

Quantum[®]

User's Guide Addendum

StorNext 4.1



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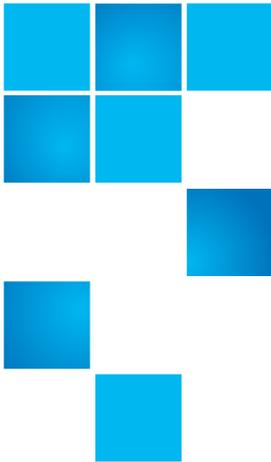
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Appendix H

StorNext

Offline Notification

Note: This addendum to the *StorNext 4.1 User's Guide* contains changes added to Appendix H since StorNext 4.1 was released for general availability.

Appendix H is included in its entirety, with additions and changes indicated by red change bars in the left margin.

StorNext supports a Windows feature called **StorNext Offline Notification**. This feature should be installed only at sites which are using StorNext Storage Manager.

This appendix provides an overview of the feature and describes how to install the application, configure and uninstall the feature. The following topics are addressed:

- [StorNext Offline Notification Overview](#)
- [Installing the Notification Application](#)
- [Starting the Notification Application](#)
- [Configuring the Notification Application](#)
- [Uninstalling the Notification Application](#)

StorNext Offline Notification Overview

The StorNext Offline Notification feature is a Windows only application which helps users from accidentally retrieving offline StorNext files. Retrieving an offline (i.e., truncated) file often takes several minutes, and the user's application is "blocked" while the retrieval is in progress. This feature prevents unintentional access and the subsequent retrieval of offline files by asking the user if the retrieval is desired before continuing.

What is a StorNext Offline File?

A StorNext *offline file* is a file in the StorNext file system which has been moved from primary storage (such as a disk) to secondary storage by the Storage Manager. Usually this involves a storage device such as tape, which is slower than disk. Files are moved to secondary storage according to administrative policies (see Appendix E: Storage Manager Truncation).

Once this has occurred, the StorNext Storage Manager truncates the file and adds the Windows offline attribute to the file. You can identify an offline file in Windows Explorer by the square black box with a clock icon or X icon. Although the offline file is visible and you can view its properties, the data in the file is not physically present on primary storage (although stub files have some data present). The offline attribute should not be confused with Microsoft Windows® CIFS-related offline files.

Why Block Access to Offline Files?

Moving files from secondary storage to primary storage is often a lengthy process. The application causing the retrieval will be blocked until the file is restored. The file is usually on a tape, which contributes to the length of the delay. Users may wish to avoid these delays for files which are accidentally accessed. Generating a warning not only helps users understand they are accessing an offline StorNext file, but also why accessing the data in the file is taking so long.

Offline Notification Configuration Options

The StorNext Offline Notification application can be configured to work in one of the following three modes (see configuration instructions):

- 1 Notify the user via a pop-up dialog
- 2 Deny access to all offline files
- 3 Allow access to all offline files

The first mode, notify the user, should be used when the user is allowed to decide whether the file should be retrieved.

The second mode should be used if the workstation user never wants to retrieve offline files. In this case the user's application will fail if it tries to access data in an offline file.

The last mode should be used if unrestricted access to offline files is desired.

How the Notification Feature Operates

If your StorNext Offline Notification feature is set to configuration mode #1, you will see a pop-up any time any application on the Windows system tries to read or write an offline StorNext file. Your application will be blocked until either you respond to this pop-up or the pop-up times out after two minutes. If the pop-up times out, the I/O request will be allowed. The pop-up can occur only with files on a StorNext file system. Offline files on other file systems will not be blocked.

Note: Metadata file operations such as looking at a file's properties or renaming a file will not be blocked.

When a user responds to a pop-up, the response is stored in an internal cache. The cache is 1024 entries long. This cache is used for both "allow" and "deny" entries. The cache is checked before generating a pop-up. If a matching entry is found, the previous answer is used. If the cache is full and a new entry is needed, the oldest entry is removed. Files marked as "deny" will eventually time-out. "Allow" entries do not time-out.

If configuration mode #2 is selected, no pop-up will appear; access to the file will automatically be denied. The application immediately receives the error "Access Denied."

If configuration mode #3 is selected, no pop-up will appear; access to the file is automatically allowed. However, the application's I/O request will be blocked by StorNext until the file is retrieved.

For configuration mode #1: If multiple applications are trying to access the same file at the same time, all applications are blocked, but only one pop-up will appear. If the user wants to allow access to the file, he should select the "Yes" button. All blocked applications will continue to be blocked until the file is retrieved to primary storage. If another application tries to access the file before it is retrieved, it will not cause a new pop-up (unless the file has been removed from the Offline Notification's cache.)

If, on the other hand, the user wants to deny access to the file, the user should select the "No" button. All blocked applications will be denied access and all future requests will be denied access until the file is removed from the Offline Notification's cache.

Note: Responding "Yes" or "No" to any new pop-up will not affect previous responses.

In summary, for configuration mode #1 only, one pop-up dialog will appear for each accessed offline StorNext file. The file is no longer offline when the file is restored to primary storage.

In configuration mode #2, access to an offline file is always immediately denied.

In configuration mode #3, access to an offline file is always allowed. The user will experience a delay while the file is being retrieved, and she will not see a popup.

Installing the Notification Application

The Quantum Offline Notification feature can be installed on the following platforms:

- Windows XP (x86)
- Windows 2003 SP1 (x86)
- Windows 2003 SP1 (x64)
- Windows Vista (x86)
- Windows Vista (x64)
- Windows 2008 Server (x64)
- Windows 2008 R2 Server (x64)
- Windows 7 (x86)
- Windows 7 (x64)

Caution: Do not install this feature on a Windows CIFS server or multi-user machines. This feature should be installed only on single user machines.

Installing onto a Standalone Machine

Locate the appropriate installation package for the machine onto which you want to install. Use `SnfsOfflineNotifyInstall32.zip` for 32-bit machines and `SnfsOfflineNotifyInstall64.zip` for 64-bit machines.

Move the appropriate installation package to the destination machine and unzip it. You will find two files: `SnfsOfflineSetup.exe` and `SnfsOfflineSetup.msi`. Use the following steps to install:

- 1 Log onto the machine as a Local or Domain Administrator. In Windows Explorer start the install by double clicking on `SnfsOfflineSetup.exe`.

On Windows XP platforms and higher Windows versions, an alternate method to start the installation is to right-click on `SnfsOfflineSetup.exe` and select "Run as ..." as shown in [Figure 128](#).

If you select this option, you must log in with the credentials for the Administrator account as shown in [Figure 129](#).

Figure 128 Run as Administrator

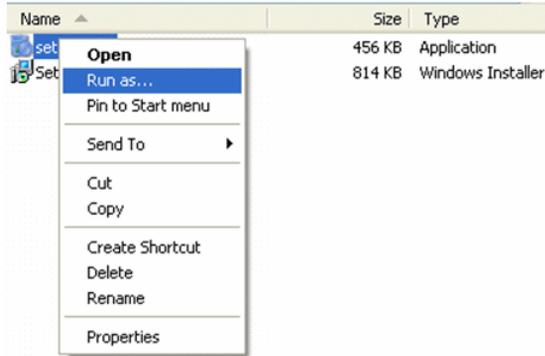
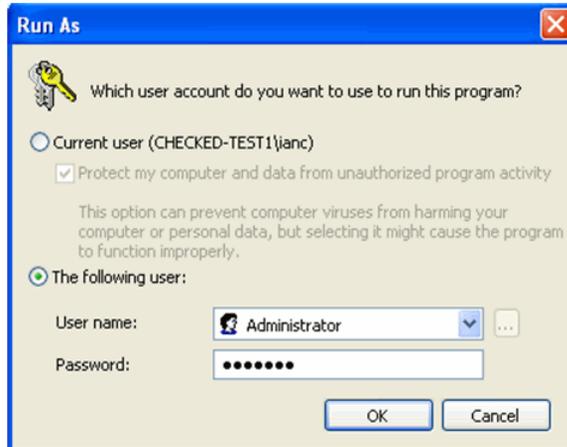


Figure 129 Logging in to the Administrator Account



- 2 The application installer requires .NET updates to function correctly. If you are installing onto a machine without any of the .NET updates, you will be prompted to update to .NET Framework 3.5 as shown in [Figure 130](#).

Figure 130 Installing the .NET Framework



- 3 Read the end user license agreement, and then click **Accept** to continue.

- 4 Wait for the .NET updates to be downloaded and installed. After this process is complete, the Offline Notification Setup Wizard launches.

Figure 131 Offline
Notification Setup Wizard



- 5 Click **Next** to continue. The Quantum End User License Agreement window appears.

Figure 132 Quantum End User License Agreement



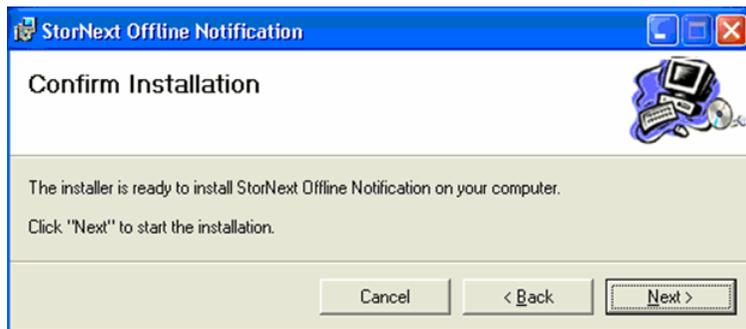
- 6 Read the end user license agreement. If you accept the terms of the agreement, select **I Agree** and click **Next** to continue. The **Select Installation Folder** window appears. (If you do not accept the terms of the agreement, click **Cancel** to stop the installation.)

Figure 133 Select Installation Folder



- 7 On the **Select Installation Folder** window, you can do the following:
 - Change the location where the installation resides by clicking **Browse** and navigating to the desired location
 - Specify whether to install Offline Notification for yourself only, or for everyone who uses the computer
- 8 Click **Next** to continue. The **Confirm Installation** window appears.

Figure 134 Confirm Installation

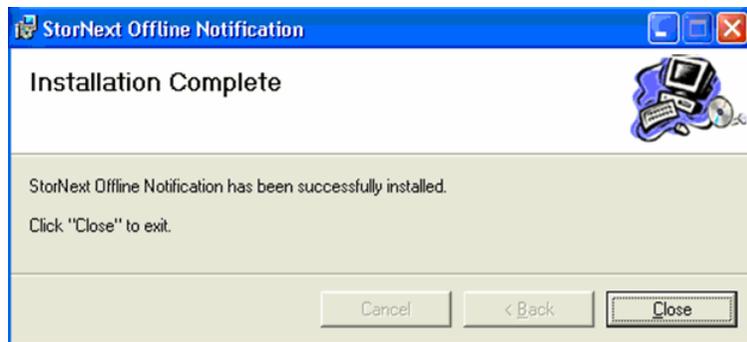


- 9 Before you proceed, make sure you have enough disk space to install the binaries. A minimum of 10MB is required.
- 10 Click **Next** to begin the installation.

Note: This is the last opportunity you will have to cancel the installation, so be certain you want to install before you click **Next**.

After the application is installed, the **Installation Complete** window appears.

Figure 135 Installation Complete



- 11 Click **Close** to exit the installation .

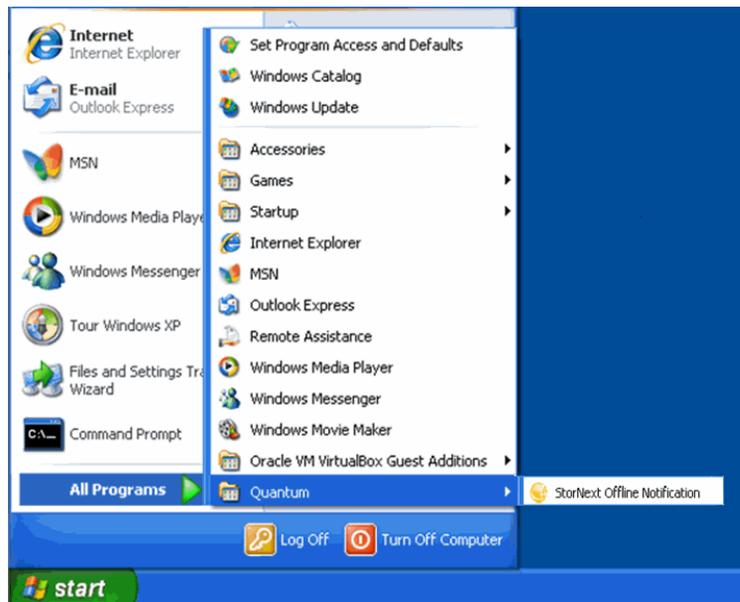
The next time you start your computer, the notification application automatically starts on login.

Starting the Notification Application

The StorNext Offline Notification application starts automatically after you log in, but if necessary you can start it manually.

From the Windows Start menu, choose **All Programs > Quantum > StorNext Offline Notification**. The application starts.

Figure 136 Manual Start



Configuring the Notification Application

When the application is already running, the gold StorNext icon appears in the Windows System Tray (generally found at the lower right corner of the screen).

When you hover the mouse over the gold StorNext icon and right click, three options appear:

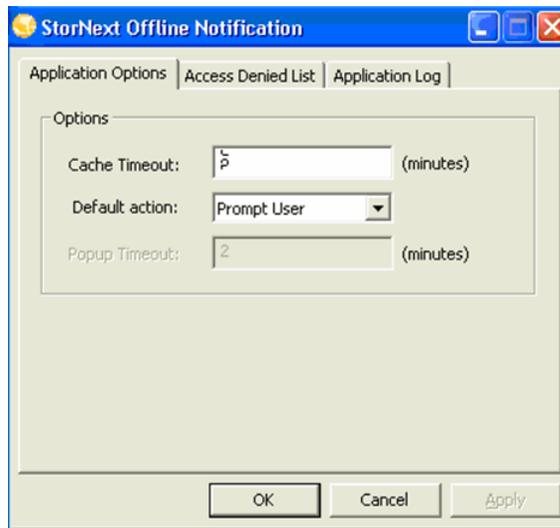
- **Preferences:** View and enter application options, view a blocked file list, and view the application log
- **About:** View the StorNext Offline Notification application's current version number and copyright date
- **Exit:** Terminate the application

Setting Application Options

Follow these steps to set preferences for the StorNext Offline Notification application:

- 1 If you have not already done so, move the mouse over the gold StorNext icon in the Windows system tray and right-click. Select **Preferences**. (Alternatively, you can double-click the StorNext icon.)

Figure 137 Application
Options



2 View or adjust the following fields on the **Application Options** tab:

- **Cache Timeout:** The value in the **Cache Timeout** field determines how many minutes a file remains in the "Access Denied" list. The range is 1 to 499,999 minutes, and the default is 5 minutes. However, the cache can hold only 1024 entries total for both allowed and denied entries. If the total entries exceeds 1024, the oldest entry is deleted even if the timeout has not been reached.
- **Default Action:** This drop down list provides three options:
 - **Prompt User:** When this option is selected, users are always prompted with a dialog box whether to open an offline file, which means retrieving the file from offline storage such as tape, or from near-line disk storage. Users also have the option of preventing the file from being retrieved.
 - **Always Deny Access:** When this option is selected, access to offline files is always denied, preventing files from being retrieved from offline storage.
 - **Always Allow Access:** When this option is selected files are always allowed to be retrieved from offline storage without prompting the user.

Viewing Access Denied Files

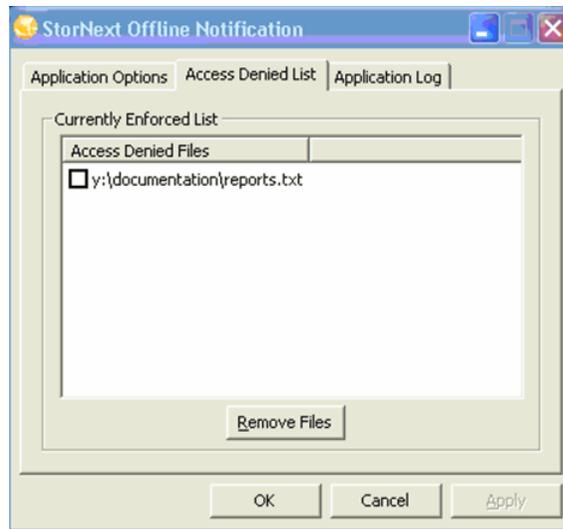
The **Access Denied List** tab displays a list of files that have been prevented from being retrieved from offline storage. (See [Figure 138](#).) The files listed are automatically prevented from being retrieved as long as they remain in the Access Denied list.

These files are automatically removed from this list after they have not been accessed for a period of time (see the **Cache Timeout** field on the **Application Options** tab to determine the timeout period.) If you need to access any file in this list before the timeout period has expired, you must remove it from the list.

To remove files from the list, select the check box next to the desired files and then click **Remove Files**. Only the files selected will be removed from the access denied list.

Note: The **Remove Files** button is disabled when there are no files in the list.

Figure 138 Access Denied List



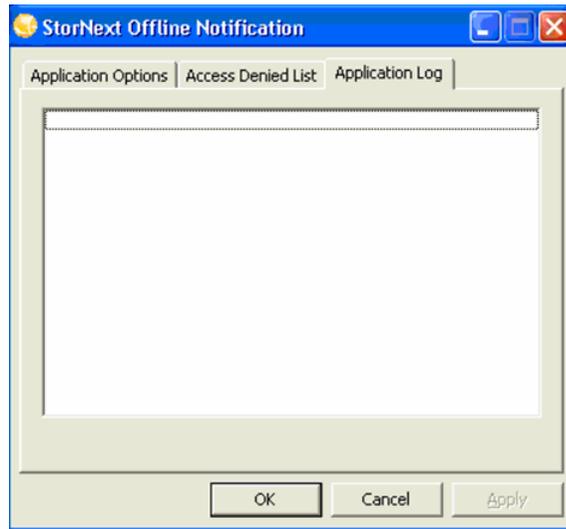
When you select the **Prompt User** option from the **Default Action** dropdown list, files are added to the access denied list after an attempt is made to open an offline file and you prevent the file from being retrieved.

Files are also added to the blocked files list whenever the **Default Action** of **Always Deny Access** is selected. This means that every offline file opened is added to the list and no notification is presented to the user.

Viewing the Application Log

The Application Log tab displays any events that have occurred in the system.

Figure 139 Application log



Exiting Application Preferences

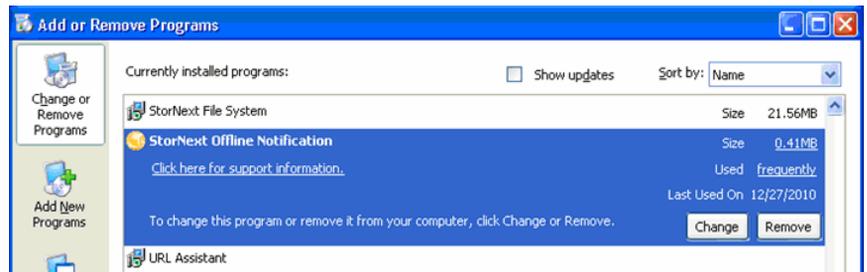
When you are finished viewing or setting preferences for the StorNext Offline Notification application, click **OK** to close the Preferences window.

Uninstalling the Notification Application

Follow these steps to uninstall the StorNext Offline Notification application:

- 1 Access the Control Panel by choosing **Control Panel** from the Windows Start menu.
- 2 When the Control Panel launches, open **Add or Remove Programs** (on Windows XP) or **Programs and Features** (on Windows Vista and later platforms).
- 3 When the **Add or Remove Programs** window appears click **Change or Remove Programs** if it isn't already selected.

Figure 140 Removing the Application



- 4 Locate and select the **StorNext Offline Notification** application. Programs are typically listed alphabetically.
- 5 Click **Remove** to uninstall the application.

Appendix H: StorNext Offline Notification Uninstalling the Notification Application