

# Achieving Network Storage Optimization, Security, and Compliance Using File Reporter

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# Detailed Network Storage File Reporting and Analysis

Micro Focus® File Reporter inventories network file systems and delivers the detailed file storage intelligence you need to optimize and secure your network for efficiency and compliance.

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## Growth of Network-Stored Files

For a myriad of reasons, the amount of file-based data stored by organizations is growing at exponential rates. Compliance with industry, government and corporate regulations is causing organizations to maintain files indefinitely. Cheaper storage is encouraging IT to grant users expanded network disk quotas and thus let them store more personal files on the network. Applications, with all of their enhancements, become larger with each new release and require file-based storage and access as opposed to database storage and access.

Enhanced capabilities such as virtual servers, desktop virtualization, cloud computing projects and mobile computing are driving more files into the data center in the form of stored virtual-machine images, replicated copies of cloud-based data, and copies of documents and applications for use by mobile workers using smartphones.

Factoring in all of these contributors, it's not surprising to learn that even very small organizations may be storing petabytes of file-based data.

## Data Storage, Compliance and Costs

Sizable storage growth introduces sizable management challenges—one of which is file inventory. Simply put, the more files the users in your organization store on the network, the more difficult it is to locate and identify what those users are storing and what is the value of the data being stored.

One significant aspect of regulatory compliance is data retention, with mandates on how long data must be kept in storage—in some cases for 20 years or longer. The ability to effectively search and locate retained documents is paramount.

Another compliance aspect is security. Organizations must be able to identify files containing sensitive personal information such as credit card or Social Security numbers. Once identified, these files must be protected from unauthorized access. Network administrators need to

know who has access rights to what areas on the network and how those rights were derived. Similarly, they need to know all documents a user has access rights to.

Finally, there are the challenges associated with costs. Without even a basic knowledge of how much your organization is storing, whether the data should be stored on primary or secondary storage, if you are storing duplicate files, and so on, how can you be sure you are spending wisely? Storage costs pertain not only to storage disk capacity, but include expenses associated with storage allocation, power consumption, maintenance, additional hardware, incremental management costs, the increased cost and complexity of backup systems, and additional square footage for added hardware.

With so many issues pertaining to exponential storage growth, organizations of all sizes and in all industries are looking for help with their storage management—and it all starts with first knowing what files you are storing on the network.

## Introducing File Reporter

File Reporter inventories network file systems and delivers the detailed file storage intelligence you need to optimize and secure your network for efficiency and compliance. Engineered for enterprise file system reporting, File Reporter gathers data across the millions of files and folders scattered among the various network storage devices that make up your network. Flexible reporting, filtering, and querying options then present the exact findings you need so you can demonstrate compliance or take corrective action.

File Reporter identifies files currently stored on the network, whether the files contain sensitive information such as credit card and Social Security numbers, the size of the files, when users last accessed or modified the files, and the locations of duplicate files. File Reporter can also help you calculate department or individual storage costs. File Reporter can even identify access rights to folders and consequently, the files that are contained within.

## How File Reporter Works

We developed File Reporter to examine and report on petabytes or even exabytes of data—in other words, millions of files, folders and volumes scattered among the various storage devices that make up your network. This reporting includes the rights to network folders and volumes and permissions to Microsoft network folders and shares.

To report on this data efficiently, File Reporter disperses the work between an Engine, Agents, a Microsoft SQL Server or PostgreSQL database, and either NetIQ eDirectory or Microsoft Active Directory.

Through the Agent, File Reporter takes a “scan” of the file system's storage resource at a given moment. A storage resource can be a network server volume or Microsoft network share.

Scans are indexed data that are specific to a storage resource. They are the means of generating a storage report or analytical data in one of the analytics tools. Scans include comprehensive information on the

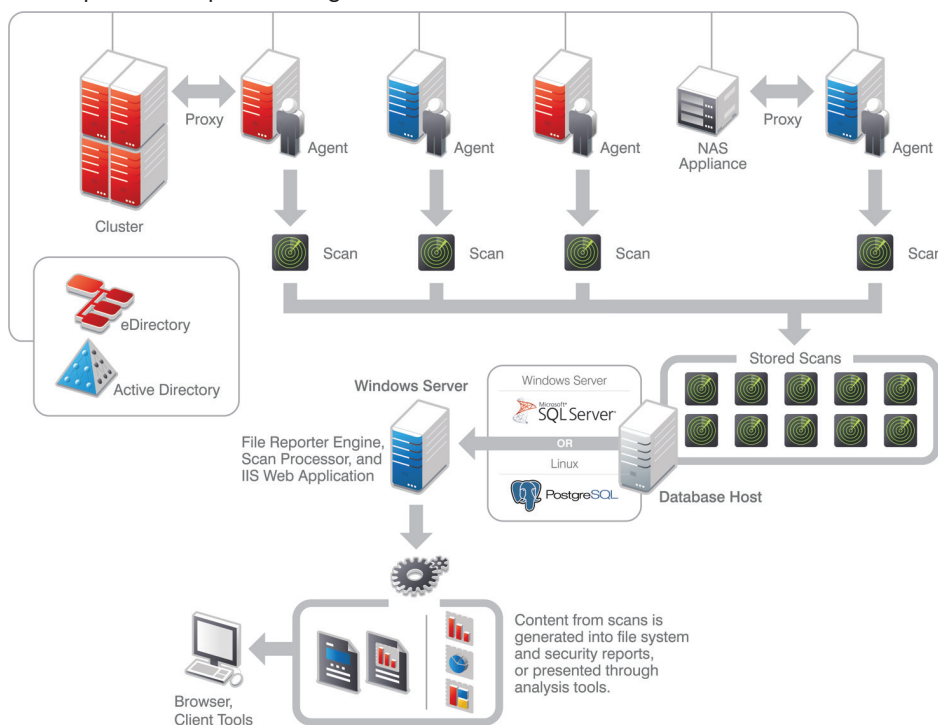
file types users are storing, if users have duplicated the files, where duplicate files reside, when users created the files, when they last modified the files, permission data on the folders where these files reside, files containing potentially sensitive information, and much more.

File Reporter collects scans from the Agents, compresses them, and sends them to the Engine, where it stores them in the database.

The Engine is the mechanism that drives File Reporter. The Engine:

- Stores scans in the database
- Schedules the scans that the Agents conduct
- Processes the scans and compiles them for inclusion in a report
- Provides all the report information to the user interface
- Runs scheduled reports
- Specifies in the dashboard that File Reporter has completed a scan or generated a report

### File Reporter Component Diagram



**Figure 1.** This diagram shows how the File Reporter components function in the scanning, reporting and analysis of files stored on the enterprise network.

## Reports and Analytics

The real power of File Reporter is its ability to provide you the exact information you need to make management decisions about your network-stored data. There are 20 built-in report types that can be generated through a menu selection and some filtering parameters.

Custom Query reports allow administrators who are familiar with querying the database to generate very specific report data that might not be available through one of the built-in report types. The more SQL commands you enter, the more detailed the report. The SQL commands must be specific to the database (Microsoft SQL Server or PostgreSQL) that your deployment of File Reporter is utilizing. SQL commands are entered through report editors available from the File Reporter browser-based administrative interface and from the Report Designer client tool.

The analytics tools are an integrated set of data visualization applications that include a Dashboard, Pivot Grid, and Tree Map. Oftentimes, the visual presentation of findings through the analytics tools can provide needed information faster than the detailed information presented in a report.

Solving File Management Challenges  
through Reporting and Analytics

By inventorying the volumes and shares, files and folders, as well as the rights and permissions associated with each through one of its 20 built-in report types, File Reporter can filter, query, and present the exact information you need.

Unauthorized Access

For a financial institution involved in a security audit that needs to know who has access to which areas of the network and how they got that access, File Reporter can generate a Direct Assignments report.

Rights Knowledge

For a corporation that suspects an employee has shared trade secrets and needs to know what documents he has access to across the network, File Reporter can generate an Access for Identity report.

Volume Free Space Trending Report

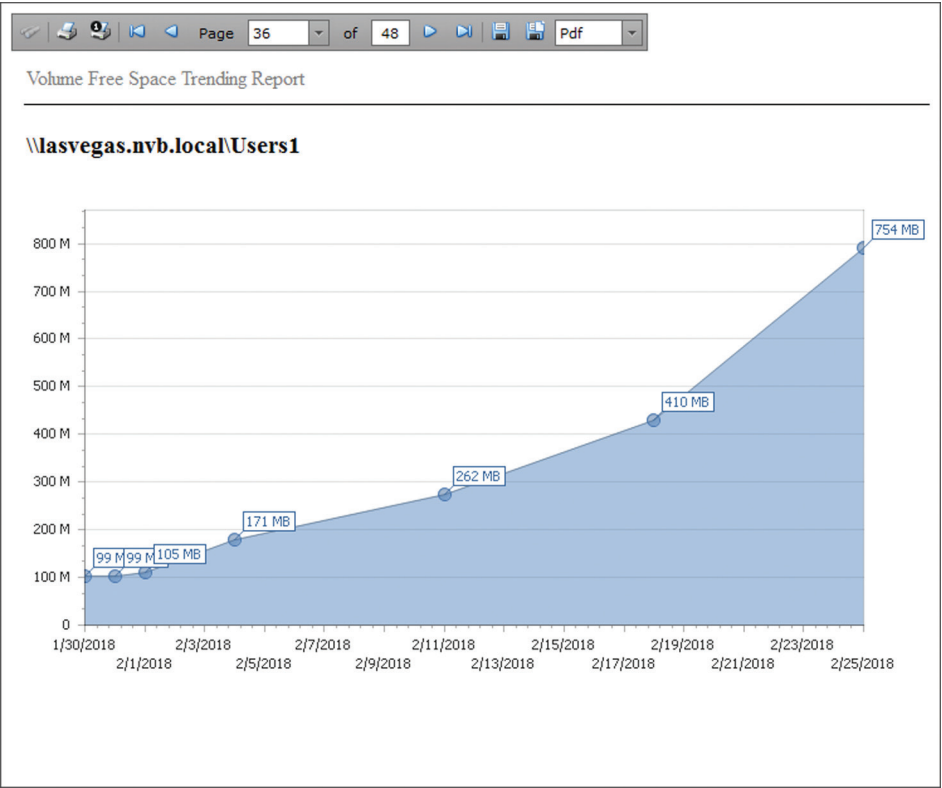


Figure 2. Trending reports specify disk space usage over time and the rate a network volume or share is nearing storage capacity.

Data Loss Prevention

For a government agency that needs to retain certain files for a set amount of years, File Reporter can generate a Date Age report.

Network Data Growth

For a network administrator at an organization experiencing large data growth, File Reporter has an extensive array of customizable reports that can show who is storing files, where they're storing them, what files they're storing and whether any duplicates exist.

Additionally, Historic File System Comparison reports can compare the file system contents between two points in time, identifying what new files have been added.

Historic Permissions Comparison

Whether intentionally or not, user file system access rights can change over time. Historic Permissions Comparison reports lets you compare the NCP or NTFS permissions between two points in time.

Custom Querying

Even though File Reporter provides an extensive set of built-in reports, there will be instances where you need very specific information that is not provided in any of the built-in reports. Custom Query reports let you specify what you want included in your report using SQL commands.

Custom Query reports use the same file system scans used to create built-in reports, but limits the reported content to the conditions of the SQL commands.

Once generated, you can design the Custom Query Report using the new Report Designer.

By inventorying your network storage's volumes and shares, files and folders, as well as the rights and permissions associated with each, File Reporter can filter and present the exact information you need through one of its 20 built-in reports, Custom Query reports, or analytics tools.

## Identifying Files with Sensitive Information

Among the nearly limitless reporting capabilities of Custom Query reports is the ability to identify files containing specified patterns. For example, a series of 16 or more numbers could indicate a user's credit card number or a series of nine numbers might indicate a U.S. Social Security number. By finding these files and then seeing where they are located, you can determine if you are in compliance with privacy regulations.

## Analytics

Through powerful visual presentation options, the File Reporter analytics tools can be the means of quickly providing you the information you need to make decisions. For example, while a Date-Age report will list files that have not been accessed for a given time, the Tree Map analytics tool can present graphical representations of the files in a hierarchical display, letting you not only know when the files were last accessed, but their relative size within the share or folder where they are being stored.

## Enterprise Reporting

For a large corporation with multiple departments, rather than gathering data individually, one server at a time, network administrators can gather storage data across multiple department servers at once, or even across the entire enterprise.

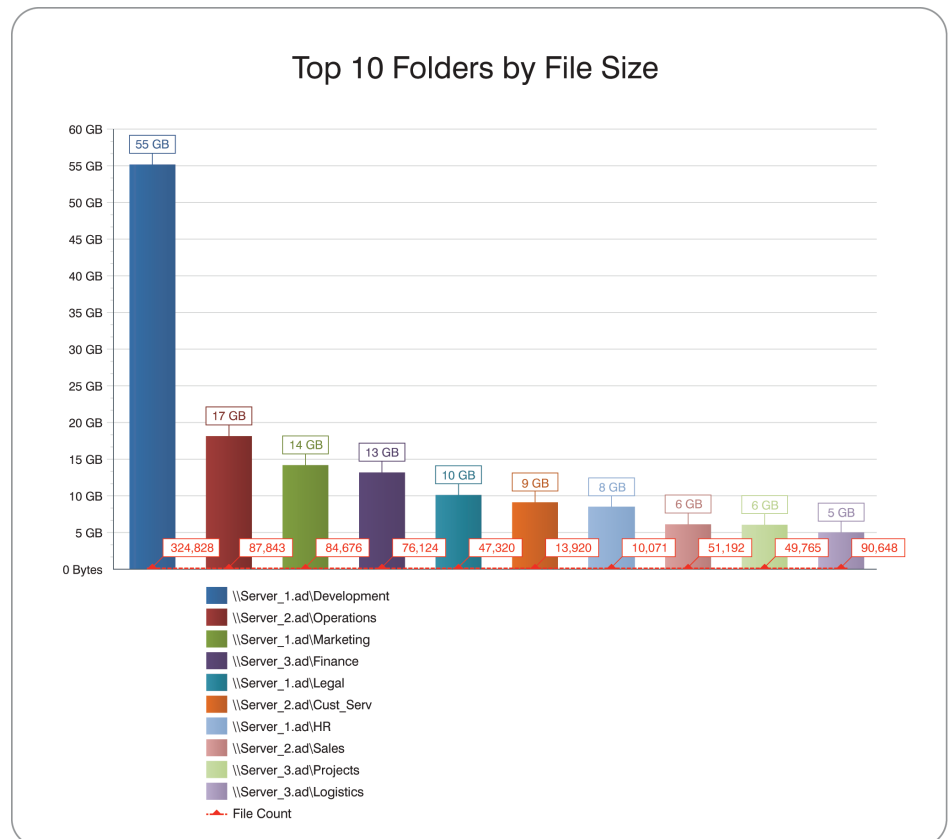
## Unique Benefits of File Reporter

We developed File Reporter to be unlike other network reporting products. By utilizing your existing network hardware and software investments, File Reporter gathers and presents a comprehensive set of file system data and thus, offers many unique benefits.

## Compliance Answers

With regulations dictating that you be able to demonstrate file retention and security, File Reporter gives you the ability to not only identify and locate specific documents, but quickly determine how secure those documents are. There are Permissions reports that can specify

## Graphical Report Sample



**Figure 3.** This figure shows a sample graphical report.

who can access a network folder and how that access is derived. Other Permissions reports can specify what access rights a user has to folders throughout the network.

## Enterprise Level Reporting

Unlike other reporting products that provide limited file system reporting at the server level, File Reporter lets you inventory all the storage devices that make up your enterprise network. File Reporter provides you the flexibility to structure your reporting for just a single server volume, for all the servers in a department or for the entire network.

## Identity-Based Reporting

File Reporter integrates with your network's directory service (eDirectory or Active Directory) to ascertain and report on rights and permissions tied to the file system.

File Reporter can even report across storage residing in eDirectory and Active Directory at the same time. For example, you can report on storage across two or more eDirectory trees, on Active Directory and eDirectory networks, or an Active Directory and multiple eDirectory trees.

**Filtered Reporting**

When File Reporter creates a report, it contains all the file-based or security data for the storage resources from which you want information. This report has the potential to be gigabytes in size, and possibly hundreds of thousands of pages long.

Reviewing all this data in a report is impractical and inefficient. File Reporter therefore lets you view reports through Boolean filtering that present a reduced number of entries according to the criteria you want to see.

**Flexible Presentation Types**

File Reporter lets you present reports in various formats including PDF, Microsoft Excel, RTF, HTML, TXT and CSV. The Report Designer includes advanced design and graphing capabilities for presenting data in various formats.

**Conclusion**

The exploding growth of file-based data requires that organizations look for data management efficiencies. But if you don't know the current state of storage on your network, there is little hope for making any significant and lasting improvements.

File Reporter provides network administrators the ability to access a comprehensive set of network storage information on Windows network file systems and does so in a uniquely powerful way. Anything from a small, single-server organization to a very large enterprise can benefit immensely from File Reporter because of its ability to report on who is storing files, what files users are storing, where the files are stored, who has access to them and much more.

File Reporter gives you the information you need to make storage decisions for today and tomorrow.



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