

## Administration Guide

# Novell® Novell File Reporter

**1.0.1**

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# About This Manual

This administration guide is written to provide network administrators the conceptual and procedural information for generating reports by using Novell® File Reporter.

- ♦ Chapter 1, “Overview,” on page 9
- ♦ Chapter 2, “Using NFRAdmin,” on page 13
- ♦ Chapter 3, “Conducting a System Inventory,” on page 15
- ♦ Chapter 4, “Scheduling and Performing Scans,” on page 19
- ♦ Chapter 5, “Scheduling and Creating Reports,” on page 23
- ♦ Chapter 6, “Stopping and Restarting Services,” on page 43
- ♦ Appendix A, “Glossary,” on page 47

## Audience

This guide is intended for network administrators who manage user and collaborative network storage resources.

## Feedback

We want to hear your comments and suggestions about this guide and the other documentation included with this product. Please use the User Comment feature at the bottom of each page of the online documentation, or go to [www.novell.com/documentation/feedback.html](http://www.novell.com/documentation/feedback.html) and enter your comments there.

## Documentation Updates

For the most recent version of the *Novell File Reporter Administration Guide*, visit the [Novell File Reporter Web site \(http://www.novell.com/documentation/filereporter10/index.html\)](http://www.novell.com/documentation/filereporter10/index.html).

## Additional Documentation

For additional Novell File Manager documentation, see the following guides at the [Novell File Reporter Documentation Web site \(http://www.novell.com/documentation/filereporter10/index.html\)](http://www.novell.com/documentation/filereporter10/index.html):

- ♦ *Novell File Reporter 1.0.1 Installation Guide*

## Documentation Conventions

In this documentation, a greater-than symbol (>) is used to separate actions within a step and items in a cross-reference path.

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# Overview

# 1

This section provides an understanding of Novell® File Reporter, the NFR Engine, and NFR Agents, along with how reports are generated.

- ◆ [Section 1.1, “Novell File Reporter,” on page 9](#)
- ◆ [Section 1.2, “How Novell File Reporter Works,” on page 9](#)
- ◆ [Section 1.3, “NFR Engine,” on page 10](#)

## 1.1 Novell File Reporter

Novell File Reporter helps organizations more effectively manage network storage by providing administrators the ability to access a comprehensive set of information about their network storage so that they can determine the best means of addressing their storage content. When organizations know what files are being stored, where they are stored, when they were last accessed, how many versions of a file exist, etc., they are better informed to make decisions about where to store files, what files can be deleted, how to tier their storage, how to plan for storage growth, and more.

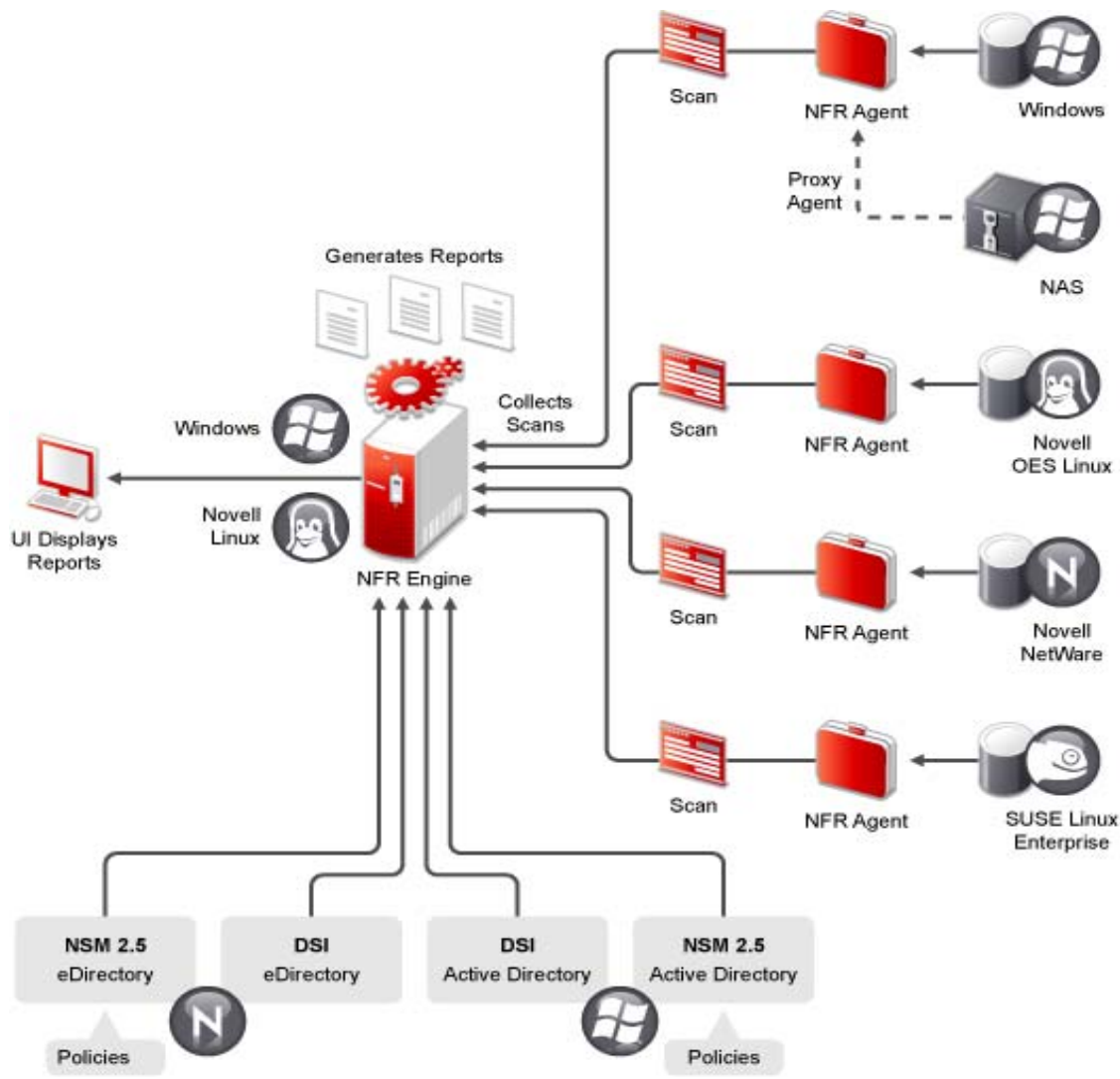
Novell File Reporter reports on:

- ◆ Files currently stored on the network
- ◆ The size of these files
- ◆ When these files were last accessed
- ◆ The location of possible duplicate versions of these files
- ◆ Volumes with the most data
- ◆ Volumes that are nearly full or nearly empty
- ◆ Other file storage information

## 1.2 How Novell File Reporter Works

Novell File Reporter was developed to examine and report on terabytes of data—in other words, millions of files, directories, and subdirectories scattered among the various storage devices that are part of the network. To do so efficiently, Novell File Reporter disperses the load of work between an NFR Engine and NFR Agents.

**Figure 1-1** Novell File Reporter work process diagram



## 1.3 NFR Engine

The NFR Engine is the mechanism that runs Novell File Reporter. It can reside on a Novell Open Enterprise Server running SUSE® Linux, a SUSE Linux Enterprise Server, or Microsoft\* Windows Server 2003 or 2008. In a small organization, the NFR Engine can be run on a server that is also used for other purposes. In a larger organization, the NFR Engine should run on a standalone server.

The NFR Engine does the following:

- ♦ Schedules the scans that are conducted by the NFR Agents
- ♦ Processes the scans and compiles them for inclusion in a report
- ♦ Provides all of the report information to the user interface
- ♦ Determines that a condition has been met to start a triggered report as opposed to a scheduled report
- ♦ Monitors how many agents are online

## 1.3.1 NFR Agents

NFR Agents are compact programs that run on many types of commercially available operating systems, with more planned for the future. Currently, NFR Agents are available for Novell Open Enterprise Server 2, SUSE Linux Enterprise Server, Novell NetWare<sup>®</sup>, and Microsoft Windows Server 2003 or 2008. NFR Agents can examine and report on a variety of file systems, including Novell NSS, Traditional, NCP<sup>™</sup>, Windows NTFS, Reiser, and ext3.

---

**IMPORTANT:** For optimal results, you should install an NFR Agent on every server that has a volume you want to report on.

NFR Agents cannot be installed on NAS devices or clustered hardware devices. For Novell File Reporter to report on these type of devices, NFR Agents can be set up as proxy agents. Novell File Reporter 1.0.1 only supports proxy agents in Active Directory managed networks. For more information, see [“Configuring Proxy Agents for NAS Devices.”](#)

---

## 1.3.2 Scans

Through the NFR Agent, Novell File Reporter takes a “scan” of the file system of the storage resource at the moment it is examined. A storage resource can be a server volume, a Novell Storage Manager policy, a network folder path, or a Linux\* mount point. The scan includes comprehensive information on file types being stored, if these files are duplicated, where duplicate files reside, when files were created, when files were last opened, and much more.

Scans can be taken at any time, but we recommend using a scheduled time after normal business hours to minimize the effect on network performance.

Scans are indexed and compressed data that is specific to a storage resource. Scans are decompressed only when data within the scan is used to generate a report. In other words, a scan of a particular storage resource is utilized only if it includes content that is part of the specifications of a report request. For example, if an administrator runs a report specific to user home directories, and all of those directories are located on two volumes, the scans that the administrator uses to generate the report are only the two scans from the two specific volumes, and not scans from the other storage resources.

Scans are both indexed and compressed because of their potentially large size. Indexing means that certain data—such as a file owner’s name—is stored just once in the index, with pointers to all files owned by that user. Additionally, the scan is compressed. By using both indexing and compression, the scan is stored at a fraction of its actual size. For example, a decompressed scan of a single storage resource with 12,000,000 files is 1.44 GB. Indexed and compressed, the scan is 464 MB.

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**NOTE:** Procedures for performing scans are documented in [Chapter 4, “Scheduling and Performing Scans,”](#) on page 19.

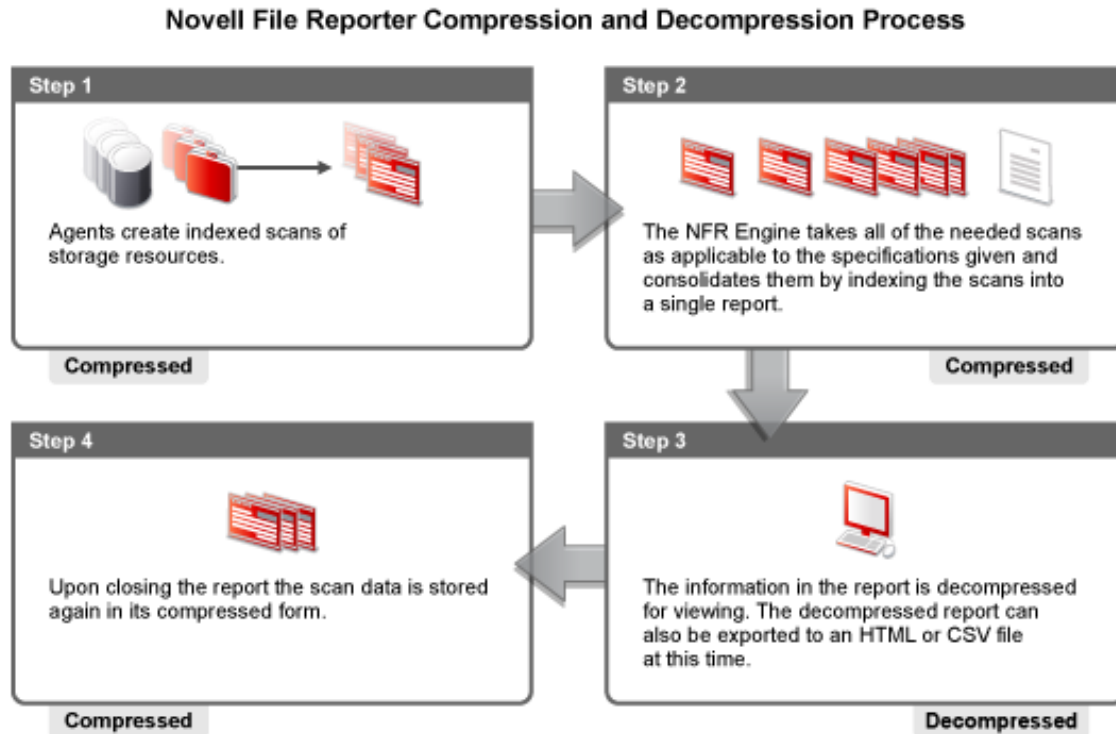
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## 1.3.3 Reports

To generate a report, the NFR Engine takes all of the needed scans that are applicable to the specifications of the report and consolidates them by indexing the applicable scans, into a single report.

With terabytes of information being examined and reported on, the decompressed report can be in the gigabytes. For this reason, when you view a report, or more likely, very specific information through a filtered report, Novell File Reporter decompresses only the information you want to see from the report for viewing on a computer workstation monitor.

**Figure 1-2** *Compression and decompression process*



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**NOTE:** Procedures for generating reports are documented in [Chapter 5, “Scheduling and Creating Reports,”](#) on page 23.

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# Using NFRAdmin

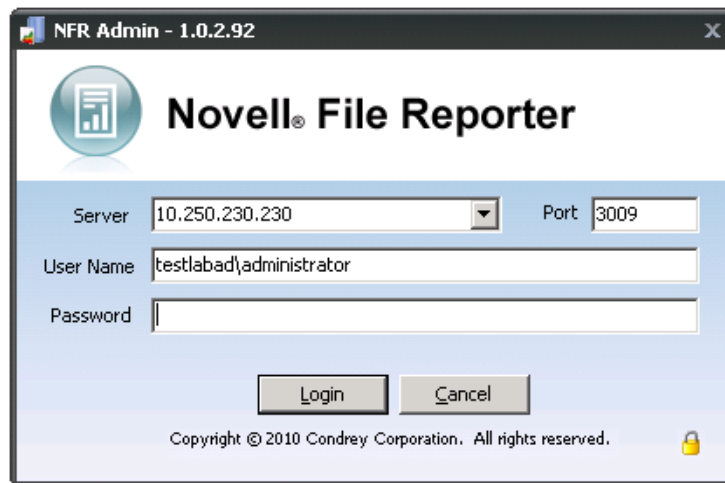
# 2

NFRAdmin is the administrative interface for Novell® File Reporter. All management tasks are run from this easy-to use Windows application. NFRAdmin is built from the Microsoft .NET Framework and requires that it be run on a Windows workstation or server with .NET 3.5 installed.

Procedures for installing NFRAdmin are included in “[Installing NFRAdmin](#)” of the *Novell File Reporter Installation Guide*. If you have not yet installed NFRAdmin, go to that chapter to install it before proceeding with this chapter.

## 2.1 Launching NFRAdmin

- 1 Double-click the NFRAdmin icon from the Windows desktop.  
An authentication dialog box appears.

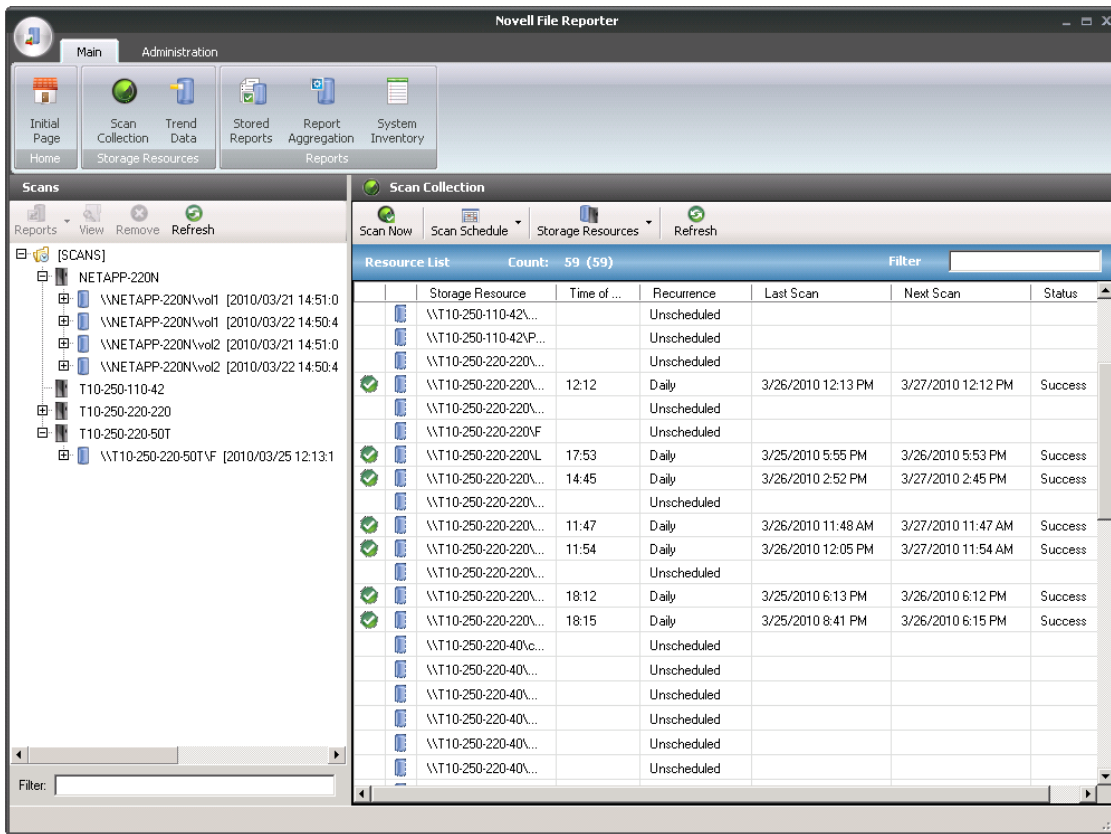


- 2 In the *Engine* field, enter the DNS name or IP address.
- 3 In the *Port* field, enter the secure port number.  
The default setting for Novell eDirectory managed networks is 8009. The default setting for Microsoft Active Directory managed networks is 3009. If you chose to not use the default port number when you installed the NSM Engine, you will need to enter the port number that you chose.
- 4 Enter the username and password.  
The user must be a member of the NFRAdmins group to be able to log in.
- 5 Click Login.

## 2.2 Using the NFRAdmin Interface

The NFRAdmin interface has two tabs: *Main* and *Administration*. Clicking each tab displays an associated toolbar directly below the tabs. The toolbar is divided into sections based on the function. Clicking a button on the toolbar displays data or an interface for performing a management function.

The interface window is divided into two panes. The left pane displays the scans available from which you can generate reports. The right pane displays content to the specific button you choose from the toolbar.



Procedures for using the tools in NFRAdmin are covered in the chapters that follow.

# Conducting a System Inventory

# 3

Prior to performing a scan of a storage resource and generating a report, you should conduct a system inventory.

- ◆ [Section 3.1, “System Inventory,” on page 15](#)
- ◆ [Section 3.2, “Verifying that Storage Resources Are Listed \(Conditional\),” on page 16](#)
- ◆ [Section 3.3, “Conducting a System Inventory,” on page 17](#)

## 3.1 System Inventory

A system inventory provides a condensed overview of the number of directories and files within those directories on selected storage resources.

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**NOTE:** Depending on the type of Novell® File Reporter environment you have deployed, a storage resource can be a server volume, a Novell Storage Manager policy, a network folder path, or a Linux mount point.

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Because the system inventory is relatively quick to run, small in size, and can include data on multiple storage resources, there might be times when you want to simply conduct a system inventory rather than generate a report.

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**IMPORTANT:** An initial system inventory should be conducted prior to determining the optimal disk space you need on the server hosting the NFR Engine for storing scans and reports. After the NFR Engine and at least one NFR Agent have been installed and configured, you can conduct a system inventory for the storage resource serviced by the NFR Agent. You then use that data to estimate the amount of files and disk space used on the other storage resources you plan to report on, in order to estimate the total disk space needed.

---

After the system inventory has been conducted, one available option is to export the inventory data to a Microsoft Excel\* file, which provides expanded detail on the storage resource, including:

- ◆ Size estimates in “raw” form and uncompressed form
- ◆ Collection time estimates for generating a scan
- ◆ Transport time estimates for transporting the data from the NFR Agent to the NFR Engine
- ◆ Recommendations for dispersing the scanning schedule during a 14-day calendar

A sample system inventory exported into Microsoft Excel is shown below.

**Figure 3-1** Size estimates displayed in a system inventory exported to Excel

	A	B	C	D
1				
2	Engine			
3	No scans maintained		2	
4	Normal disk storage (MB)		25.728	
5	Worst case disk storage (MB)		111.490	
6				
7				
8				
9	Storage Resources			
10	Server	Volume	Raw Scan Size (MB)	Compress Scan Size (MB)
11	T10-250-220-60	\\T10-250-220-60\C	4.085	1.225
12	T10-250-220-60	\\T10-250-220-60\Corp	.000	.000
13	T10-250-220-60	\\T10-250-220-60\DriveE	6.546	1.964
14	T10-250-220-60	\\T10-250-220-60\Project Files	4.093	1.228
15	T10-250-220-60	\\T10-250-220-60\Shared Files	.006	.002
16	T10-250-220-60	\\T10-250-220-60\StrangeFiles	.005	.002
17	T10-250-220-60	\\T10-250-220-60\UserData1	.003	.001
18	T10-250-220-60	\\T10-250-220-60\UserData2	28.142	8.442
19	T10-250-220-60	\\T10-250-220-60\laazz	.000	.000

## 3.2 Verifying that Storage Resources Are Listed (Conditional)

Before conducting a system inventory, make sure all storage resources you plan to report on are listed.

- ◆ [Section 3.2.1, “Non-directory Services Managed Network,” on page 16](#)
- ◆ [Section 3.2.2, “Directory Services Managed Network,” on page 16](#)

### 3.2.1 Non-directory Services Managed Network

- 1 Launch NFRAdmin.
- 2 Click *Scan Collection*.
- 3 Verify that all desired storage resources are listed in the Filtered Resource List.
- 4 (Conditional) If a desired storage resource is not listed, click the *Storage Resources* drop-down menu and select *Add Storage Resource*.
- 5 In the Path Browser, locate the storage resources you want to add, select them, and click the + button to add them to the Selected Paths pane on the right side of the Path Browser.
- 6 Click *OK*.

### 3.2.2 Directory Services Managed Network

- 1 Launch NSMAdmin.
- 2 Click *Main*.
- 3 Click *Volume List*.

4 Do one of the following:

- Click *Discover New Volume List* to discover any missing volumes.
- Click *Rebuild Volume List* to rebuild the volume list.

## 3.3 Conducting a System Inventory

With all of your storage resources listed, you are ready to generate a system inventory.

- 1 Launch NFRAdmin.
- 2 Click *Main*.
- 3 Click *System Inventory*.
- 4 Click *Run Report*.

The screenshot shows the Novell File Reporter interface. The 'System Inventory' report is displayed, showing a table with columns for Storage Resource, Directory Count, and File Count. The table lists various storage resources and their corresponding counts.

Storage Resource	Directory Count	File Count
\\T10-250-220-60\C	4,338	32,743
\\T10-250-220-60\Corp	1	1
\\T10-250-220-60\DriveE	7	76,244
\\T10-250-220-60\Project Files	4,349	32,805
\\T10-250-220-60\Shared Files	12	25
\\T10-250-220-60\StrangeFiles	11	25
\\T10-250-220-60\UserData1	8	11
\\T10-250-220-60\UserData2	25,382	241,011
\\T10-250-220-60\vaazz	1	2

The system inventory data appears in the Storage Resource, Directory Count, and File Count columns.

The system inventory can be saved into several formats, such as Excel or CSV. You can save the system inventory by clicking *Save Report* and selecting the format you wish to save it in.

---

**IMPORTANT:** To view all of the system inventory data in Excel, you must enable macros.

---



# Scheduling and Performing Scans

# 4

- ♦ [Section 4.1, “Scans,” on page 19](#)
- ♦ [Section 4.2, “Adding Storage Resources,” on page 20](#)
- ♦ [Section 4.3, “Scheduling Scans,” on page 20](#)
- ♦ [Section 4.4, “Performing an Immediate Scan,” on page 20](#)
- ♦ [Section 4.5, “Troubleshooting a Failed Scan,” on page 21](#)
- ♦ [Section 4.6, “Removing a Scan,” on page 21](#)
- ♦ [Section 4.7, “Clearing a Scan Schedule,” on page 21](#)

## 4.1 Scans

Through the NFR Agent, Novell® File Reporter takes a “scan” of the file system of the storage resource at the moment it is examined. The scan includes comprehensive information on file types being stored, if these files are duplicated, where duplicate files reside, when files were created, when files were last opened, and more.

While the scan is being conducted, the data for the scan is stored on the server hosting the NFR Agent. After the scan is completed, the data is compressed and transferred to the server hosting the NFR Engine.

Scans are indexed and compressed data that is specific to a storage resource. Scans are decompressed only when data within the scan is used to generate a report. In other words, a scan of a particular storage resource is utilized only if it includes content that is part of the specifications of a report request. For example, if an administrator runs a report specific to user home directories, and all of those directories are located on two volumes, the scans that the administrator uses to generate the report are only the scans from the two specific volumes, and not scans from the other storage resources.

Scans are both indexed and compressed because of their potentially large size. Indexing means that certain data—such as a file owner’s name—is stored just once in the index, with pointers to all files owned by that user. Additionally, the scan is compressed. By using both indexing and compression, the scan is stored at a fraction of its actual size. For example, a decompressed scan of a single storage resource with 12,000,000 files is 1.44 GB. Indexed and compressed, the scan is 464 MB.

Scans can be taken at any time, but we recommend using a scheduled time after normal business hours to minimize the effect on network performance.

You should consider a number of factors as you decide how often to conduct a scan:

- ♦ Although daily scanning always provides the most up-to-date information, scanning is not throttled and places a considerable load on the server hosting the NFR Agent.
- ♦ Most storage resources do not change rapidly enough to justify daily scanning.
- ♦ Monthly scanning places the least total load on individual servers and on the network, but scans are not as up-to-date as they could be.
- ♦ You can scan frequently changing volumes more often and scan the more static volumes less often.

- ♦ Part of the decision concerning scanning frequency involves the primary purpose of the reporting. Reporting on storage trending can generally use less frequent scans, but reporting that's intended to solve immediate problems, such as "Who filled up this volume?" needs more frequent scans.
- ♦ When information is needed immediately, you can manually trigger a scan.
- ♦ For installations where you're not sure of the optimal scanning frequency, you can start with weekly scanning, and then adjust that interval based on the needs of the particular site.

## 4.2 Adding Storage Resources

This procedure is needed only for environments with the Directory Service Interface (DSI) configured in manual mode, which requires that storage resources be defined by an administrator.

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**NOTE:** When the DSI is configured for automatic mode rather than manual mode, it discovers all potential storage resources within the network, making this procedure unnecessary.

---

- 1 Launch NFRAdmin.
- 2 Click *Scan Collection*.
- 3 Click the *Storage Resources* drop-down menu and select *Add Storage Resource*.
- 4 In the Path Browser, locate the storage resources you want to add, select them, and click the + button to add them to the Selected Paths pane on the right side of the Path Browser.
- 5 Click *OK*.

The selected storage resources now appear in the Filtered Resource List and can now be scheduled for scanning.

## 4.3 Scheduling Scans

- 1 Launch NFRAdmin.
- 2 Click *Scan Collection*.
- 3 In the list of storage resources, select a storage resource and from the *Scan Schedule* drop-down menu, then select *Add Schedule*.
- 4 In the Scan Schedule dialog box, specify the time for the scan to begin (in twenty-four hour time) and the recurrence interval, and click *OK*.

The Filtered Resource List is updated with the scan information summarized in the columns.

## 4.4 Performing an Immediate Scan

- 1 Launch NFRAdmin.
- 2 Click *Scan Collection*.
- 3 Assuming you have added storage resources to the Filtered Resource List, select a storage resource you want to scan and select *Scan Now*.

## 4.5 Troubleshooting a Failed Scan

- 1 Verify that the NFR Agent service is running properly on its host machine.
- 2 Verify that the host machine where the NFR Agent is installed has enough free disk space to temporarily store a copy of the scan in its uncompressed and compressed form.

## 4.6 Removing a Scan

By default, Novell File Reporter keeps only the two most recent versions of scans for each storage resource. As a new scan is added, Novell File Reporter removes the older of the storage resource's two scans.

Even with this automated removal of scans, there might be times when you want to remove scans manually. For example, if you are performing scans from a NAS device through a particular NFR Agent working as a proxy agent for the NAS device and you later assign a different NFR Agent to be the proxy agent, you should remove the scans generated through the former NFR Agent.

- 1 Launch NFR Admin.
- 2 From the scans listed in the left pane, right-click the scan you want to remove and click *Remove Scan*.
- 3 When asked if you permanently want to remove this scan, click *OK*.

## 4.7 Clearing a Scan Schedule

There might be occasions when you need to remove a scheduled scan. For example, if you have scans scheduled for a NAS device from a particular NFR Agent that is serving as a proxy agent for the device, and you later assign a different NFR Agent to be the proxy agent.

- 1 Launch NFRAdmin.
- 2 Click *Scan Collection*.
- 3 In the pane on the right side, right-click the storage resource scheduled to be scanned and click *Clear Scan Schedule*.



# Scheduling and Creating Reports

# 5

With a system inventory conducted, and scans scheduled and performed, you are ready to schedule and create reports.

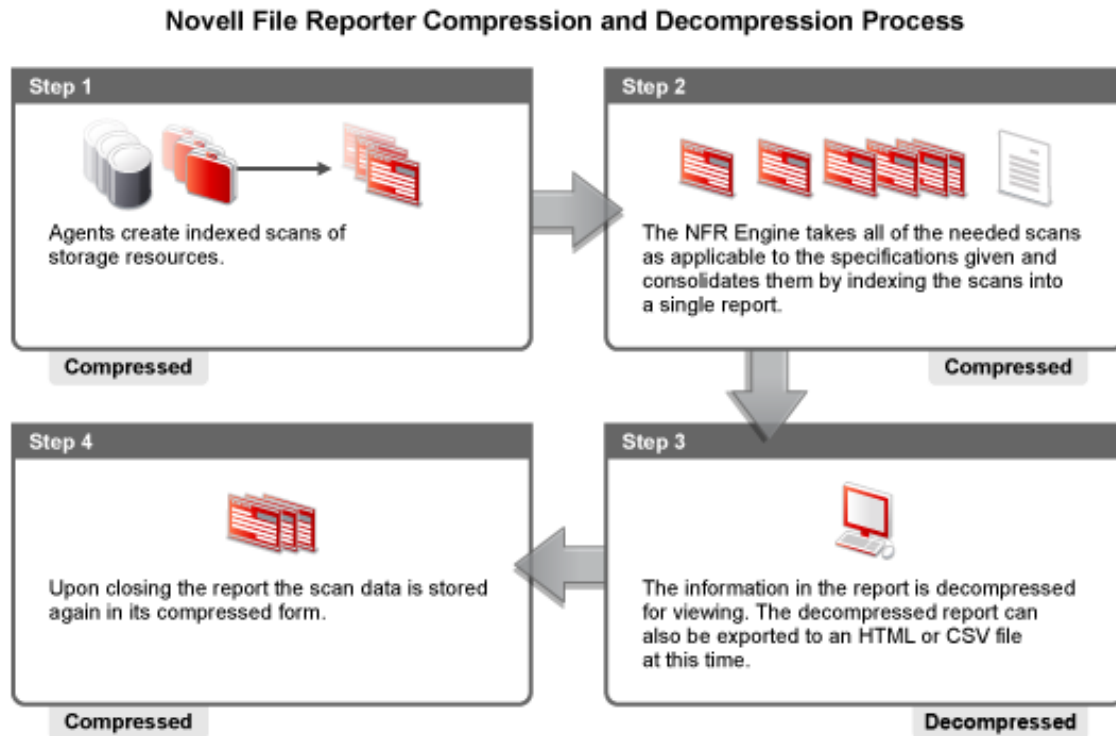
- ◆ [Section 5.1, “How Reports Are Generated,” on page 23](#)
- ◆ [Section 5.2, “Report Types,” on page 24](#)
- ◆ [Section 5.3, “Filtering,” on page 25](#)
- ◆ [Section 5.4, “Manually Creating Single Storage Resource Reports,” on page 27](#)
- ◆ [Section 5.5, “Saving Reports,” on page 29](#)
- ◆ [Section 5.6, “Adjusting the File Limit Setting for Reports,” on page 29](#)
- ◆ [Section 5.7, “Adjusting the Default Save Location for Saved Reports,” on page 30](#)
- ◆ [Section 5.8, “Manually Creating Multiple Storage Resource Reports,” on page 30](#)
- ◆ [Section 5.9, “Scheduling Reports,” on page 33](#)
- ◆ [Section 5.10, “Removing a Scheduled Report,” on page 35](#)
- ◆ [Section 5.11, “Triggered Reports,” on page 35](#)
- ◆ [Section 5.12, “Viewing Trend Data,” on page 37](#)
- ◆ [Section 5.13, “Viewing Live File Listings,” on page 39](#)
- ◆ [Section 5.14, “Modifying Proxy Agent Assignments for NAS Devices,” on page 39](#)
- ◆ [Section 5.15, “Using the Policy Path Reporter,” on page 39](#)

## 5.1 How Reports Are Generated

To generate a report, the NFR Engine takes all of the scans that are applicable to the specifications of the report and consolidates them by indexing the applicable scans into a single report.

With terabytes of information being examined and reported on, the size of a decompressed report can be in the gigabytes. For this reason, when you want to view a report, or more likely, very specific information through a filtered report, Novell® File Reporter decompresses only the information you want to see from the report for viewing on a computer workstation monitor.

**Figure 5-1** Compression and decompression with Novell File Reporter



To best demonstrate the capabilities of Novell File Reporter, this section presents the following sections in the order outlined below:

1. Report types
2. Filtering
3. Creating single storage resource reports manually
4. Creating multiple storage resource reports manually
5. Scheduling reports so that they are generated automatically
6. Triggered reports
7. Live File Listings
8. The Policy Path Reporter

## 5.2 Report Types

Novell File Reporter has eight standardized report types:

**Table 5-1** Novell File Reporter standardized report types

Report Type	Explanation
Summary Report	Provides an overview of how the storage space is being used on the storage resource. The report is relatively small in comparison to the other reports because it merely summarizes each folder in the storage resource with the file count, the cumulative size of the files, and the percentage of disk space that each folder and its contents are taking up within a storage resource.
Access Date Age Report	Presents storage data according to when files were last accessed. You can use this report to determine which files have not been accessed for a given amount of time and then decide whether to delete, archive, or move those files to less expensive storage.
Modification Date Age Report	Presents storage data according to when files were last modified. You can use this report to determine which files have not been modified in a given amount of time and then decide whether to delete, archive, or move those files to less expensive storage.
Filename Extension Report	Groups data according to filename extension. This report is good for determining file types that you do not want stored on your network drives. For example, you can easily identify who is storing .MP3 or .MOV files.
Owner Report	Groups data according to file owners. If it is determined that certain users are using a disproportionate amount of storage, you can see what these users are storing and if they are justified in doing so.
Duplicate File Report	Indicates duplicate versions of files being stored and their locations. A principle objective for any organization determined to limit network storage usage is to eliminate duplicate versions of files, and to place individual files to be shared in a shared network location.
Comparison Report	Presents side-by-side data from two scans showing files that have been added or deleted between two points in time. You can use this report to determine why storage consumption increased from one date to another, or how much impact a comprehensive network storage cleanup had.
Storage Cost Report	Indicates storage charges according to storage allocation charges established in the optional <i>Charge Back</i> setting. You can use this report to determine which users or groups are being irresponsible with network storage practices.

## 5.3 Filtering

When any of the reports (except the Summary Report) are generated, Novell File Reporter creates a report containing all file-based data for the storage resources or Novell Storage Manager policies from which you want to report. This report has the potential to be gigabytes in size, and possibly hundreds of thousands of pages long.

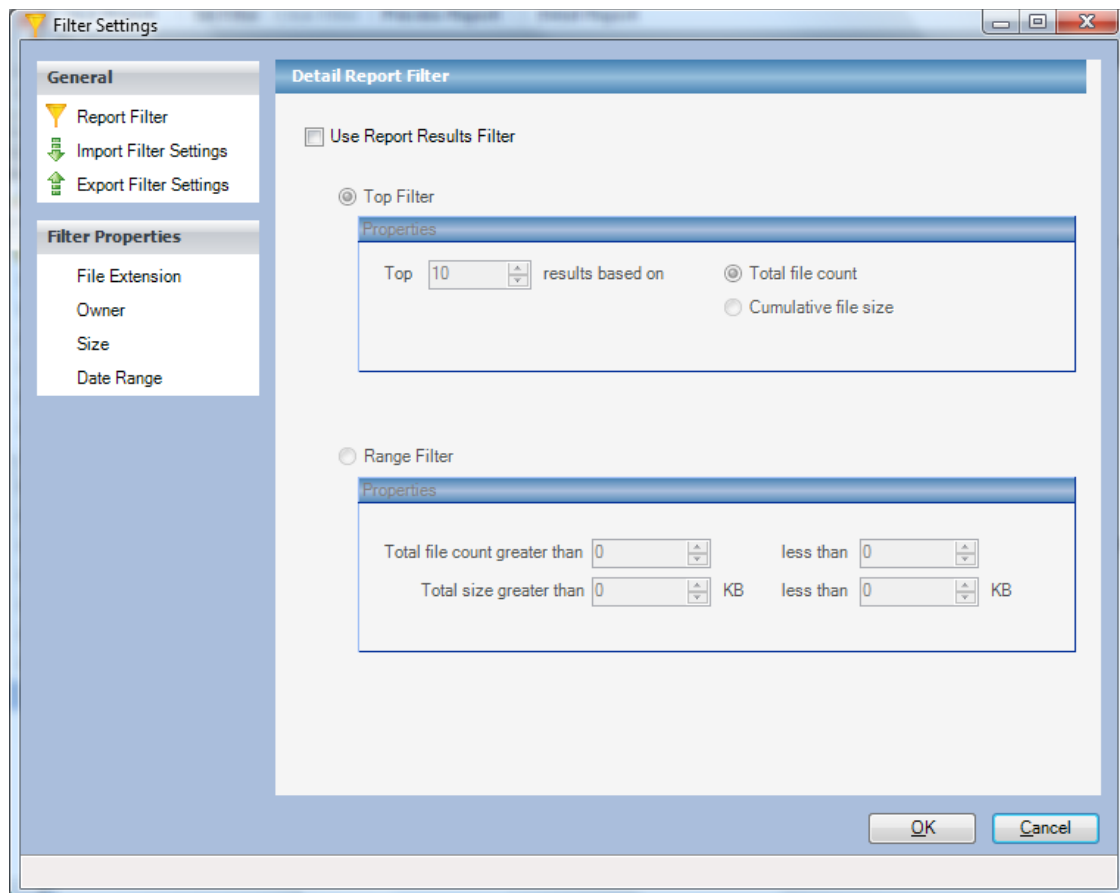
Reviewing all of this data in a report is impractical and inefficient. As a best practice, reports should be viewed through filters that present a reduced number of entries according to the criteria you want to see.

For example, suppose you want to view the top 100 users whose files are taking up the most space on the network. To do so, you would simply set filtering parameters to present only the top 100 users by total size in descending order before generating the owner report.

Filters can be very specific and very detailed. Fortunately, filters only need to be created once. After a filter is created, you can save it and use the same filter for later reports.

The Filter Settings dialog box is shown below. A discussion of the settings follows.

**Figure 5-2** The Filter Settings dialog box



**Use Report Results Filter:** Selecting this check box enables you to specify *Top Filter* or *Range Filter* settings.

**Top Filter:** Choosing this option activates the *Top Filter* region, where you can use the *Top* field to indicate (from 10-1000) the number of entries you want in the report. You can show the total file number (through the *Total file count* option) or total size (through the *Cumulative file size* option).

It is essential that you understand that the top 100 entries in a report vary, depending on the report type. For example, an Owner Report lists the top 100 owners, and a Filename Extension Report lists the top 100 filename extensions.

---

**IMPORTANT:** Files listed through the *Top Filter* option are not limited to the constraints you enter in the *Top* field. As an example, consider a top 100 Owner Report according to file sizes. This generates a report of owners of the 100 largest files of the storage resources included in the report. If you generate a Detail Report, you see *all* of the files that these owners own—not just their 100 largest files.

---

**Range Filter:** Choosing this option activates the Range Filter region, where you can use the *Total file count greater than/less than* fields to set parameters so that the filter reports on only those files that have a number of copies that fit within a certain total count. Additionally, through the *Total size greater than/less than* fields, you can set parameters so that all of copies of a file with a cumulative size within a range you specify are reported.

**File Extension:** Click *File Extension* to specify filename extensions you want to include in the report. Only one extension can be entered at a time in the *Add a Filename Extension* field. Do not precede the extension name with a period.

**Owner:** Click *Owner* to specify owner names you want to include in the report. Only one owner can be entered at a time in the *Add an Owner* field.

**Size:** Click *Size* to specify file size parameters within the filter.

**Date Range:** Click *Date Range* to specify date parameters based on creation, modification, and access dates.

**Import Filter Settings:** Click *Import File Filter* to import the parameters of a previously saved filter.

**Export Filter Settings:** Click *Export File Filter* to save your parameter settings as a filter file.

## 5.4 Manually Creating Single Storage Resource Reports

An optimum Novell File Reporter configuration includes the setup for automated reports that are both scheduled and triggered. However, there will be times when you want to generate reports manually. For example:

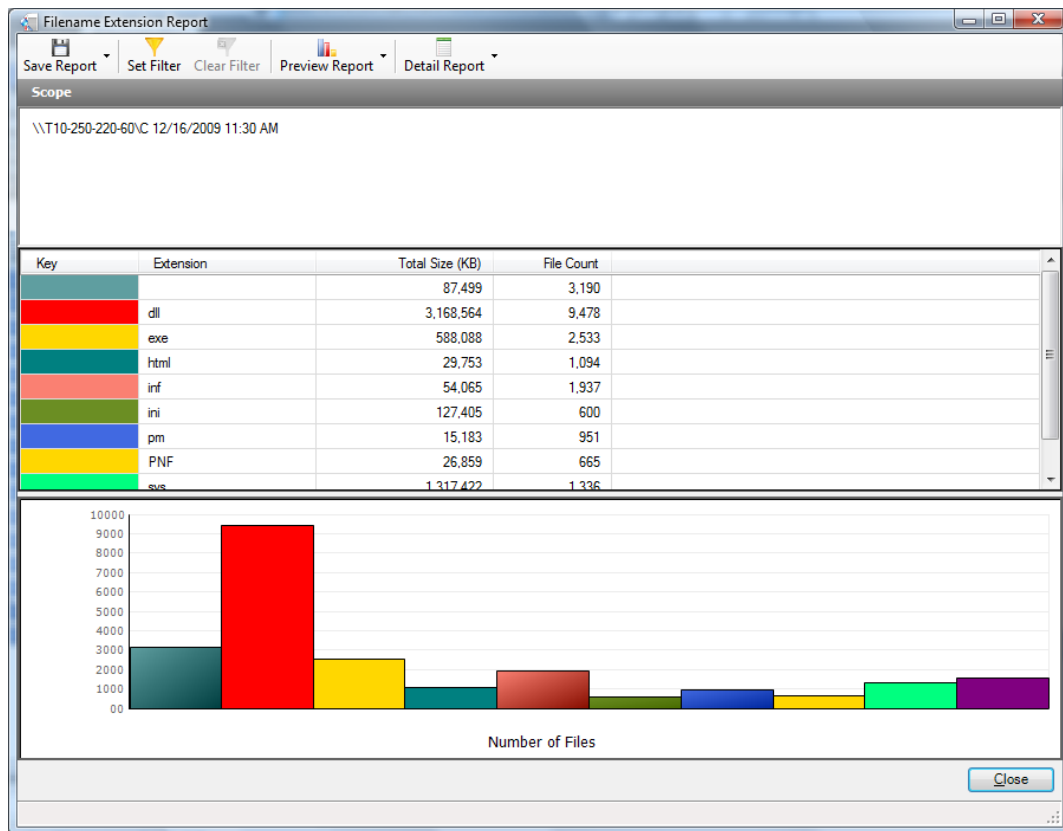
- ♦ To verify that certain files have been moved or deleted
- ♦ To view data that is presented differently from the data in the regularly scheduled reports that you run
- ♦ To view all files owned by a particular employee who is leaving the company

Creating a report for a single storage resource manually is as easy as selecting the scan and selecting the report type you want.

- 1 Launch NFRAdmin.
- 2 In the Scans region of the NFRAdmin interface, browse down to the level of the file system that you want to include in the report, right-click the scan, folder, or subfolder and select the report type you want to generate.

A report-specific dialog box appears with applicable additional criteria and report generation options.

- 3 (Conditional) If there are additional criteria to specify for the report, select them in the Additional Criteria region of the dialog box.  
The Access Data Age Report, Duplicate File Report, Modification Date Age Report, and Storage Cost Report dialog boxes each have Additional Criteria specifications to indicate.
- 4 Click *Set Filter*. In the Filter Settings dialog box that appears, specify your filter parameters or open a saved filter through *Import Filter Settings*.  
You can also modify a saved filter with new parameters in the dialog box, but these new parameters are not saved unless you save them through *Export Filter Settings*.
- 5 Click *OK* to close the Filter Settings dialog box.
- 6 Do one of the following:
  - ◆ Click *Preview Report > Run Report*.
  - ◆ Click *Detail Report > Run Report*.
 The report is generated and presented.



If you chose to present the report in Detail, you can change the presentation order of a particular column in the upper pane of the report by clicking the column heading. Additionally, you can double-click one of the entries in the upper pane to see more detailed information on that highlighted item in the lower pane.

Because the detailed information in the bottom pane can contain huge numbers of records (potentially millions), the bottom pane initially displays the first 1000 detail elements. If you want to see more than this, scroll down in the list and the other elements are retrieved.

**7** (Optional) Save the report.

For an explanation of report saving options see [Section 5.5, “Saving Reports,” on page 29](#).

## 5.5 Saving Reports

The *Save Reports* menu provides options for saving specific information from a report in either HTML or CSV format.

---

**IMPORTANT:** Supported browsers for viewing HTML reports include any of the following versions or later: Internet Explorer\* 8.x, Firefox\* 3.0, Google\* Chrome\* 1.x, Safari\* 3.1, or Opera\* 8.0.

---

The options for each format are Main, Detail, and All. Depending on what report is generated, or if the *Detail* tab was selected before generating the report, the Detail options might be dimmed.

A summary of each Save Reports option is below:

**Table 5-2** *Save Reports options*

Save Reports Option	Explanation
Summary	Saves information displayed in the upper pane of the report; in other words, it saves the overview of the main categories, but not detailed information.
Selected Item	Saves the detailed information in the lower pane of the report as it pertains to a selected item in the upper portion of the report. For example, if you generate a File Extension Report and then select the .doc category in the report, an exported Detail Report includes the detailed information in the lower pane specific to the .doc files.
All	Saves all of the detailed information in the upper pane of the report. Consequently, this report is potentially much larger than the other two exported reports. Be sure that the File Limit setting is large enough for your report. For more information, see <a href="#">Section 5.6, “Adjusting the File Limit Setting for Reports,” on page 29</a> .  This option is not available for Comparison Reports because an administrator uses that report to see only the changes between two scans, and not all the files.

---

**NOTE:** When you save a report, Novell File Reporter offers a default name based on the report type and the date and time that the report was generated. The suggested filename can be changed to your preference.

---

## 5.6 Adjusting the File Limit Setting for Reports

The default setting for the maximum number of entries in a report is 10,000,000, but this can be adjusted to include up to 100,000,000 entries. If you intend to generate a report that could potentially have more entries than 10,000,000, you should adjust the setting.

- 1 Launch NFRAdmin.
- 2 Click *Administration*.

- 3 Click *Client Config*.
- 4 In the *Maximum Number of Files* field, click the up-arrow or down-arrow to increase or decrease the setting.

## 5.7 Adjusting the Default Save Location for Saved Reports

The default path for the location where reports saved as HTML or CSV files is `C:\Users\username\Documents`, but this path can be adjusted to the path you want.

- 1 Launch NFRAdmin.
- 2 Click *Administration*.
- 3 Click *Client Config*.
- 4 In the *Default Save Location* field in the Report Parameters region of the dialog box, modify the path manually or click the folder icon to browse to a new path.

## 5.8 Manually Creating Multiple Storage Resource Reports

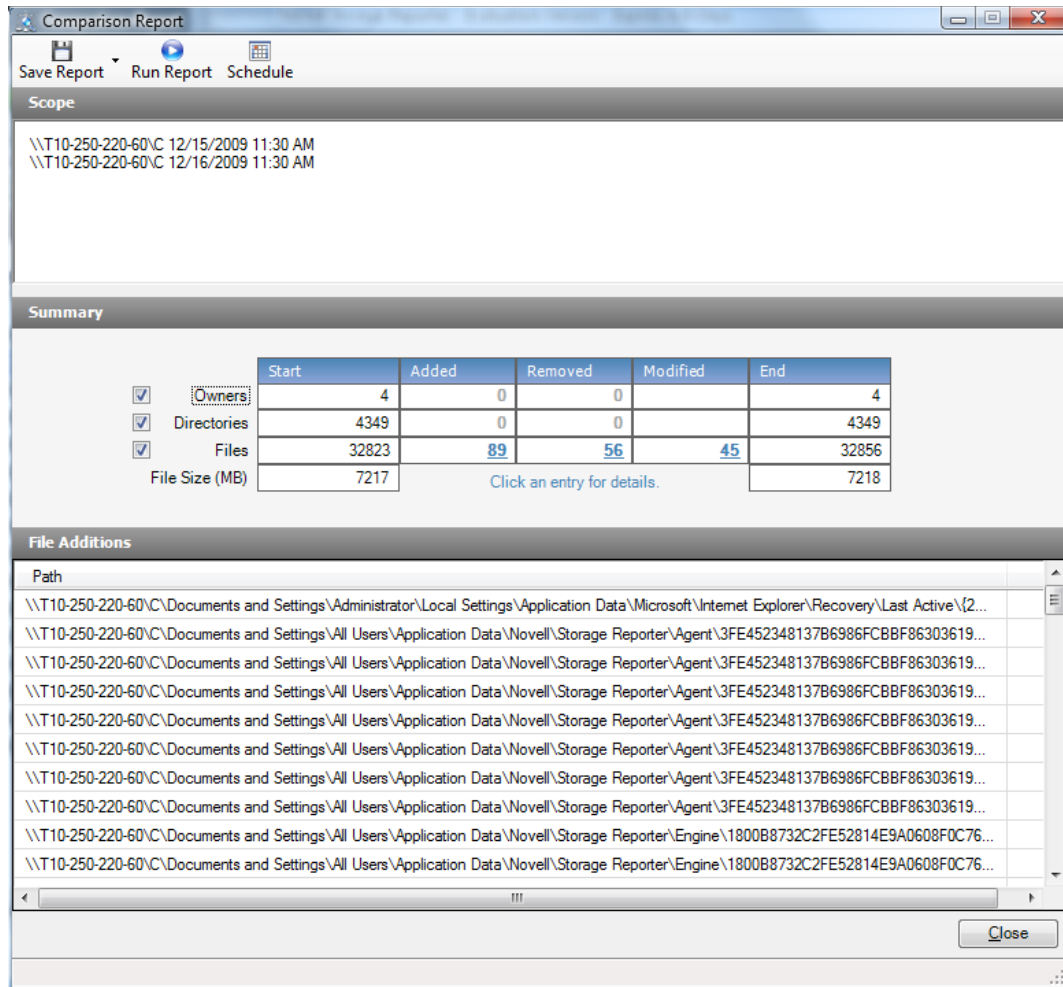
Novell File Reporter allows you to create “multi-scope reports,” which are reports generated from two or more scans. The first type of multi-scope report is a Comparison Report that uses two scans of the same storage resource to compare two points in time. The other is an aggregate of two or more scans from different storage resources to give you a broad report, such as for all volumes on a server, or all volumes across the network.

- ♦ [Section 5.8.1, “Creating a Comparison Report,” on page 30](#)
- ♦ [Section 5.8.2, “Creating an Aggregate Report of Scans from Different Storage Resources,” on page 31](#)

### 5.8.1 Creating a Comparison Report

- 1 Launch NFRAdmin.
- 2 Click *Report Aggregation*.
- 3 From the Scans region of NFRAdmin, select one of the two scans that you want to compare for the same storage resource, browse down to the level of the file system that you want to include in the report, and then click *Add*.
- 4 Select the second of the two scans to compare, browse down to the level of the file system that you want to include in the report, and then click *Add*.
- 5 From the *Reports* menu in the Report Aggregation region, select *Comparison*.
- 6 If you want detail provided on the owners, directories, and files, leave the associated check boxes selected; otherwise, deselect the details you do not want included.
- 7 Click *Run Report*.

The comparison data appears in a table like the one below.



8 To view detailed data of added, removed, or modified files, click the entry numbers.

9 (Optional) Save the report.

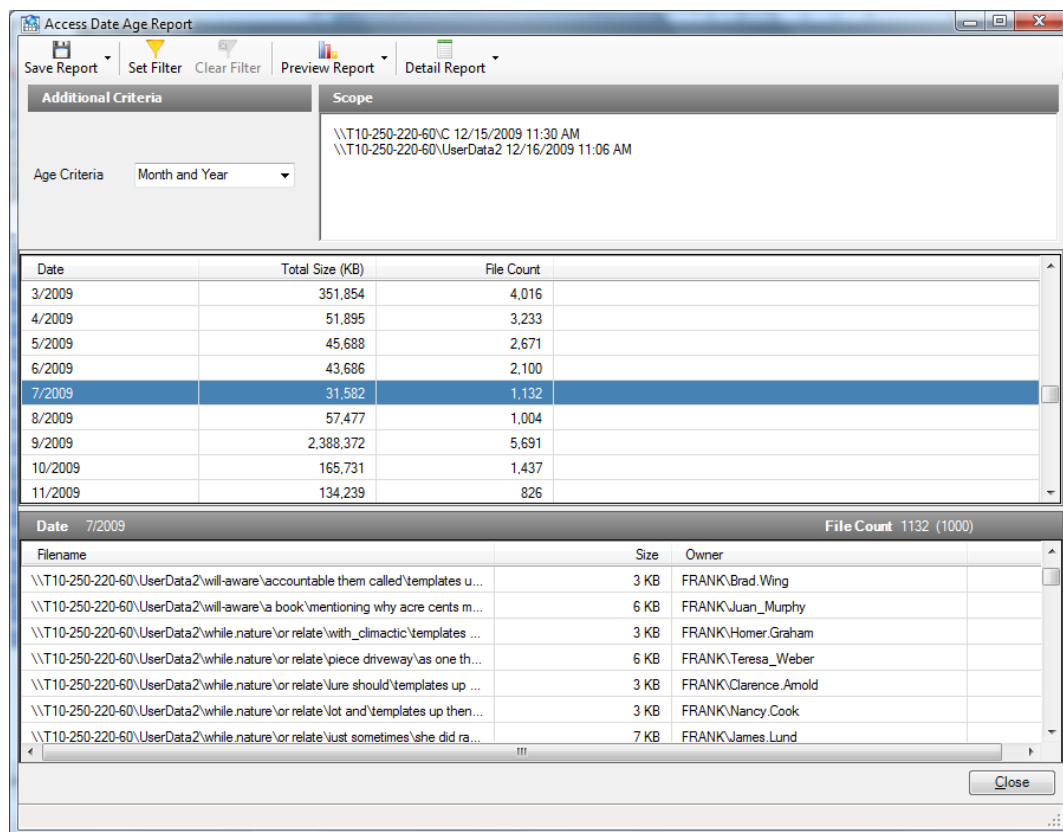
For an explanation of report saving options see [Section 5.5, "Saving Reports,"](#) on page 29.

## 5.8.2 Creating an Aggregate Report of Scans from Different Storage Resources

- 1 Launch NFRAdmin.
- 2 Click *Report Aggregation*.
- 3 From the Scan region of NFRAdmin, select one of the scans you want to compare, browse down to the level of the file system that you want to include in the report, and click *Add*.
- 4 Select another scan you wish to compare, browse down to the level of the file system that you want to include in the report, and click *Add*.
- 5 Repeat [Step 4](#) for all of the scans you want to include.
- 6 From the *Reports* menu, select the report type you want to generate.

- 7 In the report dialog box that appears, specify any applicable additional criteria in the Additional Criteria region.
- 8 Click *Set Filter* and in the Filter Settings dialog box that appears, then specify your filter parameters or open a saved filter through *Import Filter Settings*.
- 9 Click *OK* to close the Filter Settings dialog box.
- 10 Do one of the following:
  - ◆ Click *Preview Report > Run Report*.
  - ◆ Click *Detail Report > Run Report*.

The report is generated and presented.



You can change the presentation order of a particular column by clicking the column heading.

If you chose to present the report in Detail in [Step 10](#), you can double-click one of the entries in the upper pane to see more detailed information on the selected item in the lower pane.

- 11 (Optional) Save the report.

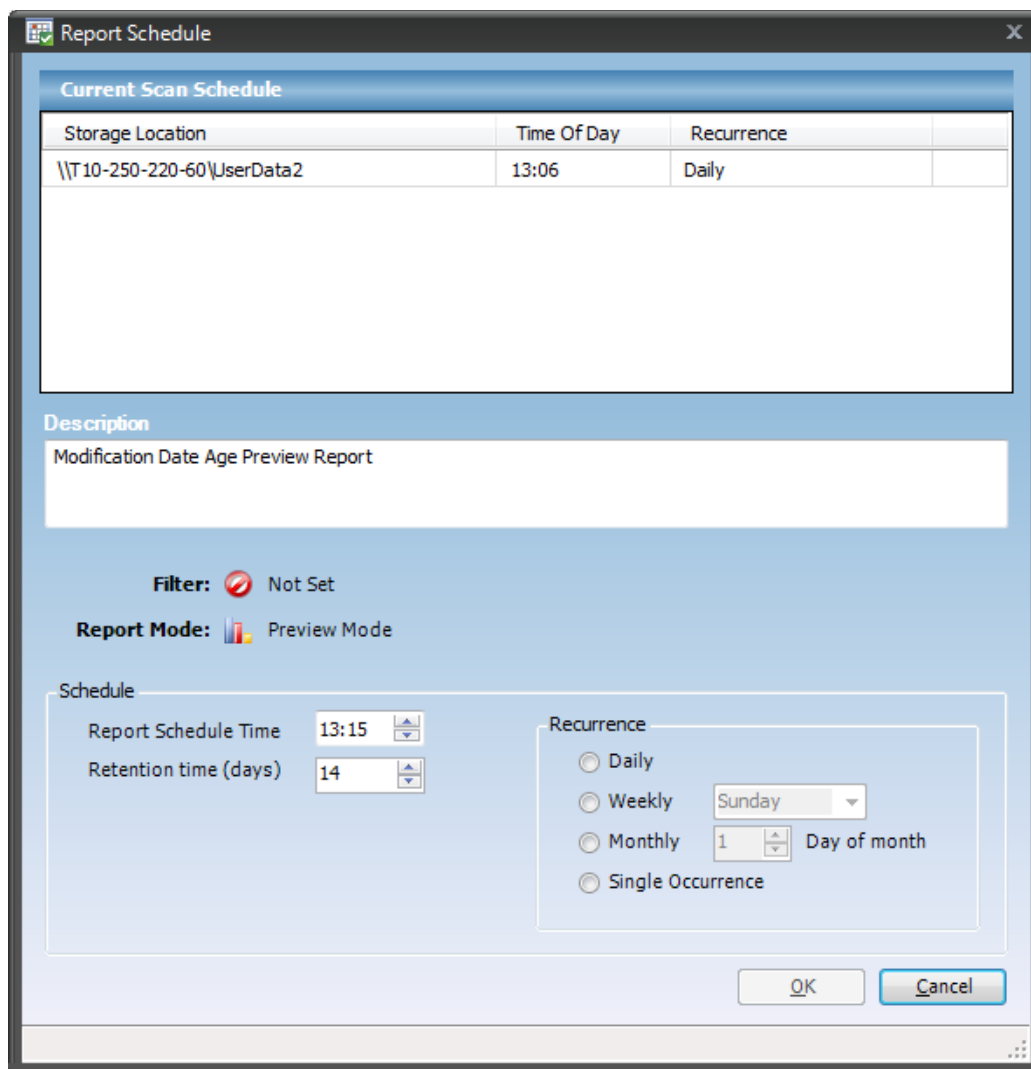
For an explanation of report saving options see [Section 5.5, “Saving Reports,”](#) on page 29.

## 5.9 Scheduling Reports

Novell File Reporter lets you easily schedule reports to be generated according to the parameters and frequency you specify. Regularly scheduled reports can benefit an organization by providing a timely analysis of such things as file access, growth, and what types of files have been saved since the last scheduled report. This helps you determine what actions, if any, to take.

- 1 Launch NFRAdmin.
- 2 In the Scan region of NFRAdmin, browse down to the level of the file system that you want to include in the report, right-click the scan, directory, subdirectory, then select the report type you want to generate.
- 3 In the report dialog box that appears, specify any applicable additional criteria in the Additional Criteria region.
- 4 Click *Set Filter*. In the dialog box that appears, specify your filter parameters or open a saved filter through *Import Filter Settings*.
- 5 Do one of the following:
  - ♦ Click *Preview Report > Schedule*.
  - ♦ Click *Detail Report > Schedule*.

The Report Schedule dialog box appears.



The dialog box displays the scan schedule for the storage resource to help you avoid generating a report during the scheduled scan. To get the most accurate report, schedule the report after the scheduled scan.

- 6 In the *Description* field, specify a description of the report to make it easily identifiable. For example, “Owner Report Volume: Engineering” or “Prohibited Files Report Volume: Akron.”
- 7 In the *Report Schedule Time* field, specify the time of day (in twenty-four hour time) you want the report generated.
- 8 In the *Retention Time* field, specify the number of days you want the report available for viewing.
- 9 In the Recurrence region of the dialog box, select the recurrence option you want.
- 10 Click *OK*.

A message appears that a new report has been added.

- 11 Click *OK*.
- 12 To view the newly scheduled report, click the *Administration* tab in NFRAdmin, then click *Report Schedules*. The newly scheduled report is appended to the list of other scheduled reports.

## 5.10 Removing a Scheduled Report

There might be occasions when you need to remove a scheduled report. For example, if you have reports scheduled for a NAS device from a particular NFR Agent that is serving as a proxy agent for the device, and you later assign a different NFR Agent to be the proxy agent.

- 1 Launch NFRAdmin.
- 2 Click the *Administration* tab.
- 3 Click *Report Schedules*.
- 4 In the pane on the right side, right-click the scheduled report you want to remove and click *Remove*.

## 5.11 Triggered Reports

Effective network storage management includes ongoing vigilance in monitoring your storage growth. But sometimes regular reviewing of reports generated through Novell File Reporter may be delayed or overlooked. Fortunately, Novell File Reporter can generate triggered reports that run when storage capacity thresholds are met on a volume and then notify you of these triggered reports. Triggered reports include Duplicate File Reports, Owner Reports, Modification Date Age Reports, Filename Extension Reports, and Access Date Age Reports.

You define the storage threshold at which the triggered report is to be run. For example, if you want to know when a volume reaches 80% capacity, you simply enter that setting in the administrative interface. Then, when a scan discovers that a volume on the network being monitored through Novell File Reporter has reached 80% capacity, the triggered report runs at the time you selected. The next time you sign into NFRAdmin you are notified that this report has been run and is ready to be viewed.

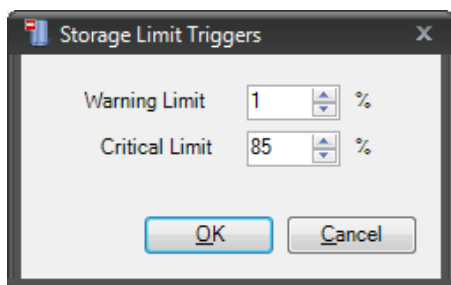
Like other reports, you can apply a filter to the report before it is run, so you can view the information most useful to you after the report has been generated. For example, if you set the parameter for an Owner Report to be generated when a volume reaches minimum capacity, you can filter it so that it shows the owners of the 100 largest files that have not been accessed in 12 months.

- ♦ [Section 5.11.1, “Parameters for Triggered Reports,” on page 35](#)
- ♦ [Section 5.11.2, “Verifying or Resetting Parameters for Triggering Reports,” on page 36](#)
- ♦ [Section 5.11.3, “Setting Up Triggered Reports,” on page 36](#)

### 5.11.1 Parameters for Triggered Reports

Novell File Reporter has two capacity parameters that it monitors for triggered reports. These are Warning and Critical, which by default are set at 75% and 85% respectively, but they can be modified to your preferences.

**Figure 5-3** Warning Limit and Critical Limit settings for triggered reports



As a best practice, you should have Novell File Reporter trigger certain reports when each of the capacity settings is met. For example, when the Warning capacity is met on a particular volume, you can have Novell File Reporter trigger an Owner Report, to identify the people using the largest amount of network storage disk space. You can then contact them and ask them to clean up their storage.

If the Full capacity is met, you might need to take more drastic action and trigger an Access Date Age Report and Duplicate File Report to see what you can move off of your primary storage immediately so you can obtain needed capacity.

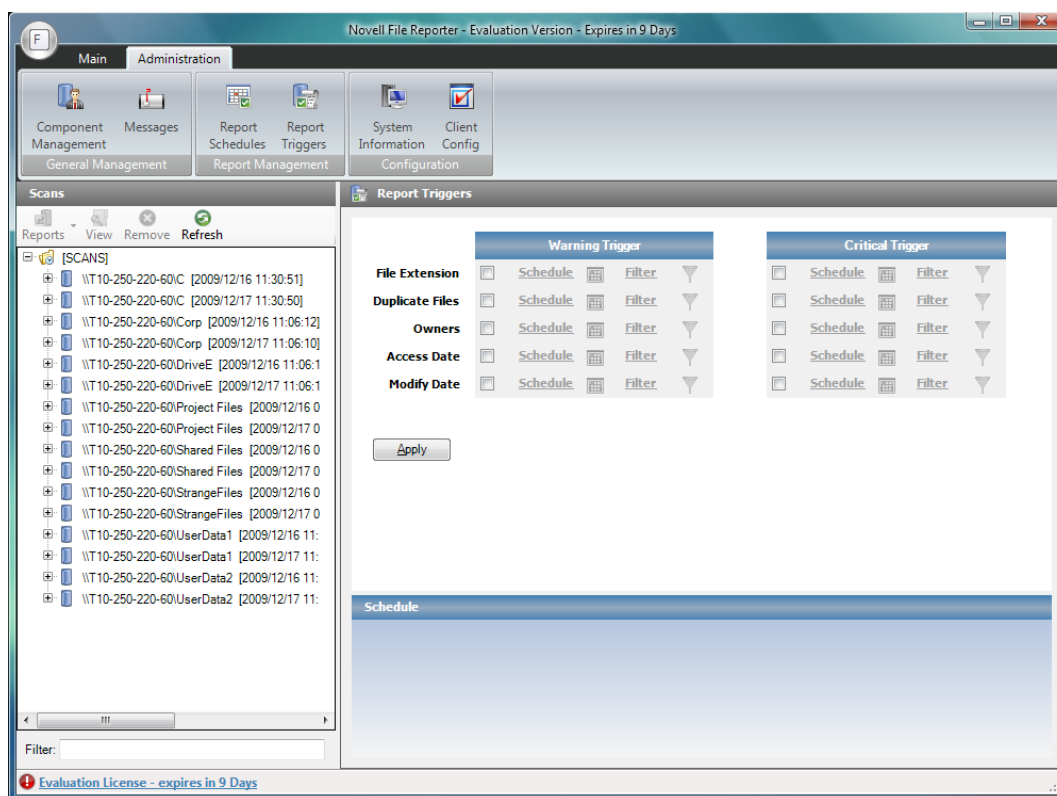
### 5.11.2 Verifying or Resetting Parameters for Triggering Reports

- 1 Launch NFRAdmin.
- 2 Click *Trend Data*.
- 3 In the Trend Data region of NFRAdmin, click *Edit Limits*.
- 4 View the default settings and reset them to a setting you prefer.
- 5 Click *OK*.

### 5.11.3 Setting Up Triggered Reports

- 1 Launch NFRAdmin.
- 2 Click *Administration*.
- 3 Click *Report Triggers*.

The following dialog box appears:



- 4 In the Report Triggers region, indicate the reports to be generated when the disk capacity percentage for the Warning trigger is met.
- 5 For each selected report, complete the associated parameters for the report, including the filter.
- 6 Repeat [Step 4](#) and [Step 5](#) for the Critical Trigger region.
- 7 Click *Apply*.

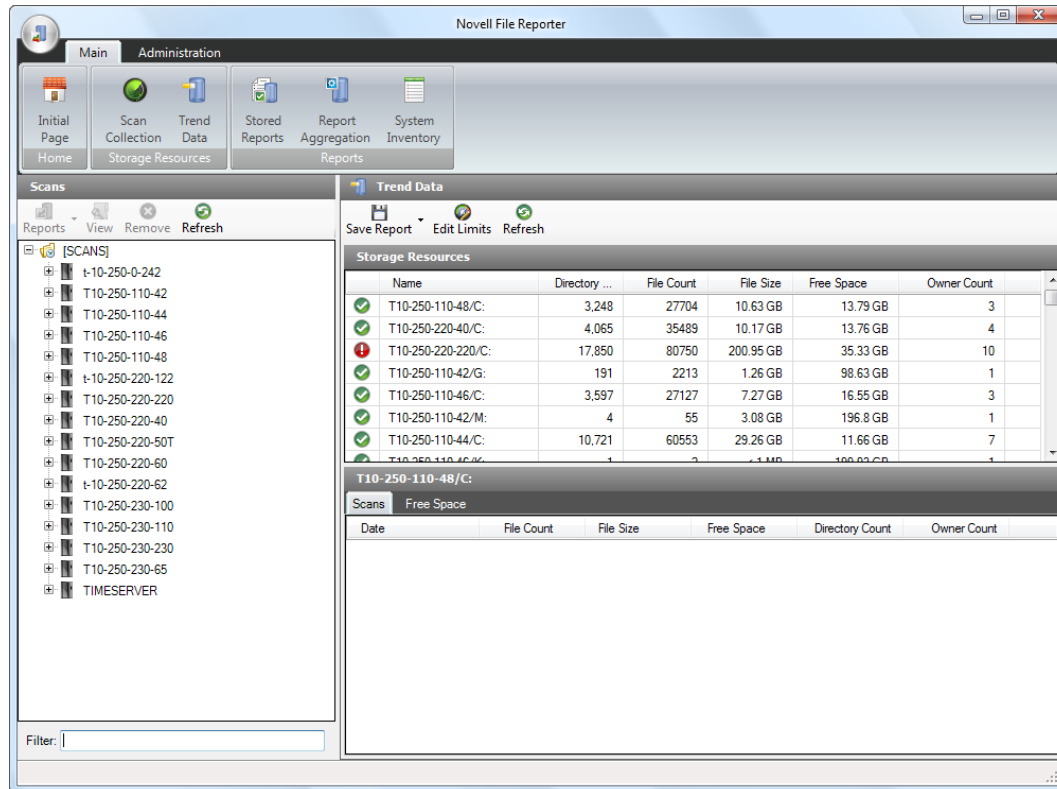
## 5.12 Viewing Trend Data

In addition to reporting storage data through the System Inventory and standard reports, Novell File Reporter provides the ability to view volume storage trending. Using the Trend Data feature, you can compare growth trends for a storage resource between two points in time. The data includes number of files, overall file size, available free space, and more.

Information available through Trend Data can help you determine the growth rate on a volume, calculate when you will be near capacity, and budget for more storage in advance.

Trend Data can also compare the growth rate of one volume with other volumes. You can use this to look into the cause of unusual growth trends. For example, if the available disk space has diminished dramatically over a short period of time, you might want to run an Owner Report to see who is storing the most files.

- 1 Launch NFRAdmin.
- 2 Click *Trend Data*.



All storage resources appear in the upper pane on the right side of the administrative interface. You can sort the storage resources by size according to the column heading you click.

- 3 Select a storage resource in the upper pane and in the lower pane, then view the trend data for the storage resource.

You can sort the data by size according to the column heading you click.

With the displayed data, you can now determine trends in increasing file count or decreasing free space by comparing the data between the scans.

The data comes from all saved scans for the selected storage resource. If no scans have been conducted on the storage resource, no data is displayed. In addition to the data from the scans, free space data is collected daily for the storage resources. It is displayed on the *Free Space* tab and is updated each day until the next scan is taken. When a new scan is taken, the data on the *Free Space* tab is discarded because the free space data is now contained within the scan data, and the daily sampling of free space begins again. This daily free space sample has very little overhead to collect and maintain and allows you to have daily information about the available free space on storage resources that are scanned weekly or monthly.

- 4 (Optional) Save the report.

The *Summary* and *Selected Item Save Report* options are similar to those covered in [Section 5.5, “Saving Reports,” on page 29](#). When you save a report to Microsoft Excel through the *Selected Item – Export to Excel* option, you need to enable macros to view all data.

## 5.13 Viewing Live File Listings

View Live File Listing provides you a real-time view of information pertaining to the contents of a selected volume, folder, or subfolder. View Live File Listing lists filenames, sizes, the date a file was created, the date a file was last accessed, and the date a file was last modified. It does not allow you to open any of the listed files.

In many cases, you can use View File Listing instead of generating a report. In other cases, you can use it following a report, to confirm that a directive has taken place. For example, if a report indicates that user AJONES has 50 GB of .MP3 files stored in his home folder and you requested that AJONES remove those files, you can use View Live File Listings to verify that these files have been removed.

- 1 Launch NFRAdmin.
- 2 In the Scans region, browse down to the level of the file system that you want to include in the file listing.
- 3 Right-click the volume, folder, or subfolder and select *View Live File Listing*.

A new file browser appears with the contents of the selected volume, folder, or subfolder listed in the right pane.

While you are in the file browser, you can browse to a new file path to view the contents of other folders and subfolders.

## 5.14 Modifying Proxy Agent Assignments for NAS Devices

Performing scans and generating reports on the contents of NAS devices is done through NFR Agents that serve as proxy agents for the NAS devices. The proxy associations are listed in the `sragentproxy.dat` file. To modify the proxy associations, simply modify the listed associations at the bottom of the `sragentproxy.dat` file.

For more information, see “[Configuring Proxy Agents for NAS Devices](#)” in the *Novell File Reporter 1.0.1 Installation Guide*.

When you have modified a proxy association by replacing the name of one NFR Agent with another, you should delete all scheduled scans, and scheduled reports that pertain to the former proxy association. This eliminates inconsistent results when working with scans.

For procedures to remove a scan, see [Section 4.6, “Removing a Scan,” on page 21](#). For procedures to remove a scheduled scan, see [Section 4.7, “Clearing a Scan Schedule,” on page 21](#). For procedures to remove a scheduled report, see [Section 5.10, “Removing a Scheduled Report,” on page 35](#).

## 5.15 Using the Policy Path Reporter

If you are using Novell File Reporter in a network environment that includes Novell Storage Manager, you can use the Policy Path Reporter that you installed earlier to report on NSM policy paths, rather than simply reporting on volumes.

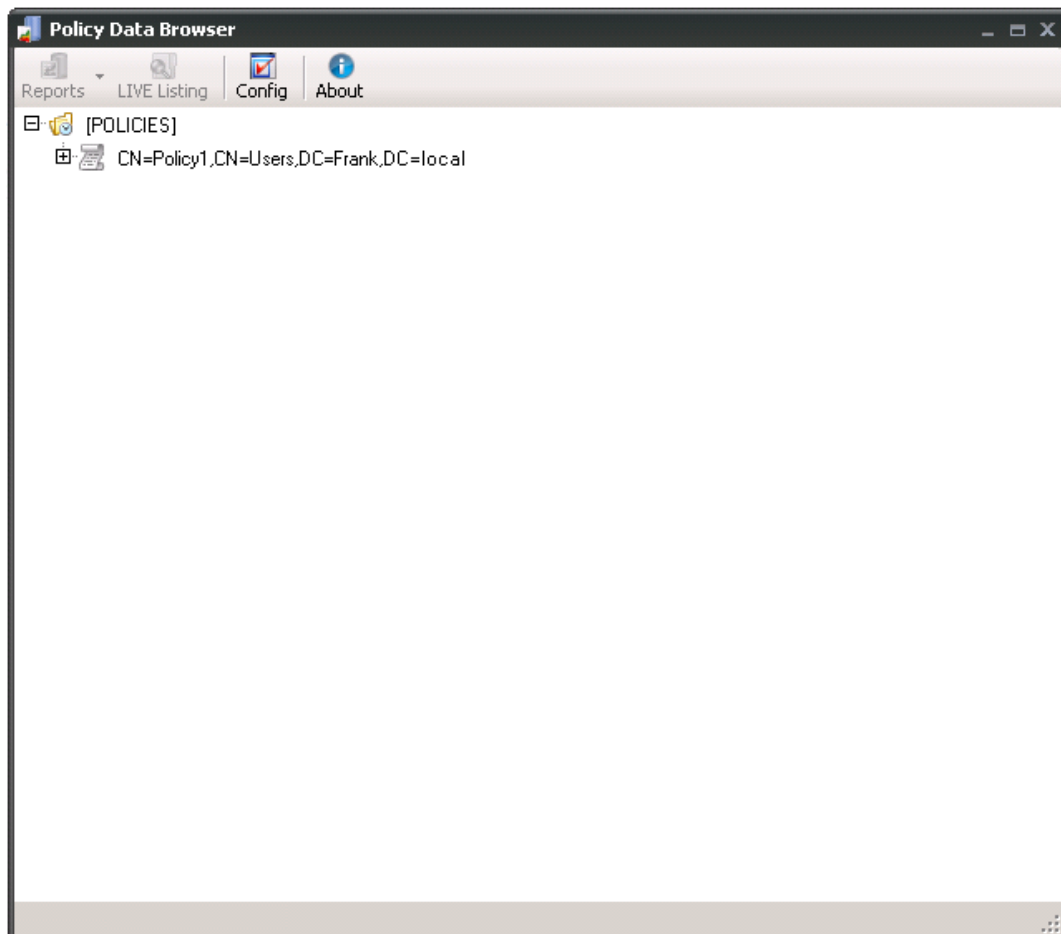
This capability is particularly powerful because it allows you to specify the target paths where user and collaborative storage resides on the network. Because network user and collaborative home folders tend to be the source of most of the stale, redundant, and non-work-related file types, the Policy Path Reporter can quickly and easily be the means of generating reports on the storage areas that you care about most.

- 1 Launch NSMAdmin.
- 2 Click the *Policy Management* tab.
- 3 Select a listed Novell Storage Manager policy.
- 4 From the *Report on Policy Paths* drop-down menu, select either *Report on Policy User Paths* or *Report on Policy Collaborative Paths*.

The Report on Policy Paths drop-down menu looks like this:



The following page appears:



- 5 Click the + next to the policy to view the associated target paths.
- 6 In a selected target path, browse down to the level of the file system that you want to include in the report.

- 7** Right-click the folder or subfolder and select the report type you want to generate.  
A report-specific dialog box appears with applicable additional criteria and report generation options.
- 8** (Conditional) If there are additional criteria to specify for the report, select them in the Additional Criteria region of the dialog box.
- 9** Click *Set Filter*. In the Filter Settings dialog box that appears, specify your filter parameters or open a saved filter through *Import Filter Settings*.
- 10** Click *OK* to close the Filter Settings dialog box.
- 11** Do one of the following:
  - ◆ Click *Preview Report > Run Report*.
  - ◆ Click *Detail Report > Run Report*.The report is generated and presented.
- 12** (Optional) Save the report.  
For an explanation of options to save reports, see [Section 5.5, “Saving Reports,”](#) on page 29.



# Stopping and Restarting Services

# 6

This section provides procedures for stopping and restarting the DSI (Directory Service Interface) service and NFR Engine in both Microsoft Active Directory and Novell® eDirectory™ managed networks, along with procedures for stopping and restarting the NFR Agent on the various supported platforms.

For tasks performed at a Linux terminal, we are including procedures that use RC-Scripts since they are quicker to use than navigating through the configuration utility menus.

## 6.1 Stopping and Restarting the DSI Service in an Active Directory Environment

This procedure is applicable when Novell File Reporter is *not* installed in a network environment that includes Novell Storage Manager. To stop the DSI service in a network that includes Novell Storage Manager, you must shut down the NSM Engine.

- 1 At the server where the DSI service is installed, click *Start > Novell > File Reporter > NFR Active Directory Service Interface Config*.

This launches the DSI Configuration Utility.

- 2 Click the *Stop* button to stop the DSI service.

Once the DSI service has stopped, the button changes to a *Start* button which you can click to restart the DSI.

## 6.2 Stopping and Restarting the DSI Service in an eDirectory Environment

- 1 At the Open Enterprise Server 2 machine where you installed the DSI, open a terminal window.

- 2 At the terminal window, type `rcnfrdsi-edird` and press Enter.

The following command options appear: `start | stop | status | restart`

- 3 Stop the DSI service by typing `rcnfrdsi-edird stop` and press Enter.

- 4 To restart the DSI service, type `rcnfrdsi-edird` and press Enter.

## 6.3 Stopping and Restarting the NFR Engine in an Active Directory Environment

- 1 At the server where the NFR Engine is installed, click *Start > Novell > File Reporter > NFR Engine-Config*.

This launches the NFR Engine Configuration Utility.

- 2 Click the *Stop* button to stop the NFR Engine.

Once the NFR Engine has stopped, the button changes to a *Start* button which you can click to restart the NFR Engine.

## 6.4 Stopping and Restarting the NFR Engine in an eDirectory Environment

- 1 At the SUSE Linux Enterprise Server or Open Enterprise Server 2 machine where you installed the NFR Engine, open a terminal window.
- 2 At the terminal window, type `rcnfrengined` and press Enter.  
The following command options appear: `start | stop | status | restart`
- 3 Stop the NFR Engine by typing `rcnfrengined stop` and press Enter.
- 4 To restart the NFR Engine, type `rcnfrengined restart` and press Enter.

## 6.5 Stopping and Restarting a Windows Server NFR Agent

- 1 At the Windows server where the NFR Agent is installed, click *Start > Novell > File Reporter > NFRAgent-Config*.  
This launches the NFR Agent Configuration Utility.
- 2 Click the *Stop* button to stop the NFR Agent.  
Once the NFR Agent has stopped, the button changes to a *Start* button which you can click to restart the NFR Agent.

## 6.6 Stopping and Restarting a NetWare<sup>®</sup> Server NFR Agent

- 1 At the NetWare server where the NFR Agent is installed, go to the server console and toggle to the *Novell File Reporter Agent* screen.
- 2 Type `exit` and press Enter.  
This shuts down the agent.
- 3 To bring the NFR Agent back up, type `sys:\nfr\nfragent.ncf` and press Enter.

## 6.7 Stopping and Restarting an Open Enterprise Server 2 NFR Agent

- 1 At the Open Enterprise Server 2 server where the NFR Agent is installed, open a terminal window.
- 2 At the terminal window, type `rcnfragentncpd` and press Enter.  
The following command options appear: `start | stop | status | restart`
- 3 Stop the NFR Agent by typing `rcnfragentncpd stop` and press Enter.
- 4 To restart the NFR Agent, type `rcnfragentncpd restart` and press Enter.

## 6.8 Stopping and Restarting a SUSE Linux Enterprise Server NFR Agent

- 1 At the SUSE Linux Enterprise Server where the NFR Agent is installed, open a terminal window.
- 2 At the terminal window, type `rcnfragentd` and press Enter.  
The following command options appear: `start | stop | status | restart`
- 3 Stop the NFR Agent by typing `rcnfragentd stop` and press Enter.
- 4 To restart the NFR Agent, type `rcnfragentd restart` and press Enter.



# Glossary

# A

**Directory Service Interface (DSI):** An application used by Novell® File Reporter that provides directory services authentication and authorization before tasks are performed in Novell File Reporter. There are individual DSIs for eDirectory™ and Active Directory\*. For network environments that include Novell Storage Manager, Novell Storage Manager serves as the DSI and there is no need to install and configure the DSI.

For those networks that do not include Novell Storage Manager, the DSI can be installed and configured in automatic or manual mode. Automatic means that the DSI performs both authentication and authorization. Manual means that the DSI only performs authentication. Manual DSI configuration should be done only for environments where Novell File Reporter will report on SUSE® Linux Enterprise Servers.

**Filter:** The means of presenting a reduced number of entries in a report according to the criteria you want to see. Filters can be very specific and very detailed.

**NFR Agent:** Examines and reports on the contents of the storage resource. Currently, NFR Agents are available for Novell Open Enterprise Server 2, SUSE Linux Enterprise Server, Novell NetWare®, and Microsoft Windows Server 2003 or 2008. The NFR Agent can examine and report on a variety of file systems, including Novell NSS, Traditional, NCP™, Windows NTFS, Reiser, and ext3.

**NFR Engine:** The engine that runs Novell File Reporter. It can be hosted on a Novell Open Enterprise Server running SUSE Linux, a SUSE Linux Enterprise Server, or Microsoft Windows Server 2003 or 2008. In a small organization, the NFR Engine can be run on a server that is also used for other purposes. In a larger organization, the NFR Engine should run on a standalone server.

The NFR Engine does the following:

- ♦ Schedules the scans that are conducted by the NFR Agents
- ♦ Processes the scans and compiles them for inclusion in a report
- ♦ Provides all of the report information to the user interface
- ♦ Determines that a condition has been met to start a triggered report as opposed to a scheduled report
- ♦ Monitors how many agents are online

**Proxy agent:** An NFR Agent that performs agent services on a storage resource through a proxy association. NAS devices and clustered configurations require proxy agents. Novell File Reporter 1.0.1 supports proxy agents in Active Directory managed network environments with or without Novell Storage Manager deployed, as well as eDirectory managed networks with Novell Storage Manager deployed.

**Report:** Decompressed file information presented on-screen, as an HTML file, or as a .CSV file, based on the specific reporting criteria entered in Novell File Reporter. Novell File Reporter offers eight report categories with options to present the data as overview or detailed information. For a list of all report types, see [Section 5.2, “Report Types,”](#) on page 24.

**Scan:** Comprehensive file information pertaining to a storage resource at a specific time. The scan includes information on file types being stored, whether these files are duplicated and where duplicates reside, when files were created, when files were last opened, and much more. Scans are indexed and compressed and are decompressed only when data within the scan is used to generate a report.

**Storage resource:** A resource within the network environment that Novell File Reporter monitors and reports on. Depending on the environment in which Novell File Reporter is deployed, a storage resource can be a server volume, a Novell Storage Manager policy, a network folder path, or a Linux mount point.

**System inventory:** A condensed overview of the number of directories and files on selected storage resources. A system inventory should be conducted prior to determining the optimal disk space you need on the server hosting the NFR Engine for storing scans and reports. It can also be run when you want to gather high level information on a storage resource rather than generate a more detailed report.

**Triggered Report:** A report that is run automatically when defined storage capacity thresholds are met on a volume. Triggered reports include Duplicate File Reports, Owner Reports, and Access Date Age Reports.