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Contents

StorNext Licensing

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 upgrades is also explained.

StorNext License Types

Here is a list of StorNext licenses:

- **File System SAN Client (or Server)**: A StorNext File System SAN client license enables you to create and modify StorNext-supported file systems. (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).

- **LAN Client (or Proxy)**: Distributed LAN Clients (DLC) use IP- based protocol (Ethernet or IP over IB) to read and write data to StorNext file systems through gateway system known as a Distributed LAN Server. You must have a Distributed LAN Client license for each LAN client you use with StorNext (in addition to any SAN clients). These licenses are based on operating system type: Linux, Windows or Solaris x86.

- **Storage Manager**: A Storage Manager license provides full access to StorNext's Storage Manager features that are not licensed separately. 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 a vault. (See the Vaulting license.)

- **Maintenance**: A Maintenance license 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.

- **Multi-mount**: A Multi-mount license enables StorNext File System SAN 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.

   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.

Licenses for Features

- **Replication**: A replication license is required if you want to use StorNext's 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.

- **Deduplication**: A deduplication license is required if you want to use StorNext's Data Deduplication (blockpool) feature. This license is available for either File System only or Storage Manager environments.

- **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.

- **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'.)

- **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 Server used for DDM. Each DDM server 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 (set), not the DDM Server.

- **Failover (HA)**: A Failover (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 StorNext's 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*.

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. The number displayed is the licensed capacity for files being managed by the StorNext software.

Following is an explanation of the limit for each feature as it pertains to licensing:

- **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.

- **Storage Manager**: All data that is written to a Storage disk and/or 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 storage 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.

> 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.

- **Storage Disk**: Data stored in a Storage Disk is also "charged" against the Storage Manager license capacity.

- **Checksum**: If present, a Checksum license does not have an associated capacity.

- **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.

Determining 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>
```

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.

Updating Licenses

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**.

Auto-Generated and Evaluation Licenses

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.

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.

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

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

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>
```

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.

Obtaining Licenses

After purchasing an optional StorNext software license, you must contact the Quantum Technical Assistance Center at licenses@Quantum.com to request your license strings.

In your email you must provide the following:

1 **Serial number**: StorNext system serial number.

You can find this number on your StorNext DVD or box. If you downloaded StorNext, the serial number is in the Download Media Kit.

2 **New software features licensed**: List of purchased StorNext add-on features for which you wish to enable licenses.

If you are enabling licenses for File System SAN clients, Distributed LAN clients, Distributed Data Movers, or Storage Manager, please be sure to include:

  a **number additional SAN clients—and number currently licensed SAN clients**

  b **number additional LAN clients purchased—and number currently licensed distributed LAN clients**

  c **additional capacity (TB) purchased for Storage Manager-and current licensed capacity for Storage Manager**

  d **number additional Distributed Data Mover (DDM) licenses purchased**

  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.

3 Server identification numbers (System ID): StorNext M330 server identification number. (Also known as the cvfsid number.) If you have an HA system, you must provide IDs for both the Primary and Secondary.

You can find these numbers in the StorNext GUI on the Configuration Wizard's **Configuration > License** screen.

4 Maintenance License status: Indicate whether you need an updated Maintenance License. If you recently purchased an extension to your service contract and have not yet updated your Maintenance license, please indicate that you would like an updated Maintenance License as well.

Note: If you purchased a Multi-mount license, you must provide serials numbers and server identification numbers for all metadata controllers involved in the multi-mount.

After the Quantum Technical Assistance Center receives the above information, a representative will send you license strings for the products/features you specified within one business day.

1 Enter these license strings on the StorNext **Configuration > Licenses** screen.

If you are logging into StorNext for the first time, the StorNext End User License Agreement appears.

Figure 1 Configuration > Licenses > Agreement Screen
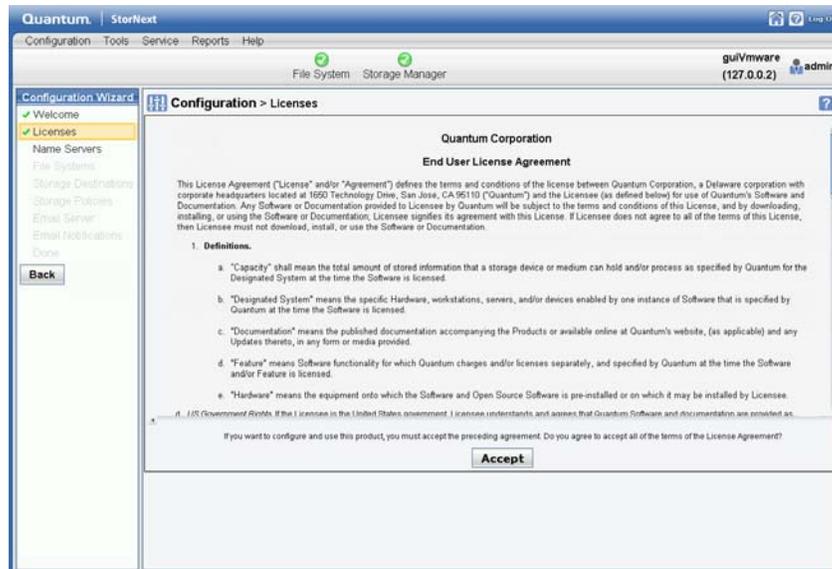
2 Read the end-user license agreement carefully, and then click **Accept**. The **Configuration > Licenses** Entry screen appears.

Figure 2 Configuration >
Licenses Screen
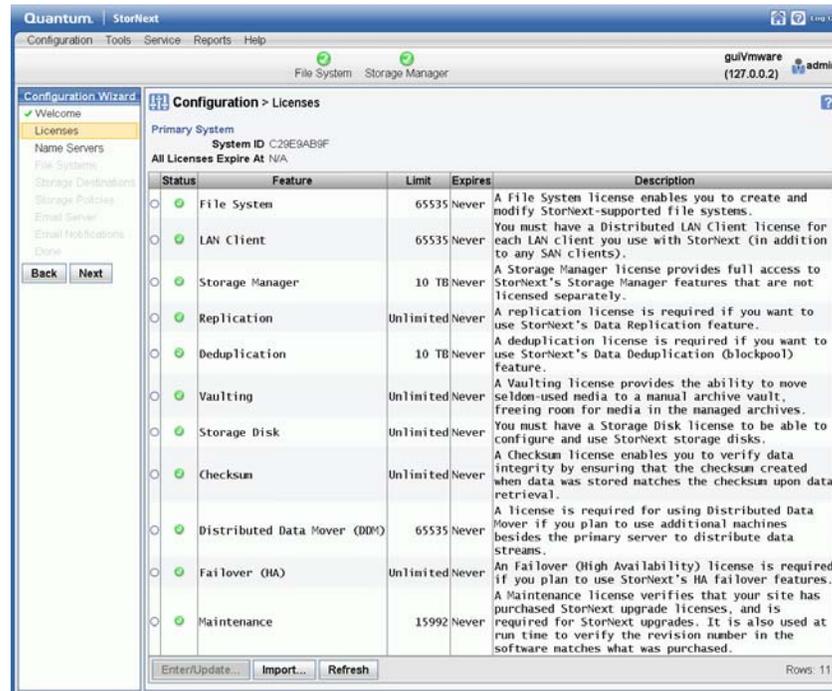
3 To import license string information from a text file, click **Import**. When the **Import License File** window appears, click **Browse** and navigate to the file's location. Click **Close** to continue.

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 To enter licenses individually, select the product/feature and then click **Enter/Update**. At the **[License/Feature Name] License** field, enter the license string you received from Quantum. Click **Apply** to apply the string.

Figure 3 Configuration >
Licenses > Enter/Update
Screen
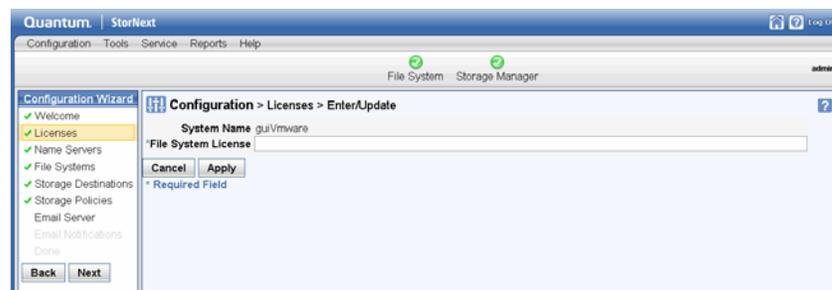
A message at the top of the screen informs you whether the information was successfully validated and copied into the StorNext license file. The status indicator changes to enabled (a green check mark icon) and you are now ready to activate your licenses.

5 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.

For assistance, contact the Quantum Customer Support Center:
USA: 800-284-5101 (toll free) or 949-725-2100
EMEA: 00800-4-782-6886 (toll free) or +49 6131 3241 1164
APAC: +800 7826 8887 (toll free) or +603 7953 3010
Worldwide: http://www.quantum.com/ServiceandSupport

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Backup. Recovery. Archive. It's What We Do.

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.