically updated to correspond exactly to the duration of the service contract.
SAN Client	

Optional Supported StorNext Feature Licenses

License Name	Quantity/Capacity/Notes
--------------	-------------------------

StorNext Feature Licenses Not Supported

License Name	Quantity/Capacity/Notes
Other Supported StorNext Features	All other optional StorNext features are not supported

Xcellis Workflow Extender (R520) Licenses

Pre-Installed StorNext Licenses

License Name	Quantity/Capacity/Specifics
LAN Client	<p>For this system, LAN Client licenses are not included, and must be purchased separately.</p> <p>i Note: For this system, when configured as a StorNext LAN Gateway, its LAN Clients are referred to as Gateway Clients, and are not licensed on a "per-seat" basis. See the StorNext LAN Gateway license.</p>
Maintenance	<p>The Maintenance License comes with 12 months of Bronze-level support. At the time of installation, the Maintenance License is typically updated to correspond exactly to the duration of the service contract.</p>
SAN Client	

Optional Supported StorNext Feature Licenses

License Name	Quantity/Capacity/Notes

StorNext Feature Licenses Not Supported

License Name	Quantity/Capacity/Notes
Other Supported StorNext Features	All other optional StorNext features are not supported

Artico (R630) Licenses

Pre-Installed StorNext Licenses

License Name	Quantity/Capacity/Specifics
LAN Client	<p>For this system, LAN Client licenses are not included, and must be purchased separately.</p> <p>i Note: For this system, when configured as a StorNext LAN Gateway, its LAN Clients are referred to as Gateway Clients, and are not licensed on a "per-seat" basis. See the StorNext LAN Gateway license.</p>
Maintenance	<p>The Maintenance License comes with 12 months of Bronze-level support. At the time of installation, the Maintenance License is typically updated to correspond exactly to the duration of the service contract.</p>
SAN Client	

Optional Supported StorNext Feature Licenses

License Name	Quantity/Capacity/Notes
--------------	-------------------------

StorNext Feature Licenses Not Supported

License Name	Quantity/Capacity/Notes
Other Supported StorNext Features	All other optional StorNext features are not supported

Artico (R520) Licenses

Pre-Installed StorNext Licenses

License Name	Quantity/Capacity/Specifics
LAN Client	<p>For this system, LAN Client licenses are not included, and must be purchased separately.</p> <p>i Note: For this system, when configured as a StorNext LAN Gateway, its LAN Clients are referred to as Gateway Clients, and are not licensed on a "per-seat" basis. See the StorNext LAN Gateway license.</p>
Maintenance	<p>The Maintenance License comes with 12 months of Bronze-level support. At the time of installation, the Maintenance License is typically updated to correspond exactly to the duration of the service contract.</p>
SAN Client	

Optional Supported StorNext Feature Licenses

License Name	Quantity/Capacity/Notes
--------------	-------------------------

StorNext Feature Licenses Not Supported

License Name	Quantity/Capacity/Notes
Other Supported StorNext Features	All other optional StorNext features are not supported

Pro Foundation Licenses

Pre-Installed StorNext Licenses

License Name	Quantity/Capacity/Specifics
LAN Client	<p>For this system, LAN Client licenses are not included, and must be purchased separately.</p> <p>i Note: For this system, when configured as a StorNext LAN Gateway, its LAN Clients are referred to as Gateway Clients, and are not licensed on a "per-seat" basis. See the StorNext LAN Gateway license.</p>
Maintenance	<p>The Maintenance License comes with 12 months of Bronze-level support. At the time of installation, the Maintenance License is typically updated to correspond exactly to the duration of the service contract.</p>
SAN Client	

Optional Supported StorNext Feature Licenses

License Name	Quantity/Capacity/Notes
--------------	-------------------------

StorNext Feature Licenses Not Supported

License Name	Quantity/Capacity/Notes
Other Supported StorNext Features	All other optional StorNext features are not supported

M660 Licenses

Pre-Installed StorNext Licenses

License Name	Quantity/Capacity/Specifics
LAN Client	<p>For this system, LAN Client licenses are not included, and must be purchased separately.</p> <p>i Note: For this system, when configured as a StorNext LAN Gateway, its LAN Clients are referred to as Gateway Clients, and are not licensed on a "per-seat" basis. See the StorNext LAN Gateway license.</p>

License Name	Quantity/Capacity/Specifics
Maintenance	The Maintenance License comes with 12 months of Bronze-level support. At the time of installation, the Maintenance License is typically updated to correspond exactly to the duration of the service contract.
SAN Client	

Optional Supported StorNext Feature Licenses

License Name	Quantity/Capacity/Notes
--------------	-------------------------

StorNext Feature Licenses Not Supported

License Name	Quantity/Capacity/Notes
Other Supported StorNext Features	All other optional StorNext features are not supported

M440 Licenses

Pre-Installed StorNext Licenses

License Name	Quantity/Capacity/Specifics
LAN Client	For this system, LAN Client licenses are not included, and must be purchased separately. i Note: For this system, when configured as a StorNext LAN Gateway, its LAN Clients are referred to as Gateway Clients, and are not licensed on a "per-seat" basis. See the StorNext LAN Gateway license.
Maintenance	The Maintenance License comes with 12 months of Bronze-level support. At the time of installation, the Maintenance License is typically updated to correspond exactly to the duration of the service contract.
SAN Client	

Optional Supported StorNext Feature Licenses

License Name	Quantity/Capacity/Notes
--------------	-------------------------

StorNext Feature Licenses Not Supported

License Name	Quantity/Capacity/Notes
Other Supported StorNext Features	All other optional StorNext features are not supported

G300 Licenses

Pre-Installed StorNext Licenses

License Name	Quantity/Capacity/Specifics
LAN Client	<p>For this system, LAN Client licenses are not included, and must be purchased separately.</p> <p>Note: For this system, when configured as a StorNext LAN Gateway, its LAN Clients are referred to as Gateway Clients, and are not licensed on a "per-seat" basis. See the StorNext LAN Gateway license.</p>
Maintenance	<p>The Maintenance License comes with 12 months of Bronze-level support. At the time of installation, the Maintenance License is typically updated to correspond exactly to the duration of the service contract.</p>
SAN Client	

Optional Supported StorNext Feature Licenses

License Name	Quantity/Capacity/Notes
--------------	-------------------------

StorNext Feature Licenses Not Supported

License Name	Quantity/Capacity/Notes
Other Supported StorNext Features	All other optional StorNext features are not supported

M330 Licenses

Pre-Installed StorNext Licenses

License Name	Quantity/Capacity/Specifics
LAN Client	For this system, LAN Client licenses are not included, and must be purchased separately. i Note: For this system, when configured as a StorNext LAN Gateway, its LAN Clients are referred to as Gateway Clients, and are not licensed on a "per-seat" basis. See the StorNext LAN Gateway license.
Maintenance	The Maintenance License comes with 12 months of Bronze-level support. At the time of installation, the Maintenance License is typically updated to correspond exactly to the duration of the service contract.
SAN Client	

Optional Supported StorNext Feature Licenses

License Name	Quantity/Capacity/Notes
--------------	-------------------------

StorNext Feature Licenses Not Supported

License Name	Quantity/Capacity/Notes
Other Supported StorNext Features	All other optional StorNext features are not supported

StorNext LAN Gateway License

This license, allows the system to operate as a StorNext LAN Gateway that provides StorNext LAN client access to StorNext File Systems (snfs), once the license is installed and gateway configuration on the system is done.

The Gateway license allows adding LAN-based clients to the StorNext configuration without having to purchase additional "per-seat" LAN client licenses. This license allows as many LAN client connections as can be accommodated by the throughput of the Gateway system itself. If your StorNext environment has previously been set up with DLC clients, you will be limited to the existing client DLC license count until you disable the DLC clients and install gateway clients on those systems.

The Licenses Page in the StorNext GUI

The two parts of the Gateway license displayed in the StorNext GUI of the StorNext system monitoring the Gateways:

Gateway Licensed MDC - This is the Gateway license as shown on the license page of the StorNext GUI on supported systems. The Gateway license used on those systems is identical to the license on Xcellis

Workflow Extender and the G300, with the same features and restrictions. The license is shown as active (green indicator) only when the Gateway functionality has been enabled on the host system.

Gateway Client - All installed Gateway LAN clients used in conjunction with the Gateway license are displayed as "Gateway client" in the **Gateway Metrics report** in the StorNext GUI of the system monitoring the Gateway.

-
- i Note:** The StorNext GUI on appliances operating as StorNext MDCs configured to monitor the gateway, provides a Gateway metrics report which contains statistics on gateway usage.
-
- i Note:** The M662 may only operate as a StorNext LAN Gateway when not connected to a Lattus system.
-
- i Note:** There is a maximum of one StorNext LAN Gateway License supported per StorNext cluster that contains one or more Xcellis Workflow Director systems.



Chapter 3: License Expiration and Limits

This chapter contains the following topics:

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License Expiration and Limits

Each StorNext feature license has a license expiration date (shown in the **Expires** column) and a limit shown in the **Limit** column of the Licenses page of the StorNext GUI. The number displayed is the licensed capacity for files being managed by the StorNext software.

For StorNext MDCs

The following is an explanation of the limit for each feature as it pertains to licensing on StorNext MDCs:

- **File System:** The number displayed is the maximum number of SAN clients allowed.
- **LAN Clients:** The number displayed is the maximum number of LAN clients allowed.
- **Gateway:** The Gateway License does not have an associated capacity.
- **Storage Manager:** All data that is written to a Storage disk and/or non-AEL tape library, and is retrievable by any means applies to the Storage Manager capacity license. Raw file capacity is used for these calculations even if the tape drive compresses the data or if the target Storage Disk file system uses deduplication (see the Data Deduplication license). Each copy and each file version applies to the

Storage Manager capacity license. Deleted data and expired versions do not automatically free up space towards the licensed capacity. Deleted files and expired versions do not reclaim licensed space until the space is recovered using administrative functions.

The Storage Manager capacity license does not include the primary file system capacity or any data stored on tapes that reside in a vault. Disk-to-disk-relocation stores all data in the primary file system, and therefore there is no impact to the Storage Manager capacity license for using disk-to-disk-relocation as defined in the Storage Manager Policy Class.

i Note: The capacity for storage disks does not include “dead space” but does include *all* data on the file system where the storage disk has been configured, not just files copied to the file system by the Storage Manager. To maximize the licensed Storage Manager capacity, the storage disk file systems should be restricted to Storage Manager data only. If your storage disk contains user data you should consider moving that data to an alternate location prior to performing a StorNext upgrade.

If you are unsure about the location of the Storage Manager data on a file system run the command `fsdiskcfg` with no arguments. This command produces a report on the configured storage disks and the location of the managed data on each file system. The “Path” column in the command output indicates the directory containing the managed data.

- **Replication:** The Replication license, if present, enables the use of replication and does not have an associated capacity (component). You must have a license for both the source and target machines.
- **Deduplication:** Data deduplication is licensed based on the disk space used for the deduplication repository not on the raw size of the files that are deduplicated. The number displayed on the StorNext License screen is the size of the blockpool. The capacity is tracked to the nearest terabyte.
- **Vaulting:** If a vaulting license is purchased, any data that is stored in a vault does not apply to the Storage Manager capacity license.

i Note: Vaulting works with Quantum and supported third-party libraries.

- **Storage Disk:** Data stored in a Storage Disk is also “charged” against the Storage Manager license capacity.
- **Object Storage:** Data stored in a Lattus system is only “charged” against the Object Storage license capacity, and does not apply the Storage Manager capacity license.
- **Distributed Data Mover (DDM):** The number displayed is the maximum number of DDM servers that can be used to run mover processes.
- **Failover (HA):** If present, a Failover license does not have an associated capacity.
- **Maintenance:** The date displayed is when your Maintenance license expires. You cannot upgrade to a version of software whose release date is later than the Maintenance license expiration date. You can, however, upgrade if the release date is **prior** to your expiration date. For example, if your maintenance license expires in December, 2010 and a new version of StorNext is released in November 2010, you can upgrade to this new version at any time, even if you don’t get around to upgrading until some time in 2011.

Xsan and StorNext FX Clients

For Xsan environments, the following applies:

- **Note:** StorNext FX clients are not displayed in the Xsan Admin tool.
- **Xsan Clients:** An Xsan customer can use an unlimited number of Xsan clients when connected to an StorNext MDC.
- **StorNext FX Clients:** StorNext FX clients require a “per-seat” license.



Chapter 4: Auto-Generated and Evaluation Licenses

This chapter contains the following topics:

Auto-Generated and Evaluation Licenses	25
Licensing and Upgrades	26

Auto-Generated and Evaluation Licenses

A permanent license (as opposed to an evaluation or auto-generated license) allows use of the licensed StorNext feature until it expires. If the `license.dat` file does not contain permanent licenses, StorNext produces an auto-generated license with an expiration date for all StorNext products and features except Deduplication. In some cases Quantum may provide evaluation licenses for features. Evaluation licenses also have a fixed expiration date.

Beyond the evaluation period, a permanent license is required to configure or use StorNext features.

i Note: Do not mix auto-generated and evaluation license keys with permanent license keys. When one or more permanent license keys are entered in StorNext, ensure all auto-generated and evaluation licenses are deleted. If an auto-generated or evaluation license period is used to evaluate new features, be aware that any remaining time on those licenses is lost as soon as one or more permanent licenses is entered. One exception to note, Maintenance license keys are tied to the service contract and will always have an expiration date, even if the other license keys are permanent. After permanent licenses are entered, do not install an evaluation license.

Once a license expires (either auto-generated or evaluation) access to the licensed feature is suspended. In general, this means access to the feature is no longer available, with the following exceptions:

- When the Manager license expires, read-only access is still provided to any previously stored data
- When the Maintenance license expires, access to all licensed features remains intact but the site cannot upgrade to a version of the StorNext software released after the expiration date

i Note: When one license expires they all expire, with the exception of the Maintenance and LAN Client licenses.

Licensing and Upgrades

Be aware of the following upgrade-related licensing implications and plan accordingly:

- A Maintenance license with an expiration date newer than the release date of the StorNext software is required to perform a StorNext upgrade.
- The Maintenance license provided by Quantum Technical Support must be put into place prior to the upgrade, or you will not be allowed to proceed with the upgrade. This step is done by importing the `license.dat` file on the **Configuration > Licenses** screen of the StorNext GUI.
- You will still be allowed to run StorNext if the Maintenance license expires. However, no future upgrades will be allowed.
- The Maintenance license must remain in place even after expiration to allow the StorNext software to run. Do not remove the Maintenance license.
- If you are ready to upgrade and then notice that the Storage Manager capacity has been exceeded, you must either upgrade your capacity license or free up space in the relevant media. This can be done by removing unneeded data, or possibly through defragmentation of the tape media. See the *StorNext 5 User's Guide* for details on tape media defragmentation.



Chapter 5: Enable and Install Licenses

This chapter contains the following topics:

Obtain and Install StorNext Licenses – GUI-based Appliances and Customer-supplied MDCs	27
Install Optional StorNext Add-on Software Features and Clients from the StorNext MDC GUI	33
Configure Licenses for RPM-only Installations	33

Obtain and Install StorNext Licenses – GUI-based Appliances and Customer-supplied MDCs

StorNext and some StorNext feature licenses are pre-installed on your system, and others must be purchased and then enabled by installing a license.dat file on the system. If your system is using a 30-day auto-generated license, you should upload a license file containing permanent licenses as soon as it is convenient, so that the **Maintenance** expiration date and the (**FlexTier™**) subscription date for the license is set correctly on the system.

i Note: You can determine the current license limits for many StorNext features, such as SAN clients, LAN clients, DDM, and Storage Manager licenses, on the **Configuration > Licenses** page of the StorNext GUI and on the Quantum **License Key Management** page available online at <http://www.quantum.com/licensekeys>.

Obtain StorNext Licenses

Prerequisites

In order to receive a license file (`license.dat`) to enable StorNext features or capacity, you will need the following:

- The **System Serial Number** or the **StorNext Software Serial Number**.

System serial numbers and StorNext software serial numbers are alphanumeric. The table below provides examples of serial numbers.

Type of Serial Number	Example(s) of Serial Number(s)
System Serial Number	AV1607CKH12345 CX1306CKB12345 EW1450CKD12345
StorNext Software Serial Number	SN12345

- The `cvfsid` string for each server node. See [How to Generate a cvfsid for Linux and Unix Configurations on the next page](#), [How to Generate a cvfsid for Windows Configurations on page 30](#), or [How to Generate a cvfsid for Xsan Configurations on page 30](#), depending on your configuration.

Example: `ECF4BCEECC0E linux 0 xcellis13`

The table below provides information regarding which configurations require one `cvfsid` string or two `cvfsid` strings.

Configurations Requiring One <code>cvfsid</code> String	Configurations Requiring Two <code>cvfsid</code> Strings
<ul style="list-style-type: none"> • Customer-configured MDC without an HA license • Xcellis Workflow Extender • G300 • Xcellis Workflow Director (single-node systems only) • Artico (single-node systems only) • Xcellis Foundation (single-node systems only) • aiWARE for Xcellis Standard and High Performance • StorNext FX 	<ul style="list-style-type: none"> • Customer-configured MDC with an HA license • Xcellis Workflow Director (dual-node systems only) • Xcellis Foundation (dual-node systems only) • Artico (dual-node systems only) • aiWARE for Xcellis Embedded (DAE) • Pro Solutions • M660 • M440 • M330

How to Obtain a New StorNext license.dat File

1. Visit the Quantum **License Key Management** page at <http://www.quantum.com/licensekeys>. If you cannot access the web page or need additional help, contact Quantum Support at <http://www.quantum.com/ServiceandSupport>.
2. Enter your serial number in the **Serial Number** field.
3. Click **Submit**. The license(s) associated with the serial number you entered in **Step 2** are displayed in the **License Details** section.

i Note: If you have not previously entered a `cvfsid` for the serial number, enter the strings in the **CVFSID 1** or **CVFSID 2** fields and then click **Set CVFSID**. See [How to Generate a cvfsid for Linux and Unix Configurations below](#), [How to Generate a cvfsid for Windows Configurations on the next page](#), or [How to Generate a cvfsid for Xsan Configurations on the next page](#), depending on your configuration. The **CVFSIDs** sub-section under **License Details** is updated with the `cvfsid` value (s) for the serial number.

⚠ Caution: Ensure your `cvfsid` value(s) are correct. Once entered and submitted, they cannot be changed.

i Note: At any time after you have submitted your serial number, you may enter another serial number by clicking **Choose Another**.

4. Click **Generate License Key File** once the `cvfsid` value(s) have been entered.

i Note: There may be some cases where the Quantum **License Key Management** site will not be able to generate a license file. In this case, you are re-directed to an alternate web page to continue the process.

5. Save the `license.dat` file to a temporary location on your computer. You will upload this file on the **Licenses** page of the StorNext GUI. To install the licenses in the `license.dat` file, use the [Install a StorNext License from the GUI for non-HA Installations](#) procedure if you have a single-node StorNext MDC, or use the [Install/Update Licenses from the GUI for HA Installations](#) procedure if you have a High Availability (HA) StorNext MDC pair.

How to Generate a cvfsid for Linux and Unix Configurations

Follow this procedure to generate the `cvfsid` on the command line of the MDC/server node:

1. Open an SSH connection to the appropriate server and use the IP address assigned to the node on the Management or LAN Client network, or use the Service Port IP address, if connected to the Service Port.

Service Port IP addresses (if used):

- Node 1 : 10.17.21.1
- Node 2 : 10.17.21.2

i Note: Node 2 is the server node sold with single-node (non-HA) Workflow Director and Artico systems.

2. Log in to the server node with the following credentials:
 - User name: **stornext**
 - Password: **<stornext user accountpassword>**
3. Enter **sudo rootsh** to gain root user access.
4. Enter the password for the **stornext** user account again.
5. Enter the **cvfsid** command.

The system returns the following information:

<server_MAC_address> <server_OS> <server_name>

Example:

```
ECF4BCDECC0E linux 0 xcellis13
```

6. Close the SSH session for the node.
7. **(Optional)** If your system is configured for HA, repeat for the other node.

How to Generate a cvfsid for Windows Configurations

Follow the procedure below to generate the **cvfsid** on the command line of the MDC node:

1. On the **Start** menu, click **Programs**, click **StorNext File System**, and then click **License Identifier**.
2. The **cvfsid** string appears in a popup.

How to Generate a cvfsid for Xsan Configurations

Follow the procedure below to generate the **cvfsid** on the command line of the MDC node:

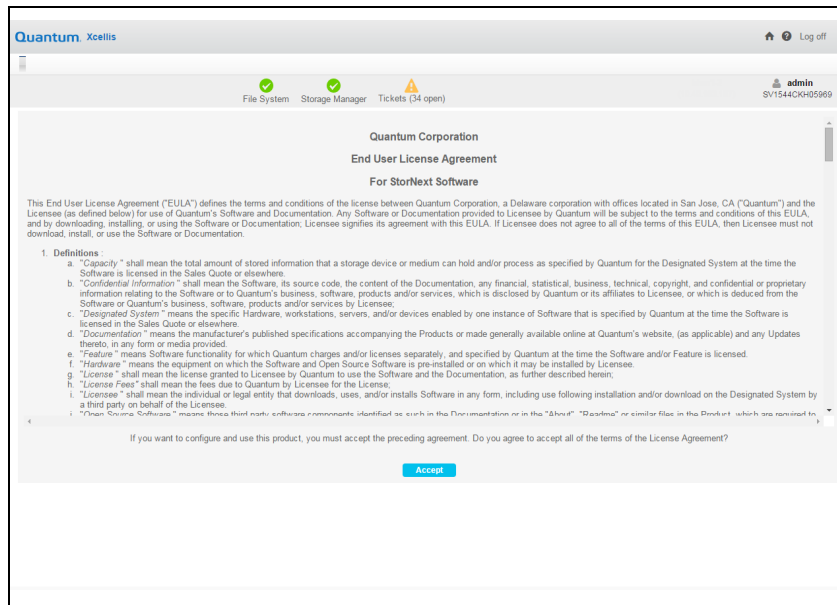
1. Navigate to `/Library/Filesystems/Xsan/bin`.
2. Execute the command **sudo cvfsid**.

Install/Update StorNext Licenses From the GUI for Dual-node (HA) Installations

⚠ Caution: At the end of this procedure, exiting Config Mode will restart StorNext services on both server nodes. This will cause a disruption in client operations. Quantum strongly recommends halting I/O operations for connected StorNext clients before beginning the process.

1. If you are logging into StorNext for the first time, read the end-user license agreement (EULA) carefully, and then click **Accept** (you will not see the EULA page if you have previously logged into StorNext).

Figure 1: EULA (Configuration > Licenses > Agreement) Page



2. For new installations, the **Configuration > Licenses Entry** screen appears. Skip to step 4.
For operational systems, navigate to **Tools > High Availability > Manage**.
3. Click **Enter Config Mode** to halt StorNext client I/O operations. This will pop up a confirmation to lock the HA cluster configuration. Click **Yes**.
(See the **High Availability Systems** section in the appendix of the current *StorNext User's Guide* for further information about HA systems.)
4. Select **Configuration > Licenses**.
5. Scroll down to the bottom of the page, and click **Import...** to install and/or update StorNext licenses.

i Note: The **Enter/Update** button was removed from the **Configuration > Licenses** page for StorNext 5 release 5.4 . This option previously allowed you to upload individual license strings from a `license.dat` file.

i Note: For StorNext releases prior to 5.4, licenses for HA systems must be applied to both server nodes. Enter the appropriate license string(s) you received from Quantum into the appropriate field (s) for both the Primary and Secondary server nodes, and click **Apply**.

6. Click **Choose File**, select the `license.dat` file provided for your system from the temporary location where you downloaded it, and click **Open**.

! Caution: Importing a license file overwrites the existing license file and all existing licenses. Licenses not present in the imported license file are removed from StorNext.

You will know that the licenses have been applied to your system when you see the confirmation “**License file license.dat imported successfully.**” appear at the top of the page. The status indicator for the licensed features is displayed as a green check mark icon.

7. If the system is in config mode, navigate to **Tools > High Availability > Manage** and click **Exit Config Mode**. You will be prompted for confirmation that you want to unlock the cluster. Click **Yes** to exit config mode.

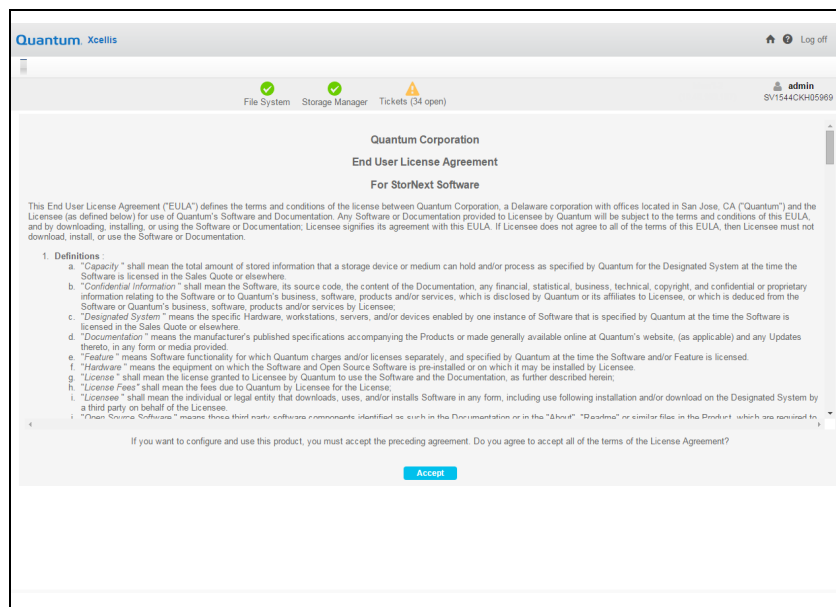
The procedure is complete.

Install StorNext Licenses From the GUI for Single-node (non-HA) Installations

- Note:** Use these steps to install the license keys on a single-node system, or one that has not been configured as HA. For HA systems, see [Obtain and Install StorNext Licenses – GUI-based Appliances and Customer-supplied MDCs on page 27](#).

1. If you are logging into StorNext for the first time, read the end-user license agreement (EULA) carefully, and then click **Accept** (you will not see the EULA page if you have previously logged into StorNext).

Figure 2: Configuration > Licenses > Agreement Screen



2. For new installations, the **Configuration > Licenses Entry** page appears. Skip to step 5.
3. For operational systems, halt StorNext client I/O operations. Stop the StorNext filesystem by navigating to **Tools > System Control**, and selecting **Stop** in the **File System** section of the page.
4. Select **Configuration > Licenses**.
5. Scroll down to the bottom of the page, and click **Import...** to install and/or update StorNext licenses.

- Note:** The **Enter/Update** button was removed from the **Configuration > Licenses** page for

i StorNext 5 release 5.4 . This option previously allowed you to upload individual license strings from a `license.dat` file.

6. Click **Choose File**, select the `license.dat` file provided for your system from the temporary location where you downloaded it, and click **Open**.

! **Caution:** Importing a license file overwrites the existing license file and all existing licenses. Licenses not present in the imported license file are removed from StorNext.

You will know that the licenses have been applied to your system when you see the confirmation “**License file license.dat imported successfully.**” appear at the top of the page. The status indicator for the licensed features is displayed as a green check mark icon.

7. After you install your licenses, restart the StorNext filesystem by navigating to **Tools > System Control**, and selecting **Start** in the **File System** section of the page. StorNext may not recognize some feature licenses until you restart services.

The procedure is complete.

Install a StorNext License on a Windows MDC

For help installing Windows MDC licenses, refer to the StorNext help, which can be found at: **Windows Start menu > All Programs > StorNext File System > StorNext Help**.

Install Optional StorNext Add-on Software Features and Clients from the StorNext MDC GUI

Client software installers and Optional Add-on Software features can be downloaded from the StorNext GUI. Downloads are available on the **Tools > Client Download** screen.

Configure Licenses for RPM-only Installations

This section provides information on how to install StorNext MDC licenses from the command line for RPM-only Installations.

For File System installations, or in instances where there is no available StorNext GUI, StorNext license keys for the system can be installed manually. This section describes how to install licenses from the command line in those situations.

i Note: Licenses must be installed “by hand” on RPM-only installations because there is no GUI to lead you through the steps.

Before installing a **license.dat** file ensure that exactly one key is present in the file for each licensed feature, and that a Maintenance license key is present. The new license file must be complete before proceeding to the next steps. If you are updating a license file, ensure that old keys are removed so that they do not interfere with the updated license keys.

If you are installing a license file for HA MDCs, make sure that the keys for both MDCs are present in the **license.dat** file before proceeding.

Depending on the configuration of the system you are updating, you will use a different set of installation steps to install the license keys for StorNext and components for RPM installations from the command line. Here are the possible installation scenarios:

- [Install a StorNext License Key on a Single-Node MDC below](#)
- [Install a StorNext License Key on an HA System \(with a Shared File System\) below](#)
- [Install a StorNext License Key on a Failover System \(without a Shared File System\) on the next page](#)

Install a StorNext License Key on a Single-Node MDC

1. From the command line of the MDC, type the following command:

```
service cvfs stop
```

⚠ Caution: The command **service cvfs stop** will stop all StorNext services on the MDC.

2. Navigate to the temporary location where you stored the new **license.dat** file.
3. Copy the **license.dat** file to the **/usr/cvfs/config/** directory on the MDC.
4. Type the following command on the MDC:

```
service cvfs start
```

Install a StorNext License Key on an HA System (with a Shared File System)

i Note: Stop the StorNext service on the **secondary** node of the HA system **before** stopping the StorNext service on the **primary** node.

1. From the command line of the **secondary** node of an HA MDC (both File System and Storage Manager), type:

```
service cvfs stop
```


 **Caution:** The command `service cvfs stop` will stop all StorNext services on the MDC.

2. From the command line of the **primary** node of an HA MDC, type:

```
service cvfs stop
```

 **Caution:** The command `service cvfs stop` will stop all StorNext services on the MDC.

3. Navigate to the temporary location where you stored the new **license.dat** file.
4. Copy the **license.dat** file to the `/usr/cvfs/config/` directory on the **primary** node of the MDC.


 **Note:** Start the StorNext service on the **primary** node of the HA system **before** starting the StorNext service on the **secondary** node.

5. From the command line of the **primary** node of an HA MDC, type:


```
service cvfs start
```

6. From the command line of the **secondary** node of an HA MDC, type:

```
service cvfs start
```

 **Note:** Wait up to 2 minutes for the **license.dat** file to propagate to the secondary node of the MDC. After 2 minutes, display the file and verify the license has been propagated on the secondary node.

Install a StorNext License Key on a Failover System (without a Shared File System)

 **Note:** Stop the StorNext service on the **secondary** node of the HA system **before** stopping the StorNext service on the **primary** node.


1. From the command line of the **secondary** node of an HA MDC, type:

```
service cvfs stop
```


 **Caution:** The command `service cvfs stop` will stop all StorNext services on the MDC.

2. From the command line of the **primary** node of an HA MDC, type:

```
service cvfs stop
```

 **Caution:** The command `service cvfs stop` will stop all StorNext services on the MDC.

3. Navigate to the temporary location where you stored the new **license.dat** file.
4. Copy the **license.dat** file to the `/usr/cvfs/config/` directory on the **primary** node of the MDC.
5. Copy the **license.dat** file to the `/usr/cvfs/config/` directory on the **secondary** node of the MDC.

 **Note:** Start the StorNext service on the **primary** node of the HA system **before** starting the StorNext service on the **secondary** node.

6. From the command line of the **primary** node of an HA MDC, type:


```
service cvfs start
```

7. From the command line of the **secondary** node of an HA MDC, type:

```
service cvfs start
```

Install the StorNext FX License on an Xsan MDC

The StorNext FX license is installed on an Xsan MDC (metadata controller). To install the StorNext FX license on Xsan 3.0 and later MDCs:

 **Note:** If you are upgrading from a previous version of StorNext FX, after the upgrade your StorNext FX license remains valid. There is no need to request a new license unless your system ID changes.

- Log on to the Apple Xsan MDC.
- Obtain the CVFS ID from the Xsan MDC.

 **Note:** If you have more than one Xsan MDC, obtain CVFS ID outputs from each Xsan MDC.

1. From the command line, type:

```
sudo cvfsid
```

2. When you are prompted, type your user password. Output similar to the following displays:

```
B0D0B10D33 MAC 0 susie
```

3. To obtain a permanent license, complete License Request form at <http://www.quantum.com/licensekeys>.

i Note: You will need to provide the StorNext FX serial number and the `cvfsid` outputs obtained from the Xsan MDCs.

4. From the command line change to the correct directory. Type:

```
sudo cvadmin
```

5. Enter your user password.
6. Stop the volume(s) on the Xsan MDC. Where `<volume>` is the name of the volume on the Xsan MDC, type:

```
stop <volume>
```

⚠ Caution: The command `stop <volume>` will stop all StorNext services on the MDC.

i Note: Repeat for all volumes you would like to mount on StorNext FX clients.

7. Apply the license on the Xsan MDC. To apply the license, copy the `license.dat` file into the `/Library/Preferences/Xsan/` directory on the Xsan MDC. The `license.dat` file can be found on the Metadata Controller at `/usr/cvfs/config/license.dat` for UNIX systems, and `C:\Program Files\StorNext\config\license.dat` for Windows systems.

```
cvadmin -e stop <volume>
```

Where `<volume>` is the name of the volume on the Xsan MDC.

i Note: Repeat for all volumes you would like to mount on StorNext FX clients.

8. To display the list of volumes that are in use in this cluster, type:

```
select
```

i Note: The command `select` is executed at the `cvadmin` prompt.

Determine the License Capacity

The numbers displayed on the StorNext License screen represent *licensed capacity*, not *utilized capacity*. You can determine the actual capacity for the File System, LAN Clients, Deduplication, Replication, Failover and Maintenance licenses by running the following command from the command line:

```
# snlicense -v <license type>
```

When running this command, do not use capital letters or include the angled brackets around the license type.

To obtain capacities for the Storage Manager, Vaulting, Storage Disk, Checksum, DDM and Maintenance features, run the following command from the command line:

```
# sntsm -l -v <feature name>
```

i Note: The character after the dash in the preceding command is the letter **L**, not the numeral **1**. As before, when running this command do not use capital letters or include the angled brackets around the feature name.

For more information, see the man pages for both of these commands.



Chapter 6: StorNext Disk Licensing and Disk Certification

This chapter contains the following topics:

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StorNext Disk Licensing

Disk licensing has been added to StorNext in order to help quantify customers' configurations. There are three levels of disk certification:

- **Quantum Branded**
- **Quantum Certified**
- **Quantum Uncertified** (all other disks)

The vendor and model of each disk are checked against the disk catalog supplied by Quantum to determine to which category each disk belongs.

i Note: Disk licenses should be updated after completion of StorNext installation or upgrade.

Licenses are available for free from Quantum that specify the amount of **Quantum Certified** and **Quantum Uncertified** disks that can be configured. For **Quantum Branded** disks, the amount of disk capacity is not specified by a license - it is unlimited.

There is also a new command line tool called **disk_license** (`disk_license.exe` on Windows) that can be used to create Disk License Status file, interrogate disk capacity, display license status, import catalogs and perform other disk licensing tasks.

Obtain a Disk License

1. Generate a **Disk License Status** file using one of the following methods:
 - Using the StorNext GUI. See [Generate a Disk License Status File Using the StorNext GUI below](#).
 - Using the `disk_license(.exe)` command line tool. See [Generate a Disk License Report Using disk_license\(.exe\) below](#).
2. Submit the **Disk License Status** file to Quantum. See [Upload a Disk License Status File to the Disk Licensing Web Form on the next page](#).
3. Install **Disk Licenses** received from Quantum, or install a new **Disk Catalog** (if there is one). See [StorNext Disk Certification Catalog \(DCC\) on the next page](#).

Generate a Disk License Status File Using the StorNext GUI

Note: The Configuration GUI is not available on Windows MDCs. **Disk License Reports** on Windows can only be generated manually with the `disk_license(.exe)` tool. For an HA pair, the Configuration GUI will generate a file which contains the reports for both MDCs in the HA pair.

The **Disk License Status** file contains the licensing status of all the disks within your StorNext environment.

1. Log into the StorNext GUI.
2. On the **Configuration** menu, click **Licenses**.
3. On the **Configuration > Licenses** page, click **Download DLS....**

Note: The **Disk License Status** file will need to be accessible from a computer with Internet/Web access as an attachment to a Quantum web page. Follow the instructions for your particular browser and operating system.

4. Click **Done** to return to the **Licenses** page. Once the file is saved, it can be submitted to Quantum. See [Upload a Disk License Status File to the Disk Licensing Web Form on the next page](#).

Generate a Disk License Report Using `disk_license(.exe)`

If you need to use CLI, then this method can be used. However, the preferred method is to generate the **Disk License Status** file using the StorNext GUI. See [Generate a Disk License Status File Using the StorNext GUI above](#).

Note: If you use the StorNext GUI to generate a **Disk License Status** file, skip this section.

If you are using the `disk_license(.exe)` tool to obtain a **Disk License Status** file for a High Availability (HA) pair, this procedure will need to be run on both MDC computers.

1. Execute the command below (`disk_license.exe` on Windows).

Note: The **Disk License Status** file (`quantum_disk_license_report.xml`) will need to be accessible from a computer with Internet/Web access as an attachment to a web page.

```
disk_license_gather quantum_disk_license_report.xml
```

2. Once the **Disk License Status** file (`quantum_disk_license_report.xml`) is created, it can be submitted to Quantum to request new disk licenses as described in [Upload a Disk License Status File to the Disk Licensing Web Form below](#).

i Note: This command `disk_license_gather` will be removed in a future release of StorNext, when the functionality is included in the command `disk_license`.

Upload a Disk License Status File to the Disk Licensing Web Form

StorNext use a free per-TB license to track disks managed by StorNext. This allows Quantum to provide better support. A StorNext MDC that needs a license will generate a warning message.

Follow the procedure below to upload the **Disk License Status** file on-line, and Quantum will generate the appropriate disk licenses for the MDC.

i Note: The MDC will continue to operate while licenses are generated.

1. In a new browser window navigate to <http://www.quantum.com/StorNextDiskLicense>.
2. In the **Customer Contact Information** section, complete the form by providing your **First Name**, **Last Name**, **Company Name**, **Telephone**, and **Email**.
3. In the **Disk Usage File** section, click **Choose File** and then navigate to the destination folder on your local system where you saved the **Disk License Status** file from section [Generate a Disk License Status File Using the StorNext GUI on the previous page](#) or [Generate a Disk License Report Using disk_license\(.exe\) on the previous page](#). For example, `/tmp/quantum_disk_license_report.xml`.
4. Click **Submit** to upload the **Disk License Status** file.
5. **(Optional)** Click **Reset** to discard your changes.

i Note: New disk licenses will be emailed to you automatically. When you receive them, follow the normal instructions for installing new licenses into `license.dat`. See [Enable and Install Licenses on page 27](#).

i Note: You may also receive a new `quantum_disk_catalog.dat`. For instructions on installing a new Quantum **Disk Certification Catalog**, see [StorNext Disk Certification Catalog \(DCC\) below](#).

StorNext Disk Certification Catalog (DCC)

A StorNext **Disk Certification Catalog**, also known as the disk array catalog, is a file named `quantum_disk_catalog.dat` located in the StorNext file system's configuration directory. It defines the Quantum certification level for various makes and models of disks. Disks not listed in the file are considered uncertified. This catalog resides on the MDC and is not required on the StorNext Client hosts.

You may receive an updated catalog from Quantum when requesting disk licenses, via the StorNext GUI or by direct download from Quantum.

The catalog can be installed or updated by either of the following methods:

- Using the StorNext GUI. See [Uploading the Disk Certification Catalog using the StorNext GUI below](#).
- Using the `disk_license(.exe)` command. See [Installing the Disk Certification Catalog Using the disk_license\(.exe\) Command below](#).

Uploading the Disk Certification Catalog using the StorNext GUI

i Note: The StorNext GUI is not available on Windows systems. You must use the `disk_license.exe` command to install a **Disk Certification Catalog** on Windows computers.

i Note: If you have a High Availability (HA) pair, the GUI will install the catalog on both nodes.

The latest **Disk Certification Catalog** can be downloaded on-line at:
http://downloads.quantum.com/StorNext5/quantum_disk_catalog.dat

1. Log into the StorNext GUI.
2. On the **Configuration** menu, click **Licenses**. Download the latest **Disk Certification Catalog** file from the link above.
There is also a link located in the help text at the bottom of the **Licenses** page to the latest **Disk Certification Catalog**.
3. On the **Configuration > Licenses** page, click **Upload DCC...**
4. Click **Browse**, and then locate the directory containing the catalog.
5. Select the `quantum_disk_catalog.dat` file. This will open the dialog to save the file.

After the catalog has been imported, you will see a status message at the top of the license page. For example:

```
Information: Disk Certification Catalog version 1 generated on "mm/dd/yyyy  
hh:mm:ss GMT" was uploaded successfully.
```

Installing the Disk Certification Catalog Using the `disk_license(.exe)` Command

i Note: If you have a High Availability (HA) pair, you must install the catalog on both MDCs.

Execute the command `disk_license` (`disk_license.exe` on Windows) using the `-i <catalog file>` option. For example:

```
disk_license -i /tmp/quantum_disk_catalog.dat
```