

# StorNext 5 and StorNext FX 5 Licensing Guide

This document describes the license types and the procedure for obtaining licenses. Licensing implications for StorNext and StorNext FX upgrades are also explained.

Unique licensing considerations for 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.

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**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.

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## StorNext License Types

- **SAN Client:** A StorNext SAN Client enables a host computer to mount a StorNext File System with direct block level access to the disk arrays via Fibre Channel or iSCSI connectivity. (SAN Clients have direct block-level access to the disk arrays via SAN Fibre Channel or iSCSI connectivity.) The StorNext File System is licensed on a per-client basis. Any machine which directly mounts the file system is considered a client, including the metadata controllers (MDCs).
- **StorNext FX:** A StorNext FX license enables a StorNext FX client, or a StorNext SAN client, to connect to a Apple Xsan MDC and mount an Xsan file system with direct block level access to disk arrays via Fibre Channel or iSCSI connectivity. StorNext FX is licensed on a per-client basis. Any machine which directly mounts the file system is considered a client. StorNext FX licenses are applied on the Xsan MDC.

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- **LAN Client:** StorNext LAN Clients use IP-based protocol to read and write data to the StorNext File System through customer-supplied gateways. You must have a LAN Client license for each LAN Client you intend to use with StorNext (in addition to any SAN Client licenses). These licenses are based on operating system type: Linux, Windows or UNIX. LAN Clients connected to G300 and M660 Gateways do not require a "per-seat" license.
- **Gateway:** A StorNext Gateway is a StorNext SAN Client which allows LAN-based client connectivity to a StorNext File System. The Gateway license comes factory-installed on the G300 and the M660, and allows customers to add LAN-based clients to their StorNext configuration without having to purchase additional "per-seat" licenses. This license allows as many LAN client connections as can be accommodated by the throughput of the Gateway.

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**Note:** The Gateway license is active by default on the G300, but additional configuration work must be done to associate the G300 with a StorNext MDC. The Gateway license is installed but disabled by default on the M660. The M660 requires further configuration in order to enable both nodes to act as an active/active pair of LAN gateways.

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**Note:** StorNext M662, M662XL, and M665 SSD Metadata Appliances used in Lattus systems must not be configured for use as a LAN gateway. The Gateway functionality must be disabled., M662XL, and M665 SSD While there are no functional issues in enabling the LAN gateway functionality within a Lattus environment, observed throughput when moving data to Lattus through the 10 GbE ports will be slower than expected if this feature is enabled.

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- **SNSM Wide Area Storage:** The StorNext Storage Manager (SNSM) for Wide Area Storage (WAS) license is used to enable Lattus Object Storage access in StorNext M662 Metadata 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.

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**Note:** 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 M662s and MDCs configured for use with Lattus systems. A license key must be applied through the StorNext GUI in order to enable the license.

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- **Object Storage:** The Object Storage license is used to enable Object Storage access in the StorNext M662, M440s (with 10 GbE cards), and Object Storage capable MDCs configured for use with Object Storage systems. The Object Storage is licensed based on the capacity of data stored to secondary tiers of Object Storage media.
- **Storage Manager:** A Storage Manager license provides full access to the base functionality of StorNext Storage Manager. StorNext Storage Manager is licensed based on the capacity of data stored to secondary tiers of storage (Tape or Storage Disk), but excludes any data stored in Object Storage or in a vault. See the **Object Storage License** and the **Vaulting License**.

- **Maintenance:** 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 which expires at the same date as the maintenance contract. Each time the maintenance contract is extended, a new maintenance license key is generated.

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 was valid between January 16th, 2010 and January 16th, 2011, you could upgrade to a software version that was released prior to the maintenance license (and associated underlying service contract) expiration date, but not to a version released after January 16th, 2011.

See [Common M660, M440, M330, and Pro Foundation Factory-Installed Licenses](#) on page 5 for information about Maintenance Licenses on StorNext appliances.

- **Multi-mount:** A Multi-mount license 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 license is actually a package of licenses to enable clients to mount multiple MDCs.

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

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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.

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**Note:** Additional StorNext features are not included with the multi-mount license. 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.

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**Note:** The **Partial File Retrieval** (PFR) and **Archive Conversion** features must be installed separately.

For information about installing and licensing Partial File Retrieval, refer to chapters 3 and 4 of the *Partial File Retrieval User's Guide*.

For information about Archive Conversion, contact your Quantum Professional Services representative.

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- **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](#) and [StorNext Disk Certification Catalog \(DCC\)](#).
- **Uncertified Disk:** 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](#) and [StorNext Disk Certification Catalog \(DCC\)](#).

### Licenses for Features

- **Replication:** 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 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.

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.

- **Deduplication:** A deduplication license is required if you want 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.
- **Vaulting:** A Vaulting license provides the ability to move seldom-used media to a manual archive vault, freeing room for media in the managed archives. This license is available only for Storage Manager environments.
- **Storage Disk:** You must have a Storage Disk license to be able to configure and use StorNext storage disks. This license is available only for Storage Manager environments. This license enables the SDISK feature, but data written still counts toward the per TB capacity of the Storage Manager license.
- **Checksum:** A Checksum license enables you to verify data integrity by ensuring that the checksum created when data was stored matches the checksum upon data retrieval. (The Checksum feature is sometimes referred to as the 'Advanced Integrity Module: Data Movement Integrity Check'.)

Checksum only applies to data written to secondary tiers of storage with Storage Manager (SDISK or tape) and does not apply to any other data movement within StorNext such as normal client access to the file system.

- **Distributed Data Mover (DDM):** A license is required for using DDM if you plan to use additional machines besides the MDC to retrieve data. This license is available only for Storage Manager environments. A DDM license is required for each host used for DDM. Each DDM host also utilizes a unit of the File System SAN Client license in addition to the DDM license. This particular license is placed on the MDC (HA pair), not the DDM host.
- **Failover (HA):** A Failover HA (High Availability) license enables automated failover from the primary metadata controller to the secondary controller, in the event of a primary server failure. This license is available for either File System only or Storage Manager environments. One HA license is required for each MDC pair. The license

appears on each of the MDC servers in the pair. In addition to the MDC client licenses, a third client is also required to ensure proper failover functionality. This client can be one that is already accessing a StorNext file system. However, in an MDC-only environment a third client must be purchased separately.

- **Archive Conversion:** An Archive Conversion Utility (ACU) license is required if you plan to use the StorNext conversion tool to read and migrate data from non-StorNext archive media into the StorNext file system. (To purchase or configure the Archive Conversion tool, contact your Quantum Sales representative.)
- **Partial File Retrieval (PFR):** A StorNext Partial File Retrieval (PFR) license enables you to quickly retrieve and utilize 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 chapters 3 and 4 of the *Partial File Retrieval User's Guide*.

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## StorNext Metadata Appliance Licenses

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### Common M660, M440, M330, and Pro Foundation Factory-Installed Licenses

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The following StorNext licenses are factory-installed, factory-licensed, and included in the base price of the M660, M440, M330, and Pro Foundation. No further action is required to enable these factory-installed licenses.

- **SAN Client:** Includes 10 StorNext SAN client licenses for any supported OS, as well as two SAN client licenses for the metadata controllers. Additional licenses may be purchased separately
- **Failover (HA):** A Failover HA (High Availability) license is already factory installed and factory licensed on the M660, M440, M330, and Pro Foundation, and does not need to be purchased, installed, or configured. This license enables automated failover from the primary metadata controller (Node1) to the secondary metadata controller (Node2), in the event of a primary metadata controller (Node1) failure.
- **Maintenance:** The M660, M440, M330, and Pro Foundation come factory-installed with a default Maintenance License with 12 months of Bronze-level support. At the time of professional installation, the Maintenance License is generally updated to correspond exactly to the duration of your service contract.

Software for the optional StorNext software features is already factory-installed on the M660, M440, M330, and Pro Foundation. In most cases, all you need to do is enable your newly-purchased license.

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**Note:** The Deduplication feature is not currently supported on the M660, M440, M330, and Pro Foundation. Do not purchase or try to install the Deduplication license on the M660, M440, M330, and Pro Foundation.

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### Gateway License

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The Gateway license on the StorNext G300 Gateway Appliance (enabled by default) and the StorNext M660 Metadata Appliance (must be manually enabled, and only used on

non-Lattus systems), allows the appliance to serve as a gateway for attached LAN clients. The two parts of the Gateway displayed in the StorNext GUI are:

- **Gateway Licensed MDC:** This is the Gateway license (see [page 2](#)) as shown on the license page of the M660 GUI. The M660 license is identical to the license that exists on 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 M660 (disabled by default).
- **LAN Client:** The LAN client installer can be downloaded from the host MDC StorNext GUI and installed onto LAN clients in order for those clients to access StorNext through the gateway. All installed LAN clients are displayed as "Gateway client" in the StorNext GUI.

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**Note:** StorNext M662, M662XL, and M665 SSD Metadata Appliances used in Lattus systems must not be configured for use as a LAN gateway. The Gateway functionality must be disabled., M662XL, and M665 SSD While there are no functional issues in enabling the LAN gateway functionality within a Lattus environment, observed throughput when moving data to Lattus through the 10 GbE ports will be slower than expected if this feature is enabled.

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### Additional M660 and M440 Factory-Installed DDM License

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In addition to the licenses shared with the M330 mentioned in the [Common M660, M440, M330, and Pro Foundation Factory-Installed Licenses](#) section, the following StorNext license is factory-installed, factory-licensed, and included in the base price of the M660 and M440. While no further action is required to enable this factory-installed license on the M660 or M440, the DDM host must be configured separately.

- **Distributed Data Mover:** Includes one DDM license which allows the secondary MDC node to function as a DDM host.

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**Note:** The DDM license cannot be applied on the StorNext G300 Gateway Appliance or the StorNext Pro Foundation.

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### M662 Lattus-only License

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The following license is installed upon upgrade to StorNext 4.6.x or later and is enabled during configuration of the StorNext M662 Metadata Appliance for use with Lattus systems.

- **SNSM Wide Area Storage:** One of these licenses must be applied (depending on the StorNext version installed on the system) through the StorNext GUI in order to enable the license. See [Updating Licenses](#) on page 9.

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**Note:** 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.

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### M660, M440, M330, and Pro Foundation Client Licenses

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The following licenses are installed by default on the M660, M440, M330, and Pro Foundation. The following software can be downloaded from the system GUI to install onto client systems:

- **File System SAN client**
- **LAN client** - displayed as "Gateway client" in the StorNext GUI

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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.

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### For StorNext MDCs

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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.

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**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.

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- **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.
- **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.

- **Archive Conversion:** If present, an Archive Conversion license does not have an associated capacity.

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### Xsan and StorNext FX Clients

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For Xsan environments, the following applies:

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**Note:** StorNext FX clients are not displayed in the Xsan Admin tool.

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- **Xsan Clients:** An Xsan customer can use an unlimited number of Xsan clients when connected to an Xsan MDC.
- **StorNext FX Clients:** StorNext FX clients are licensed require a “per-seat” license.

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## Determining License Capacity

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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>
```

Note that 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.

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## Updating Licenses

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You will need to update a license if the license expires or if your configuration changes (for example, if you add additional clients or increase capacity).

To update a license, select the desired product/feature and then click **Enter/Update**. When the **Configuration > Licenses > Enter/Update** screen appears, copy the license string you received from Quantum into the **[License/Feature Name] License** field, and then click **Apply**.

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## Auto-Generated and Evaluation Licenses

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### StorNext

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A permanent license (as opposed to an evaluation or auto-generated license) entitles you to use 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, you must have a permanent license to configure or use StorNext features.

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**Note:** You cannot mix auto-generated and evaluation license keys with permanent license keys. Once you enter one or more permanent license keys in StorNext, you should ensure all auto-generated and evaluation licenses have been deleted.

If you are using an auto-generated or evaluation license period to evaluate new features, be aware that you could lose any remaining time on those licenses as soon as you enter one or more permanent license keys. 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 you have entered permanent licenses, you should not install an evaluation license.

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Once a license expires (either auto-generated or evaluation,) access to the licensed feature is suspended. In general, this means you will no longer have access to the feature, 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

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**Note:** When one license expires they all expire, with the exception of the Maintenance and Proxy licenses.

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### G300, M660, M440, M330, and Pro Foundation

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The G300, M660, M440, M330, and Pro Foundation are populated with permanent StorNext licenses during installation.

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**Note:** You cannot mix auto-generated/evaluation and permanent licenses. Once you enter one or more permanent licenses in StorNext, all auto-generated/evaluation licenses are deleted. If you are using an auto-generated or evaluation license period to evaluate new features, be aware that you will lose any remaining time on those licenses as soon as you enter one or more permanent license. Maintenance and Proxy licenses can be mixed with other types of licenses.

After you have entered permanent licenses, you should not install an evaluation license.

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## Licensing and Upgrades

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

- A non-expired Maintenance license is required to perform a StorNext upgrade. If you have an expired Maintenance license you must contact Quantum Technical Support before you can upgrade StorNext.
- 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 manually editing the `license.dat` file if StorNext has not been installed, or through the StorNext GUI if StorNext is installed.
- For future upgrades, 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 can follow the procedure below to free up capacity to bring it under the licensed value. These steps will clean up “dead space” on tape media, and do not apply to storage disks.

- 1 Run the `fsmedcopy` command with no arguments. Running this command generates a report of media and wasted space. The report looks similar to this:

```

% fsmedcopy
-----
Media Fragmentation Report           Thu Aug  4 15:18:14
2011

Media ID           Fill Level       Wasted Space
-----
000099             10.00           0.00
000098             30.00           5.00
000096             70.99          44.98
000099             0.12           99.65

```

The “Fill Level” column shows how full the media is. The “Wasted Space” column indicates how much of the used space is wasted, NOT the percentage of the entire tape.

Media with high percentages for both values (such as media 000096 in the example) are good candidates for eliminating dead space.

- 2 For each media you identify as having significant dead space, run this command:

```
% fsmedcopy -r <mediaid>
```

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**Note:** On a large system, the `fsmedcopy` report can take a long time to complete. If your site is dynamic (that is, it has a lot of file removes and updates,) you can skip step 1 and just pick media you know are full, and then run the command `fsmedcopy -r` against those media.

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## Enabling and Installing Licenses

Some StorNext licenses come pre-enabled on your system, and others must be purchased and then enabled by installing a license key file on your system. If your system is using a temporary 30-day license, you should enter permanent licenses as soon as it is convenient. The following are the steps you need to take to obtain and install your StorNext licenses.

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### Obtaining Licenses

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If you need to receive license keys to enable StorNext or StorNext features, fill out the Quantum licensing Web page form.

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**Note:** The web page requires the **StorNext system serial number** in order to generate StorNext licenses.

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In a new installation, the serial number will be found on a sticker on the box or envelope your original software came in. If you downloaded StorNext, the serial number is in the Download Media Kit.

System serial numbers are alpha-numeric (example: CX1234CKD5678).

If you are adding to an existing StorNext installation and cannot locate the original software package, locate the `license.dat` file. 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.

Open the `license.dat` file and locate the serial number.

- 1 Existing software features licensed:** You will need to have a list of StorNext features already licensed and enabled on your system.
- 2 New software features licensed:** You will need to have a list of purchased StorNext add-on features for which you wish to enable licenses.

After the Quantum Technical Assistance Center receives the above information, a representative will send you a `license.dat` file (which contains license keys for the products/features you specified) within one business day. Save the file to a temporary location to apply to the system.

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**Note:** You can determine the current license limits on SAN client, LAN client, DDM, and Storage Manager licenses in the StorNext GUI on the **Configuration > License** screen.

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To receive license keys for your StorNext license(s), enter the required information about your system on this Web page:

<http://www.quantum.com/ServiceandSupport/License/StorNext/Index.aspx>

**Note:** If you cannot access the web page or need additional help filling out the form, contact Quantum support.

## Installing StorNext Licenses from the GUI for non-HA Installations

**Note:** Use these steps to install the license keys on a single-node system, or one that has not yet been configured as HA. For HA systems, see [Installing StorNext Licenses from the GUI for HA Installations](#) on page 14.

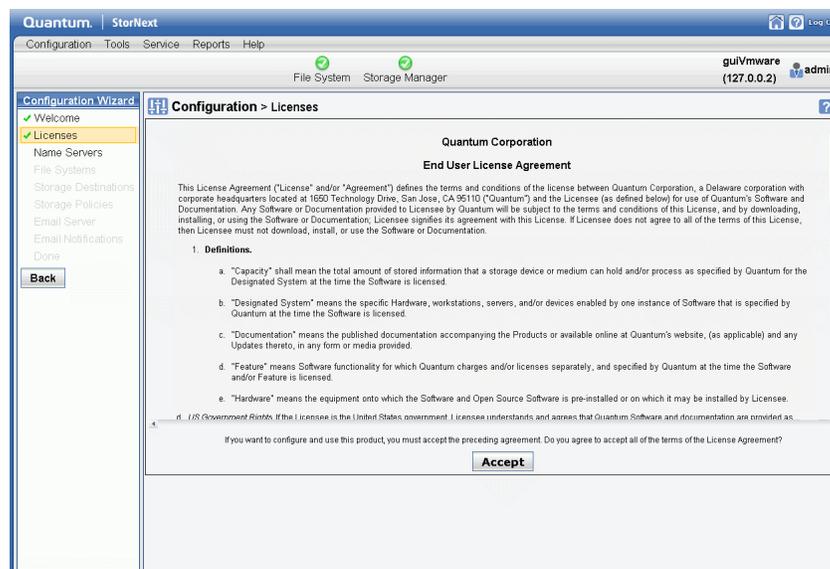
To install the license keys on a single-node system, or one that has not yet been configured as HA.

Do one of the following, depending on how you are applying the StorNext license:

### If you are logging into StorNext for the first time:

- 1 Read the end-user license agreement carefully, and then click **Accept**. The **Configuration > Licenses** Entry screen appears. Continue to [Step 5](#).

Figure 1 Configuration > Licenses > Agreement Screen

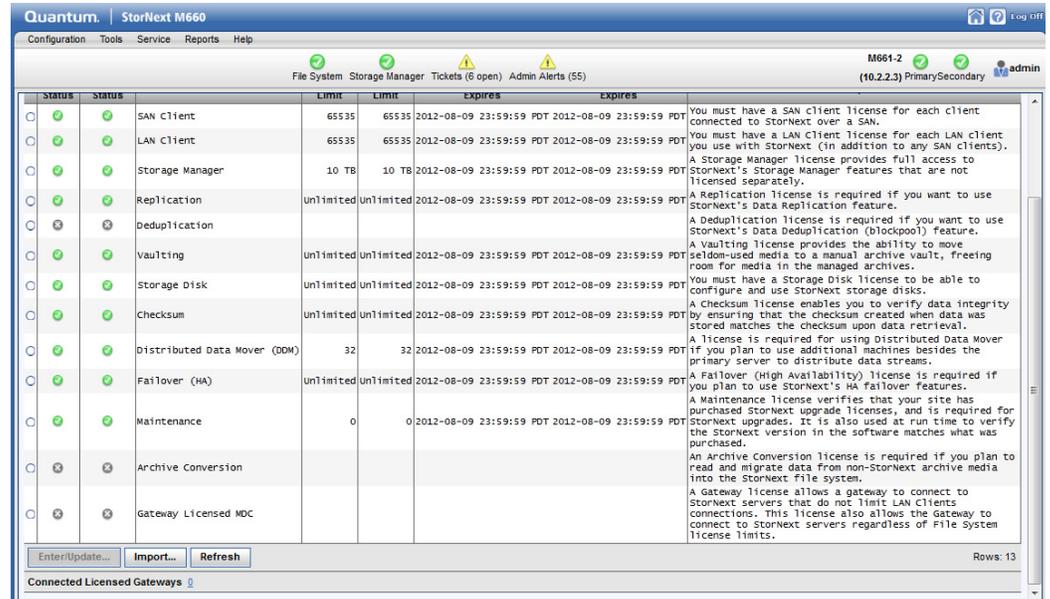


### If you are updating StorNext licenses:

- 1 Stop StorNext services by navigating to **Tools > System Control** option.
- 2 Navigate to **Configuration > Licenses > Enter/Update**. Continue to [Step 5](#).

## Continue the installation

Figure 2 Configuration > Licenses Screen



- 3 To import the license key from a text file, click **Import**. When the **Import License File** window appears, click **Browse** and navigate to the file's location. Click **Close** to continue.

A message at the top of the screen informs you whether the information was successfully imported and copied from the file into the StorNext license file. The status indicator changes to enabled (a green check mark icon and you are now ready to activate your licenses.

- 4 After you install your licenses, you should restart StorNext services by using the **Tools > System Control** option. StorNext may not recognize some feature licenses until you restart services.

### Installing StorNext Licenses from the GUI for HA Installations

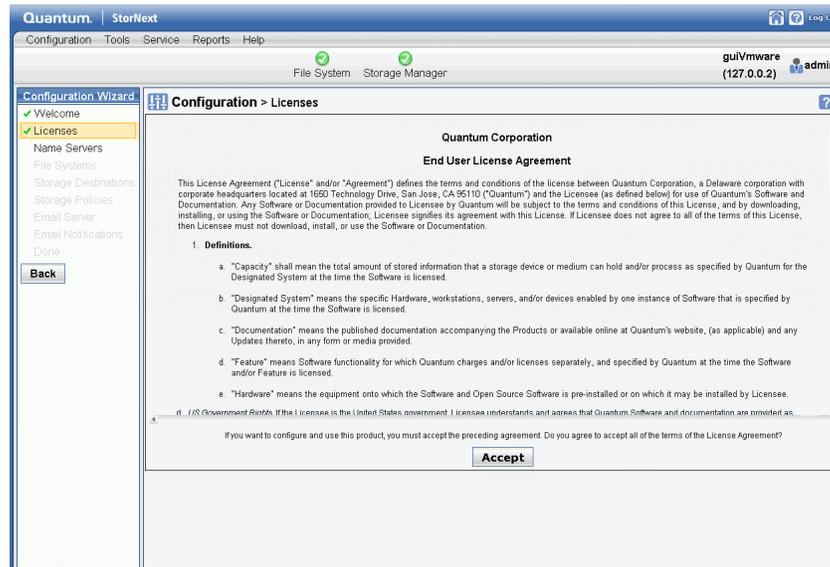
**Note:** Use these steps to install the license keys on an MDC configured for HA. For non-HA systems, see [Installing StorNext Licenses from the GUI for non-HA Installations](#) on page 13.

Do one of the following, depending on how you are applying the StorNext license:

#### If you are logging into StorNext for the first time:

- 1 Read the end-user license agreement carefully, and then click **Accept**. The **Configuration > Licenses Entry** screen appears. Continue to [Step 5](#).

Figure 3 Configuration > Licenses > Agreement Screen

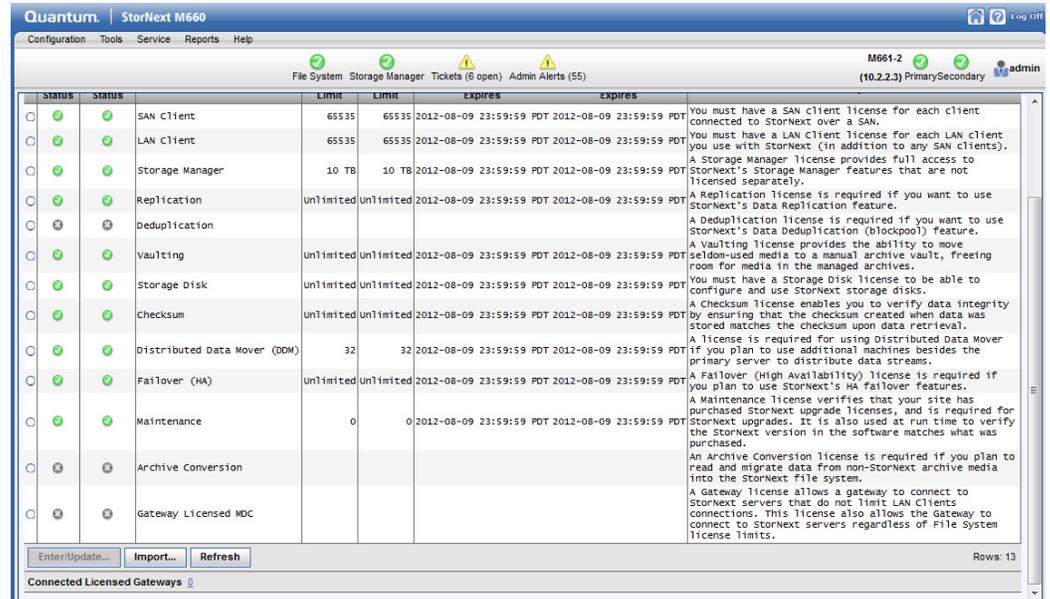


### If you are updating StorNext licenses:

- 1 Place the system into config mode by navigating to **Tools > High Availability > Manage**.
- 2 Select **Enter Config Mode** button.  
This will pop up a confirmation to attempt to lock the HA cluster configuration.
- 3 Choose "yes" when prompted.  
See the High Availability of the for further information about HA systems.
- 4 Navigate to **Configuration > Licenses > Enter/Update**. Continue to [Step 5](#).

## Continue the installation

Figure 4 Configuration > Licenses Screen



- To import the license key from a text file, click **Import**. When the **Import License File** window appears, click **Browse** and navigate to the file's location. Click **Close** to continue.

A message at the top of the screen informs you whether the information was successfully imported and copied from the file into the StorNext license file. The status indicator changes to enabled (a green check mark icon and you are now ready to activate your licenses.

A message at the top of the screen informs you whether the information was successfully validated and copied into the StorNext license file. The status indicator changes to enabled (a green check mark icon) and you are now ready to activate your licenses.

- Navigate back to **Tools > High Availability > Manage** and press **Exit Config Mode**. You will be prompted for confirmation that you want to unlock the cluster. Click **Yes** to exit config mode.

### Installing 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.

---

## Installing 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.

Licenses for purchased StorNext components (such as File System) and features are listed in the *StorNext Licensing Guide* which can be found here:

<http://www.quantum.com/sn5docs>

---

**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.

### Installation Steps

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 from the command line. Here are the possible installation scenarios:

- [Installing StorNext License Keys on a Single-Node MDC](#)
- [Installing StorNext License Keys on HA Systems \(with a Shared File System\)](#)
- [Installing StorNext License Keys on a Failover System \(without a Shared File System\)](#) on page 18

#### Installing StorNext License Keys on a Single-Node MDC

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

```
service cvfs stop
```

- 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
```

#### Installing StorNext License Keys on HA Systems (with 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 (both File System and Storage Manager), type:

```
service cvfs stop
```

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

```
service cvfs stop
```

- 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, verify the license has been propagated on the secondary node.

---

### Installing StorNext License Keys 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 (both File System and Storage Manager), type:

```
service cvfs stop
```

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

```
service cvfs stop
```

- 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
```

---

## Installing the StorNext FX License on Xsan MDCs

---

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.

---

- 1 Log on to the Apple Xsan MDC.
- 2 Obtain the CVFS ID from the Xsan MDC. From the command line, type:

```
sudo cvfsid
```

- 3 When you are prompted, type your system's **root** password. (You can obtain this password from your system administrator.)

Output similar to the following displays:

```
B0D0B10D33 MAC 0 susie
```

- 4 To obtain a permanent license, complete License Request form at:  
<http://www.quantum.com/serviceandsupport/license/stornext/index.aspx>  
You will need the product serial number and the CVFS ID from the Xsan MDC.
- 5 From the command line change to the correct directory. Type:

```
sudo cvadmin
```

6 Enter the password for the Xsan Administrator user account.

7 Stop the volume(s) on the Xsan MDC. Type:

```
stop<volume1>
```

Where <volume1> is the name of the volume in use.

---

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

---

8 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.

```
cvadmin start<volume1>
```

Where <volume1> is the name of the volume in use.

---

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

---

9 To display the list of FSM/volumes that are in use in this cluster, type:

```
select
```

This ensures the volumes are operational again after applying the license and restarting the volumes.

---

## StorNext Disk Licensing

*New in StorNext 5 release 5.2.*

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.

---

**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.

To obtain disk licenses:

- 1 Generate a **Disk License Status** file using one of the following methods:
  - a Using the StorNext GUI. See [Generating a Disk License Status File Using the StorNext GUI](#).
  - b Using the **disk\_license(.exe)** command line tool. See [Generating Disk License Reports Using disk\\_license\(.exe\)](#).
- 2 Submit the **Disk License Status** file to Quantum. See [Uploading a Disk License Status File to the Disk Licensing Web Form](#).
- 3 Install **Disk Licenses** received from Quantum, or install a new **Disk Catalog** (if there is one). See [StorNext Disk Certification Catalog \(DCC\)](#).

---

## Generating 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...**
  - Click the link `quantum_disk_license_report.xml` file name, and then navigate to a destination folder on your local system to download and save the file.

---

**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 [Uploading a Disk License Status File to the Disk Licensing Web Form](#).

### Generating Disk License Reports Using `disk_license(.exe)`

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

**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
```

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 [Uploading a Disk License Status File to the Disk Licensing Web Form](#).

**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`.

### Uploading a Disk License Status File to the Disk Licensing Web Form

StorNext 5 release 5.2 and later 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.

**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**.

- Navigate to the destination folder on your local system where you saved the **Disk License Status** file from section [Generating a Disk License Status File Using the StorNext GUI](#) or [Generating Disk License Reports Using disk\\_license\(.exe\)](#). 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.

---

**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 [Enabling and Installing Licenses](#).

---

---

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

---

---

## 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](#).
- Using the `disk_license(.exe)` command. See [Installing the Disk Certification Catalog Using the disk\\_license\(.exe\) Command](#).

---

### Uploading the Disk Certification Catalog using the StorNext GUI

---

---

**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.

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](http://downloads.quantum.com/StorNext5/quantum_disk_catalog.dat)

- 1 Log into the StorNext GUI.
- 2 On the **Configuration** menu, click **Licenses**.

---

**Note:** 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

---

---

**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
```



For assistance, contact the Quantum Customer Support Center:

USA: 800-284-5101 (toll free) or 949-725-2100  
EMEA: 00800 7826 8888 (toll free) or +49 6131 3241 1164  
APAC: +800 7826 8887 (toll free) or +603 7953 3010  
Worldwide: <http://www.quantum.com/ServiceandSupport>

# Quantum®

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### About Quantum

Quantum Corp. (NYSE:QTM) is the leading global storage company specializing in backup, recovery and archive. Combining focused expertise, customer-driven innovation, and platform independence, Quantum provides a comprehensive range of disk, tape, media and software solutions supported by a world-class sales and service organization. This includes the DXi™-Series, the first disk backup solutions to extend the power of data deduplication and replication across the distributed enterprise. As a long-standing and trusted partner, the company works closely with a broad network of resellers, OEMs and other suppliers to meet customers' evolving data protection needs.