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FILE SERVER REPORTS

TOP 10 FILE SERVER AUDITING REPORTS FOR SYSADMINS

The relentless threat of data breaches demands proactive defense for every organization. Lepide's core mission is to provide comprehensive visibility into your data, empowering you to understand exactly what's happening and take necessary steps to minimize risk and maintain compliance.

www.lepide.com

Top 10 File Server Auditing Reports for Sysadmins

Threats

Data breaches are a serious threat to any organization and so action needs to be taken to keep the risk of these threats to a minimum. The focus at Lepide is to provide visibility over what's happening with your data and through visibility you can take the necessary steps to mitigate risk and stay compliant.

Overview

With vast amounts of data being generated daily in all organizations, it is crucial that issues such as data access attempts and unwanted modifications made to shared files and folders are identified quickly. The Lepide File Server Auditor enables you to get a complete overview of all events taking place in your file server environment with detailed reports and real-time alerts. Our automated Solution constantly monitors and tracks file activity to spot anything which may be malicious and could lead to serious security breaches.

Identify

Lepide Auditor for File Server enables you to audit critical file server changes and interactions. The Solution will track when files and folders are created, accessed, modified, copied or deleted in file server. Along with monitoring file activity, permission changes can also be tracked and compared across file servers.

Reports

Our File server auditing software addresses common sysadmin challenges, including investigating deleted files, failed access attempts, and generating detailed audit reports. Lepide overcomes the limitations of PowerShell and event logs to provide full Windows File Server auditing capabilities.

Limitations of Native File Server Auditing Methods

The auditing capabilities provided by Microsoft event logs seem comprehensive but there are limitations to using them and some activities cannot be determined using only event logs. Some examples of these are given below:

- Was a file created or modified? The only way to know the difference between a new file and a modified file is to know whether the file existed before.
- Missing information on failures. For the purposes of cybersecurity, it can be essential to know when someone failed to access a file. Windows file auditing only writes a single Event ID 4656 for a failed access attempt which has occurred because of permissions.
- Cut & paste. It may be assumed that a cut and paste action would be the same as a move operation. However, in practice, the behavior is recorded as a delete followed by a create operation with no relationship whatsoever between the two actions.

A more straightforward approach to native file server auditing is to use the Lepide Data Security Platform. The Lepide Solution provides hundreds of pre-defined reports to audit your system. In this article we list the top ten file server reports included within the Lepide Data Security Platform and explain the advantages of each.

1. Files and Folders Deleted

Files which contain sensitive data should not be deleted without the knowledge of system administrators. Therefore, it is essential to have visibility over any files and folders which are deleted by regularly monitoring all file and folder activity.

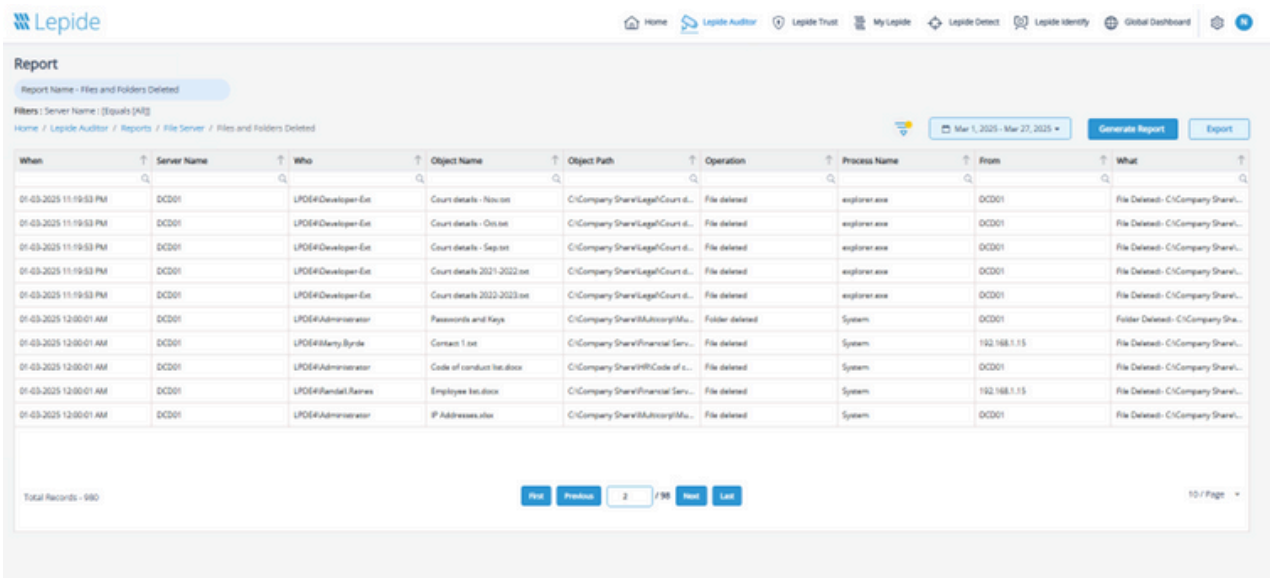
Native Method

One way to track activity is to run a PowerShell script on a regular basis to see all files which have been deleted since the script was last run. However, this can be time consuming and complex and relies on somebody having PowerShell scripting knowledge and remembering to run the script.

The Lepide Files and Folders Deleted Report

A more straightforward approach is to use the Lepide Data Security Platform. The Lepide Solution includes predefined reports which can easily generate a list of new files together with additional information such as who created the files. This is a more straightforward approach as it means you do not have to check and decipher the system event logs and along with the Lepide reports, you can create alerts to notify you every time a new file is created giving you immediate information on file creation activity.

The following is an example of the Lepide Files and Folders Deleted Report:



2. File and Folder Access Attempts

In any enterprise that uses file servers to store and share data, auditing is essential to ensure data security. Proper monitoring of all file servers in a domain can help to identify any unwanted or potentially damaging events, including file accesses and read events on files containing sensitive data.

It is possible to track who accesses files on Windows File Server in an organization using Windows Event Logs. However, a simpler process can be achieved using the Lepide Data Security Platform and both processes are explained below.

Using Native Methods

Steps to Audit File Access on Windows File Server using Event Logs

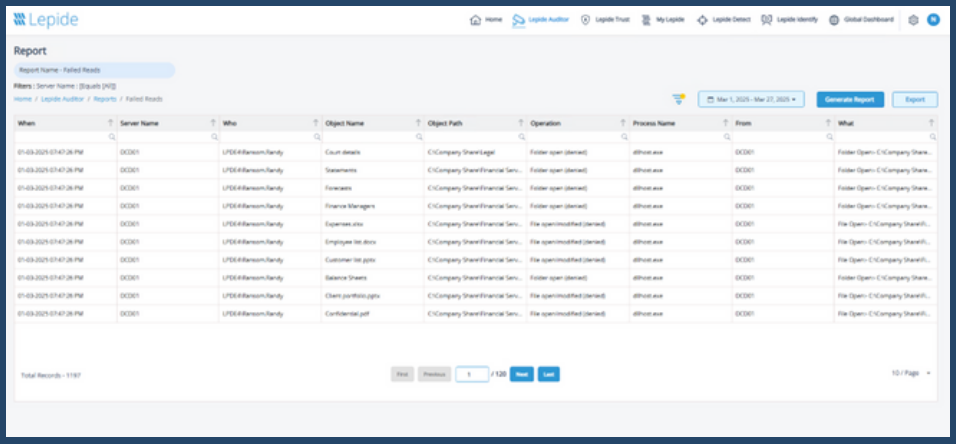
The steps to track who read a file on Windows File Server are as follows:

- Configure the **Audit Object Access** audit policy
- Enable auditing on the files that you want to track
- Search the relevant Event IDs in Windows Event Viewer to track who read the file. Event ID 4656 and 4663 are logged if a file is opened.

The Lepide Failed Reads Report

At Lepide, we understand the role that File Server auditing plays in keeping your sensitive, unstructured data secure. Tracking and auditing file-read events on Windows File Servers and other changes occurring to sensitive data on File Servers is a straightforward process using Lepide File Server Auditor.

The example below shows the Failed Reads Report, which is just one of the hundreds of File Server audit reports available on the Lepide Platform. The answers to critical audit questions regarding file access are displayed in a single pane of glass.



3. File and Folder Copy Events

The ability to copy files is an essential requirement for most job roles within an organization. However, when this functionality is misused and file copying activity is done for the wrong reasons, data security is compromised, and appropriate remedial action needs to be taken. To reduce this insider threat of a data breach, it is essential to monitor all file activities, especially file copy actions, to spot any malicious activity at the initial stages. However, while constant monitoring of user behavior is achievable, it can be complex and time consuming without the right solution in place.

The Lepide Data Security Platform provides a solution to this. It works in real time and allows you to view a summary of employee activity within a given timeframe to see which files have been copied.

It also provides the ability to set up real-time alerts so that immediate action can be taken. For example, if a certain number of files are copied in quick succession, this could indicate the start of a data breach. In this case, an alert would be triggered, and an immediate response implemented.

Using Native Methods

After your Windows File Server has been configured to enable auditing for the files and folders you want to monitor, you can track any change made to these folders, subfolders, and files.

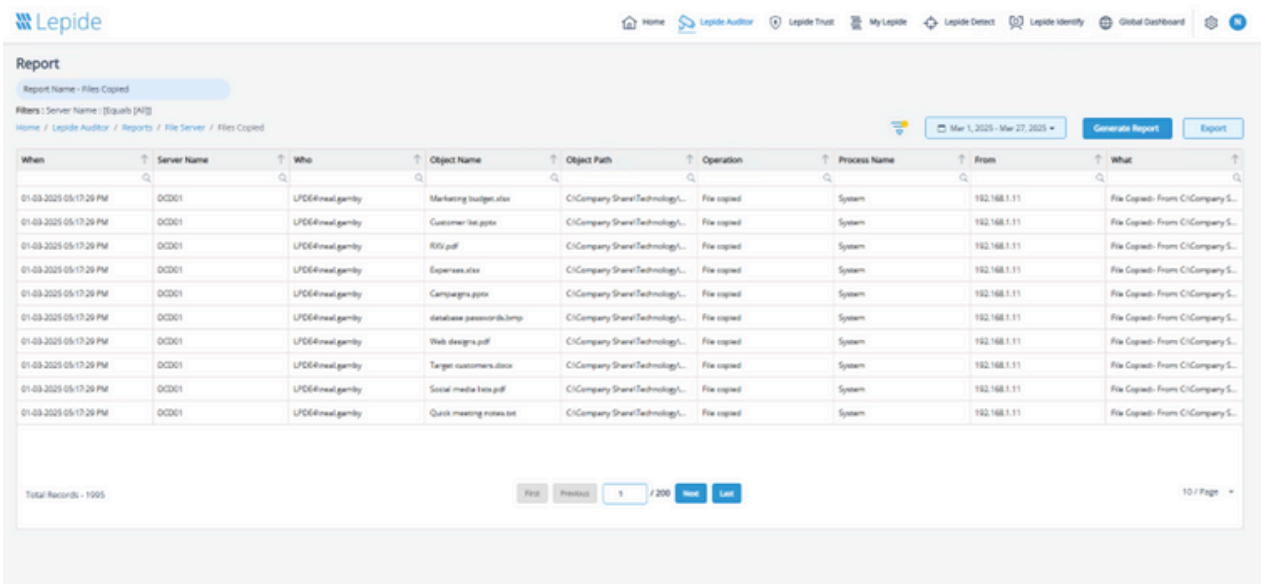
To do this, open **Windows Event Viewer** and go to **Windows Logs, Security**. In the right-hand pane, use the **Filter Current Log** option to find the relevant events.

For example, if anyone copies a file, event ID 4656 (object access request) and Event ID 4663 (object accessed or change request – the change could be file create, file delete or file change) will both be logged.

The Lepide Files Copied Report

The Lepide Data Security Platform provides a straightforward approach to monitoring files which have been copied. Unlike Native Auditing, you do not have to manually enable the auditing for different files and folders. You simply install the solution and configure the audit settings once and you are good to go.

The following example shows the Files Copied Report. You can filter the records by column including Object Name, When, Who, and any other available column.



4. File and Folder Changes/Modifications

Tracking file and folder modifications on a Windows file server is important for several reasons. Firstly, it aids in identifying unauthorized access or alterations made to sensitive data. Secondly, it assists in troubleshooting issues related to file access and permissions. Lastly, it serves as evidence in the occurrence of a security incident.

Many industries and organizations have regulatory requirements that mandate the auditing and monitoring of file access so enabling file server auditing allows you to demonstrate compliance with these regulations and provides an audit trail for potential audits or investigations.

Auditing also promotes accountability by attributing actions to specific users. When auditing is enabled, you can identify who accessed or modified a file, which is useful for tracking down responsible individuals in case of policy violations, data breaches, or accidental data loss.

Additionally, in the event of a security incident or suspicious activity, auditing provides detailed information about file access and changes. This information is valuable for conducting forensic investigations to understand the extent of the incident, identify the source, and take appropriate remedial actions.

Using Native Methods

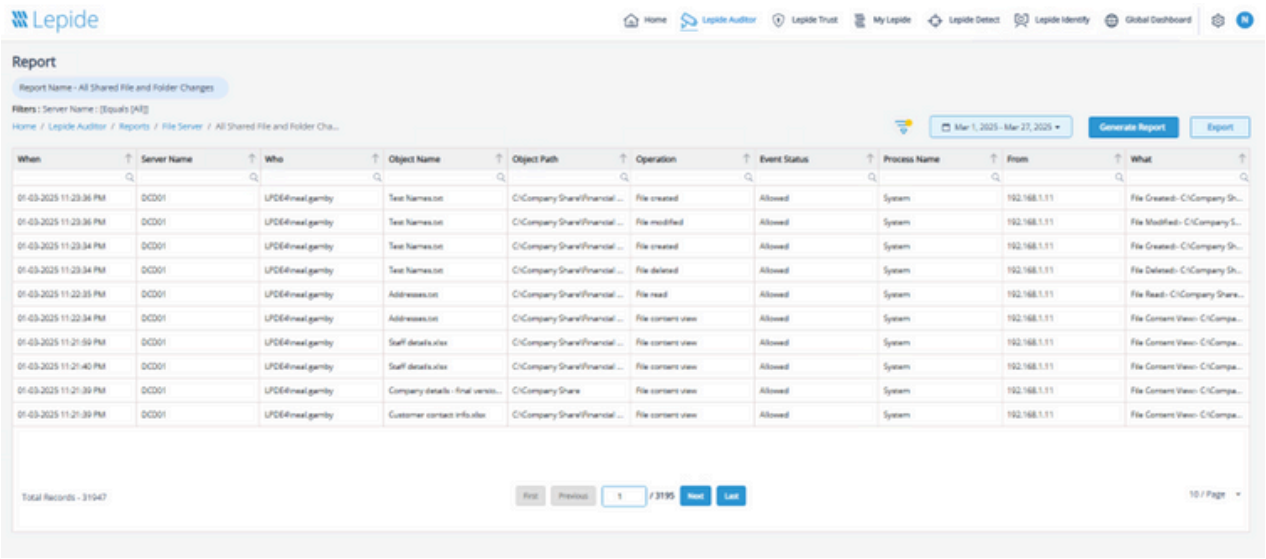
There are various approaches to audit changes to files and folders in Windows file servers. One commonly used method involves utilizing the built-in auditing features. To implement this, it is necessary to enable auditing for the desired files and folders. Once auditing is enabled, Windows will document all access and modification events in the security event log.

However, native Windows File Server auditing is noisy, time consuming, and often lacks the critical information you need to determine what is happening to your sensitive data.

The Lepide File & Folder Changes Report

Lepide provides a simple and yet comprehensive solution to auditing file and folder changes. You can run detailed audit reports for all critical file server changes and interactions, including permissions modifications, file modifications, deletions, file copy events, and more.

The following example is of the Lepide File and Folder Changes Report:



5. File and Folder Permission Changes and Folder Copy Events

Auditing changes to permissions on file servers is a critical component of any organization's data security strategy, helping to protect sensitive data, maintain compliance, and improve accountability and transparency.

Detecting any unauthorized changes made to file permissions will help to keep sensitive data secure. By regularly auditing changes to permissions, system administrators can identify any suspicious activity and take corrective action to prevent data breaches or other security incidents.

Auditing changes to file server permissions can also help to maintain compliance with regulatory requirements, such as those governing data privacy and protection. By demonstrating that changes to permissions are being audited and appropriate access controls are in place, organizations can avoid costly fines and legal penalties.

By keeping a log of all changes made to file permissions, system administrators can track who made the changes and when which is essential for troubleshooting and investigating security incidents.

Here we will look at how to audit file server permissions firstly by using the native method of event logs and then by using the Lepide Data Security Platform.

Using Native Methods

Using Windows Event Logs

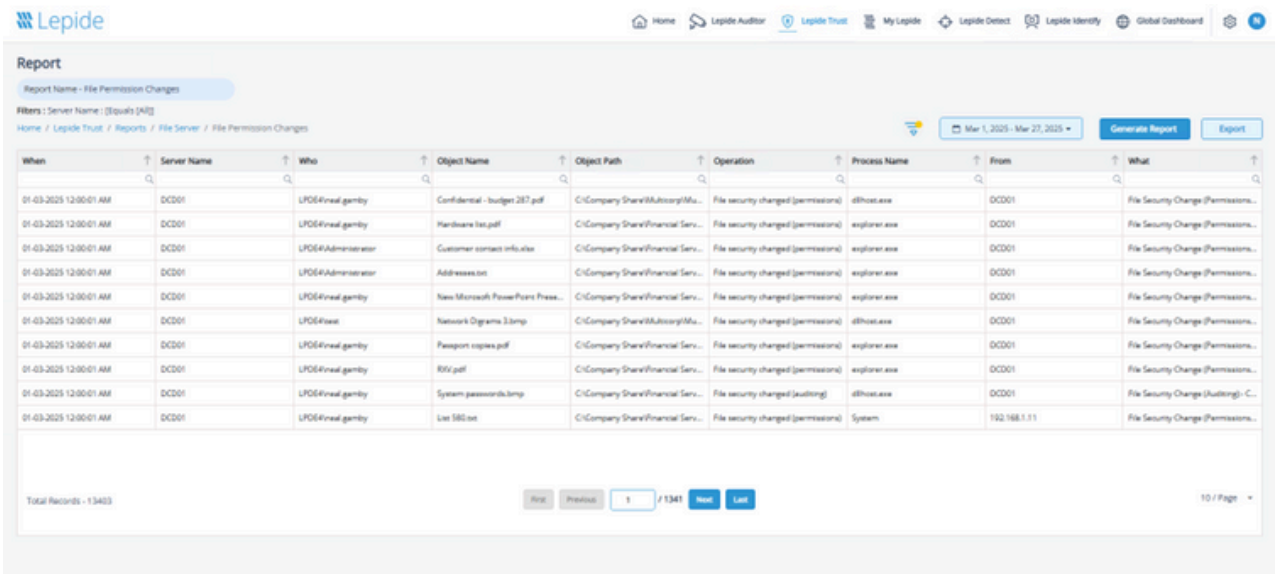
Follow the steps below to enable auditing and track related events in Event Viewer:

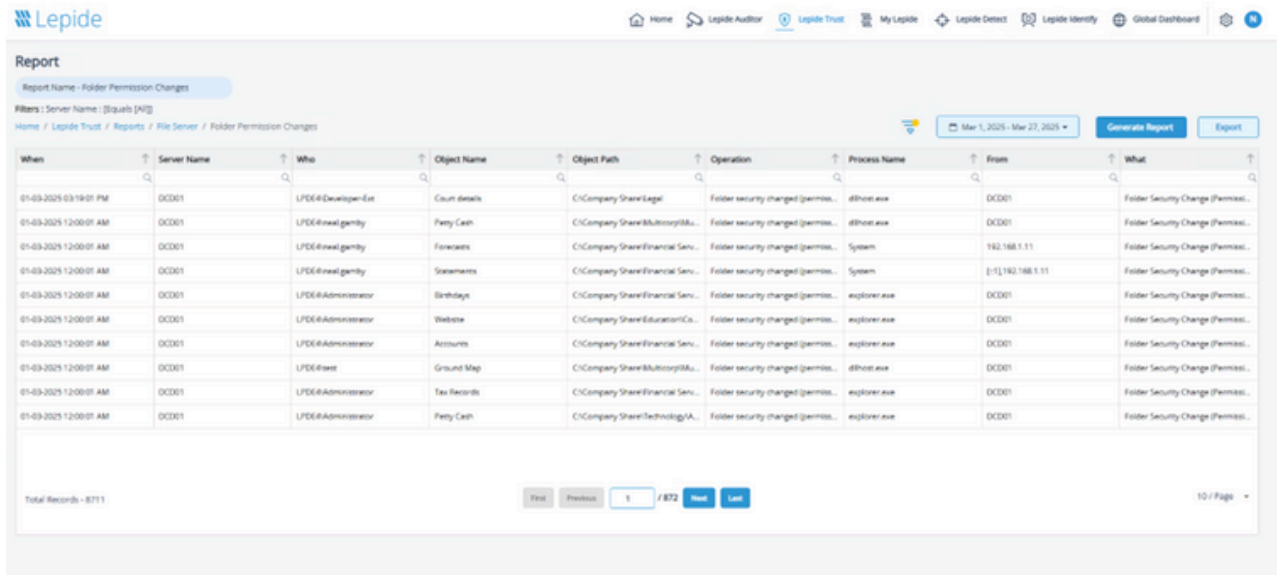
- Navigate to the required file share, right-click on it and select **Properties**
- Switch to the **Security tab**, click the **Advanced button**, go to the **Auditing tab** , click the **Add button**
- Select Principal: **Everyone**; Select Type: **All**; Select Applies to: **This folder, subfolders and files**; Select the following **Advanced Permissions: Change permissions and Take ownership.**
- Run gpmc.msc, edit **Default Domain Policy, Computer Configuration, Policies, Windows Settings, Security Settings.**
- Go to **Local Policies, Audit Policy**: Audit object access, select both Success and Failures
- Go to Advanced Audit Policy Configuration, Audit Policies, Object Access:
  Audit File System: select both Success and Failures
  Audit Handle Manipulation: select both Success and Failures
- Go to Event Log and define:
  Maximum security log size to **1 GB**
  Retention method for security log to **Overwrite** events as needed
- Open Event Viewer, and search the Security Windows Logs for:
  Event sources: **Microsoft Windows security auditing**
  Event ID 4663
  Task Category: **File System or Removable Storage**
- The Account Name and Security ID will show you who changed the file's/folder's owner or permissions.

The Lepide Permission Changes Reports

The Lepide Solution gives you an easy way to detect, monitor, and report on file server permission changes by running the **File Permission Changes Report** and the **Folder Permission Changes Report.**

Examples of these reports are shown overleaf:


Lepide
Home
Lepide Auditor
Lepide Trust
My Lepide
Lepide Detect
Lepide Identify
Global Dashboard
Report
Report Name - File Permission Changes
Filters : Server Name : [Equals [All]]
Home / Lepide Trust / Reports / File Server / File Permission Changes
Mar 1, 2025 - Mar 27, 2025
Generate Report
Export
When
Server Name
Who
Object Name
Object Path
Operation
Process Name
From
What
01-03-2025 12:00:01 AM
DCD01
Total Records - 13403
First
Previous
1
/ 1341
Next
Last
10 / Page


Lepide
Home
Lepide Auditor
Lepide Trust
My Lepide
Lepide Detect
Lepide Identify
Global Dashboard
Report
Report Name - Folder Permission Changes
Filters : Server Name : [Equals [All]]
Home / Lepide Trust / Reports / File Server / Folder Permission Changes
Mar 1, 2025 - Mar 27, 2025
Generate Report
Export
When
Server Name
Who
Object Name
Object Path
Operation
Process Name
From
What
01-03-2025 03:19:01 PM
DCD01
Total Records - 8711
First
Previous
1
/ 872
Next
Last
10 / Page

6. Open Shares

The misuse of user privileges is one of the main sources of data breaches within an organization and one such threat is being unaware of the files and folders that users have access to via open shares.

Open shares make it easy for end-users to have access to a given resource, however, if these open shares are not managed correctly, they can create security risks with potentially catastrophic consequences.

What is an Open Share?
An open share is a resource where access is unrestricted to most end users and is achieved using Open Access Groups. These types of groups can include:

Everyone – all users and accounts that have authenticated to the system.
Authenticated Users – everyone except build-in, non-password protected groups.
Anonymous Logon – a built-in group that enables users to access resources from an anonymous account.
Domain Users – a default group within Active Directory to which users accounts are automatically added.

There are times when it is necessary to have resources that are accessible to all users on a network but it only takes one employee who has been wrongly granted write-access to a resource to result in a serious security incident.

Within the process of monitoring all network user privileges, it is essential that open shares are checked regularly as if they are not managed correctly, they can become a significant threat to network security within an organization.

However, while the constant monitoring of open shares is achievable, it can be complex and time consuming without the right solution in place.

Using Native Methods

Given the complex nature of assigning access controls to shares, it is a good idea to use automation to help to minimize the number of unnecessary open shares on your network. While it is possible to use a PowerShell script to list all open shares, there are more advanced tools available that can automatically scan for this.

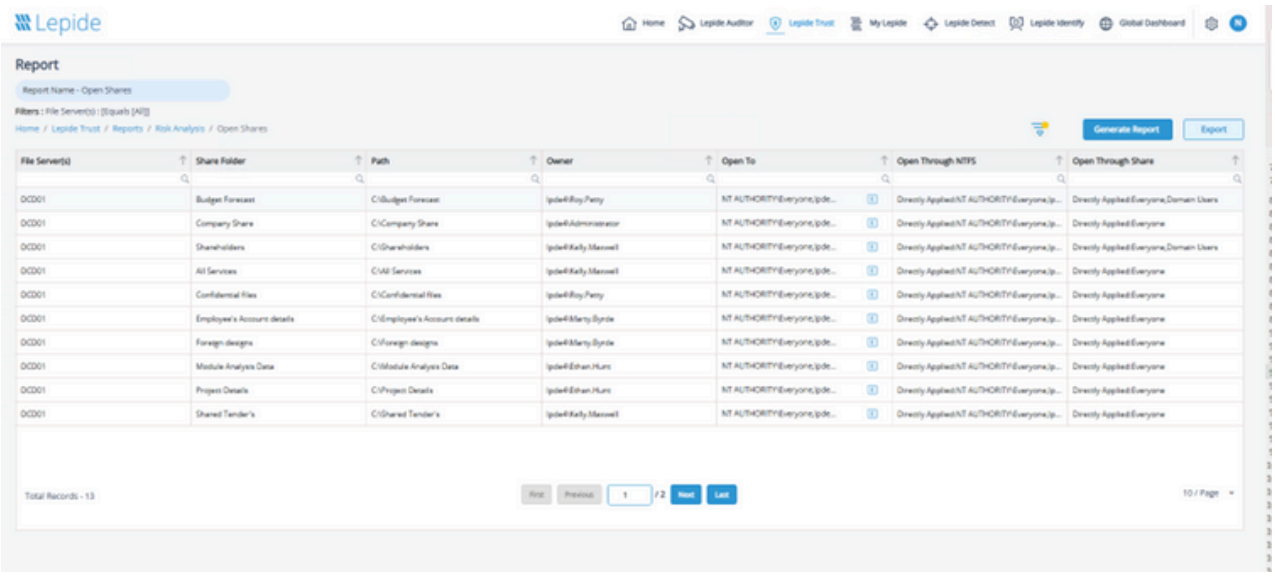
Most sophisticated solutions use Machine Learning (ML) to learn the typical usage patterns of each user account and assign access controls according to the resources they access, including when, and how often they are accessed.

However, it is important not to rely solely on automation to ensure that open shares are kept under control. Automation can be very useful for identifying open shares and reporting them to the administrator, but as part of the process, the administrator must then review all open shares to prevent their misuse.

The Lepide Open Shares Report

The Lepide Data Security Platform provides a complete solution that scans and reports on all open shares within an organization. By first running a scan and then running the Open Shares Report, it is possible to identify all open shares and then to take action to manage how they are being used.

An example of the Open Shares Report is shown below:



7. Permissions by Object and by User

Correctly configuring file server permissions is vital for access control and data security. Best practice dictates assigning permissions via groups, not directly to individuals, protecting sensitive data and preventing unauthorized access while enabling users to work securely. Identifying and removing direct, inappropriate permissions strengthens IT systems and data security.

Using Native Methods

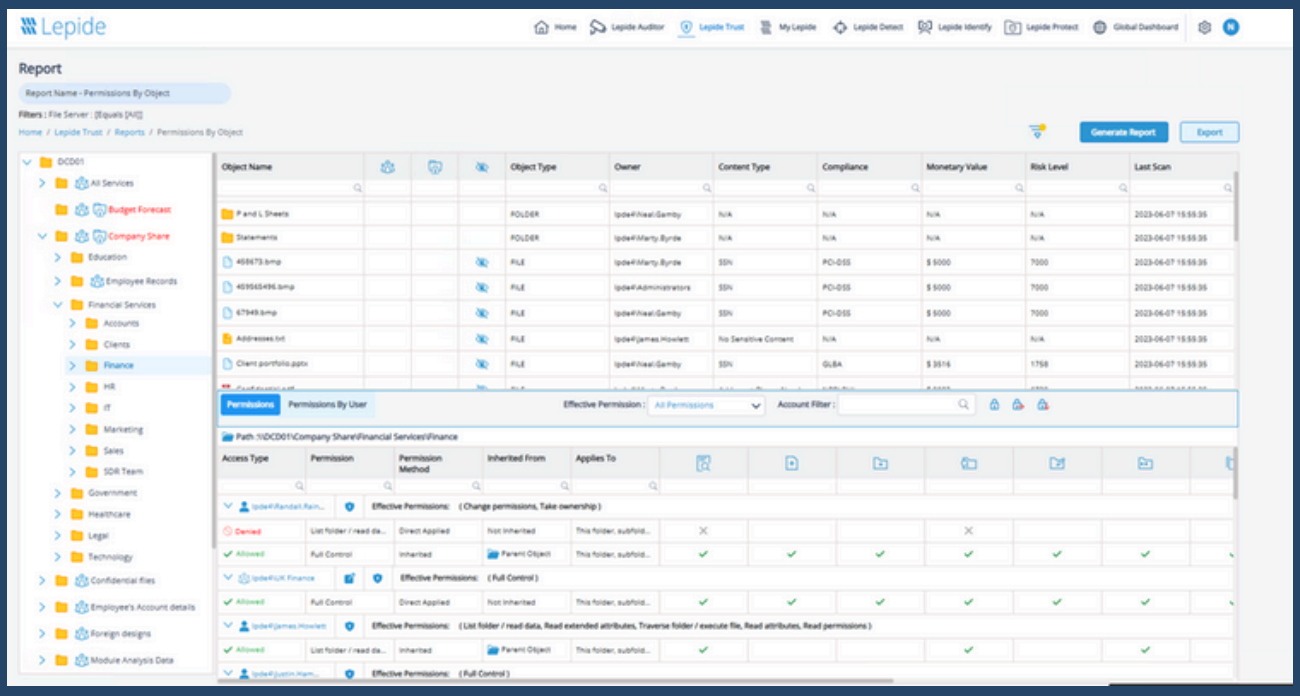
Tracking user permissions can be achieved by running a PowerShell script. However, this does require a knowledge of PowerShell scripting and so a simpler process is to use the Lepide Data Security Platform.

The Lepide Permissions Reports

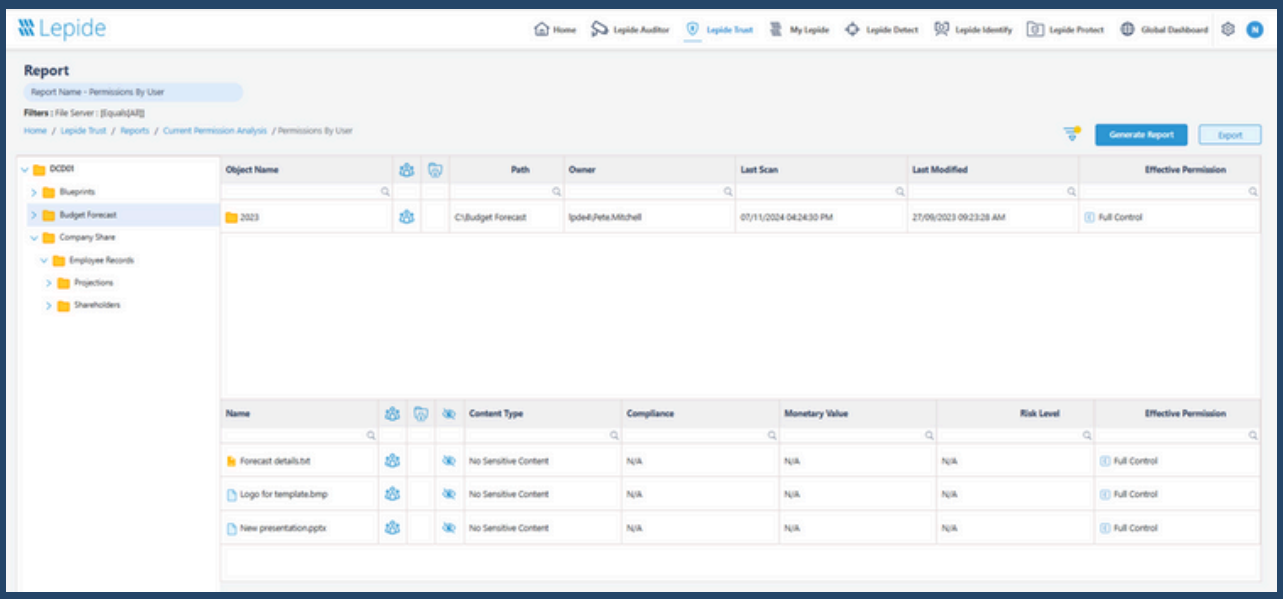
A more straightforward approach, which requires no knowledge of PowerShell scripting, is to use one of the many pre-defined reports included within the Lepide Data Security Platform.

There are two reports within the Lepide Data Security Platform which can be used to see permissions to sensitive data. They will both display the same data but in different ways depending on how you want to view the data. The reports are called Permissions by Object and Permissions by User.

The following is an example of the Permissions by Object Report which shows how permissions have been derived by file server objects:



The following is an example of the Permissions by User Report which shows the files that a particular user has permission to access:



8. Excessive Permissions by Object and by User

Companies often hold a wide variety of sensitive data types. This can include information such as social security numbers, credit card details, bank account information, and other account data that identifies customers or employees.

This information is necessary for employees to perform essential business functions but if there is uncontrolled access to this sensitive data it can lead to data breaches including fraud and identity theft, and to non-compliance.

When a user, either intentionally or accidentally, misuses legitimate privileges which they have been given it is known as privilege abuse. Despite these privileges being legitimately granted, users may access resources or perform actions that compromise data security.

The Principle of Least Privilege (PoLP) is an information security concept in which a user is given the minimum levels of access needed to perform their job functions. Applying this principle is a highly effective way to greatly reduce the chance of an attack within an organization.

To be able to do this, however, it is essential for an organization to have visibility over the complete list of users who have access to sensitive information. But as organizations grow, being able to see and understand who has access to sensitive data can become a complex and time-consuming task.

Using Native Methods

Excessive permissions can be listed by running a PowerShell script. This can be exported to a csv file and then further analyzed. However, this requires a knowledge of PowerShell and can be time consuming and complex. A simpler approach is to use the Lepide Data Security Platform.

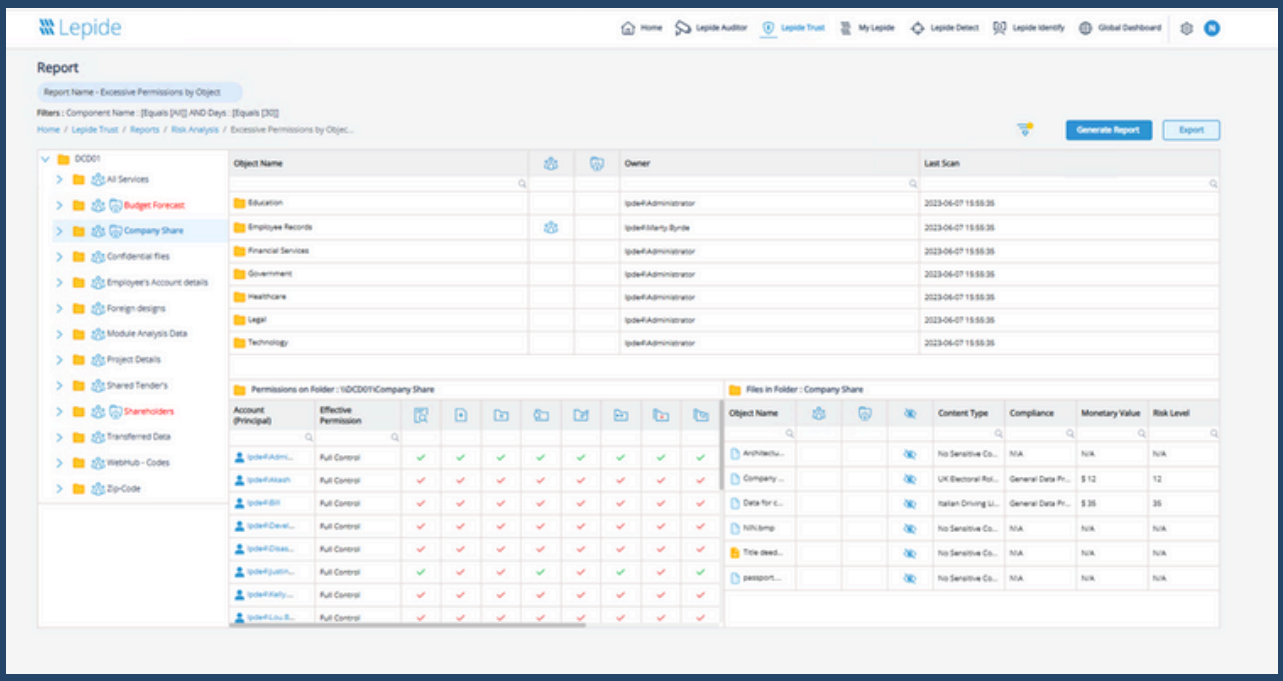
The Lepide Excessive Permissions Reports

The Lepide Data Security Platform provides a solution to this complexity with excessive permissions reports which provide visibility as to who has access and what type of sensitive data they have access to.

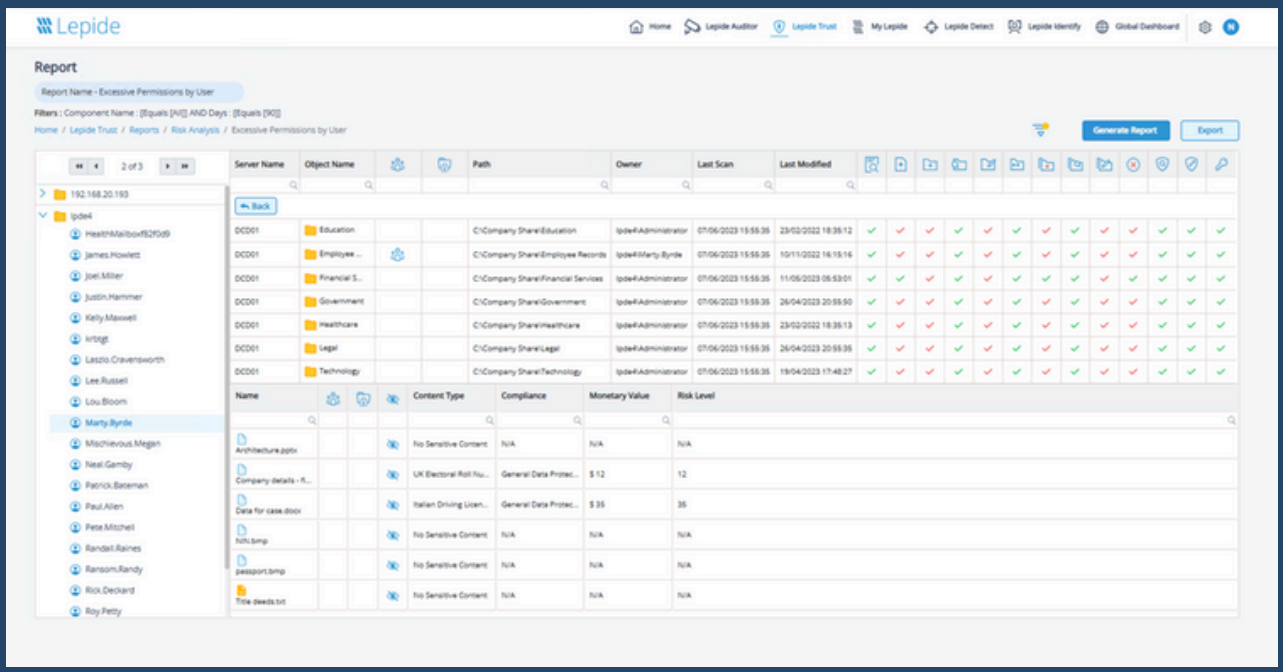
Once there is clarity as to exactly who requires access to do their job, it is a straightforward process to remove privileges for those who don't need them.

There are two reports within the Lepide Data Security Platform which can be used to see Excessive Permissions to sensitive data. They will both display the same data but in different ways depending on how you want to view the data. The reports are called Excessive Permissions by Object and Excessive Permissions by User.

The following is an example of the **Excessive Permissions by Object Report:**



Here is an example of the **Excessive Permissions** by User Report:



9. Stale Data

Stale data is any data collected by an organization that is no longer necessary for daily operations. In computing and database management, stale data typically occurs when data is not regularly updated to reflect the most current situation. This can occur for various reasons, such as infrequent data synchronization processes, delays in data transmission, or failure to refresh cached information.

When data becomes stale, it can lead to inaccuracies and inconsistencies in decision-making processes and increases the risk of a data breach..

It can have significant implications for business operations, customer satisfaction, regulatory compliance, and cybersecurity. For example, in industries like healthcare or finance, relying on outdated patient records or financial information can compromise the quality of care or lead to regulatory violations.

To mitigate the impact of stale data, organizations must employ strategies such as implementing automated data refresh mechanisms, enforcing data expiration policies, and conducting regular audits to identify and address outdated information. By proactively managing data freshness, organizations can ensure the accuracy, relevance, and reliability of their data assets, thereby enabling informed decision-making and maintaining operational efficiency.

Using Native Methods

Identifying stale data is the first step in the process before deciding what action to take. The following are some of the methods you can use to detect stale data:

Evaluate timestamps: Every data entry includes a timestamp indicating when it was added or modified so analyzing these timestamps helps to determine whether data may be stale.

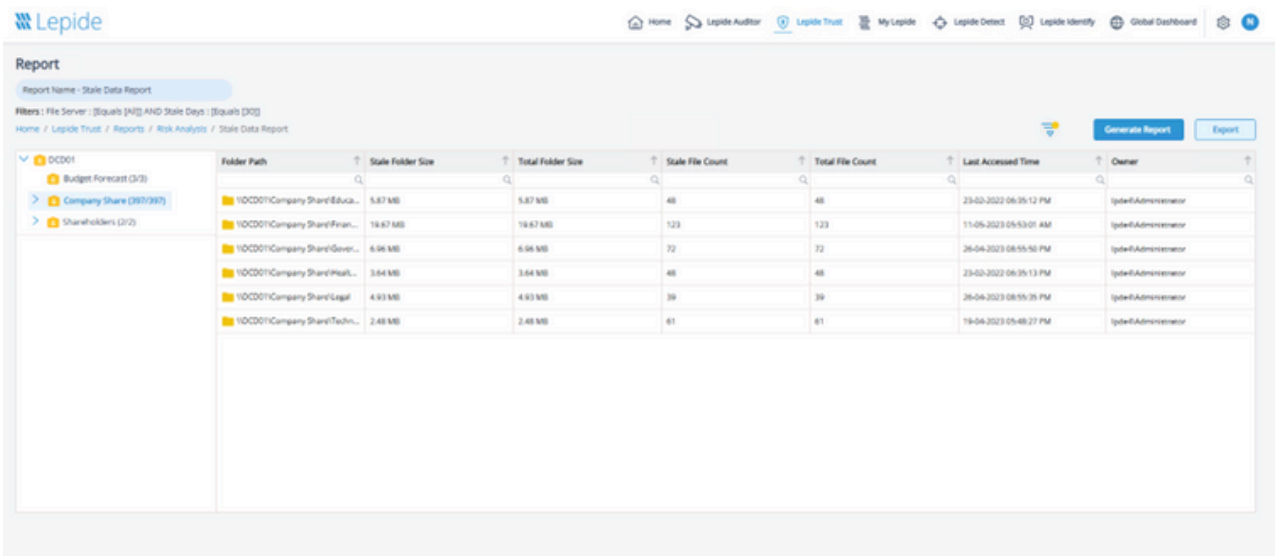
Outdated timestamps indicate that data may be stale as it hasn't been modified in a while. For example, documents relating to old pricing could be inadvertently used and lead to inaccurate conclusions or in a healthcare setting, outdated patient records could cause a delay or failure in providing the correct care.

Audit data pipelines: Perform regular evaluation of your data pipeline to ensure an optimized data delivery process.

Set up monitoring systems: Manually reviewing large datasets for stale data can be time-consuming. Implementing a monitoring system, for example the Lepide Data Security Platform, automates the process, allowing you to easily identify old data. These systems can be configured to trigger alerts, instantly notifying you of anomalies in the data ingestion process.

The Lepide Stale Data Report

The Lepide Data Security Platform provides a straightforward way to identify stale data. The Stale Data Report allows you to specify the number of days that you consider a document to be stale and so you can easily see any folders which contain files which are older than this specified number of days. For example in the report shown below, the number of Stale Days is set to the default value of 30 so the report will retrieve a list of folders which contain files that have had no interactions within the last 30 days.



10. Sensitive Files by Name

Locating, discovering, and classifying sensitive files is key for security, governance, and data protection. For example, healthcare records (PHI) in the US are subject to HIPAA, while UK passport numbers fall under GDPR. These standards necessitate finding sensitive data to apply appropriate security.

Using Native Methods

The File Server Resource Manager (FSRM) is one of the native methods you can use to locate files containing sensitive data and classify them by type.

The steps to do this are:

- Create a rule to find sensitive data by doing the following–

  From Server Manager, open FSRM.

  Select **Classification Management** – **Classification Properties** – **Create Local Property**

  Enter the property **Name** and decide **Yes/No** for the **Properties Type**. Click **OK**

  From **Classification Management** select **Classification Rules, Create Classification Rule**.

  Enter the **Rule Name** in the **General tab**.

  In the **Scope** tab, click on **Add** to add a directory. Then click **OK**.

  From the **Classification** tab can set the **Classification Method** to **Content Classifier** and set the Property.

  In **Parameters**, click **Configure** and choose **Regular Expression** as the **Expression Type**. For example, you can enter the following regular expression for UK Passport Numbers: ^[0-9]{10}GBR[0-9]{7}[U,M,F]{1}[0-9]{9}$

  Click **OK** and go to the Evaluation Type tab and select to enable the following:
  - o Re-Evaluate existing properties values
  - o Overwrite the existing values
  - o Clear Automatically Classified Properties
  - o Clear User Classified Properties

  Click **OK**

- Execute the rule you have created – this involves opening FSRM, right clicking on **Classification Rules** and selecting **Run Classification with All Rules Now**.

- In the **Run Classification** section, you can select to run the classification in the background.

- Configure a classification schedule - if you want to ensure that you are continually locating files containing sensitive data, you need to make sure the scan runs on a regular basis.

- Test and expand – this step is ensuring that you test to make sure the classification rules are working as desired and that sensitive files are being located and correctly classified.

- View the reports being delivered on a schedule to ensure they are meeting your requirements.

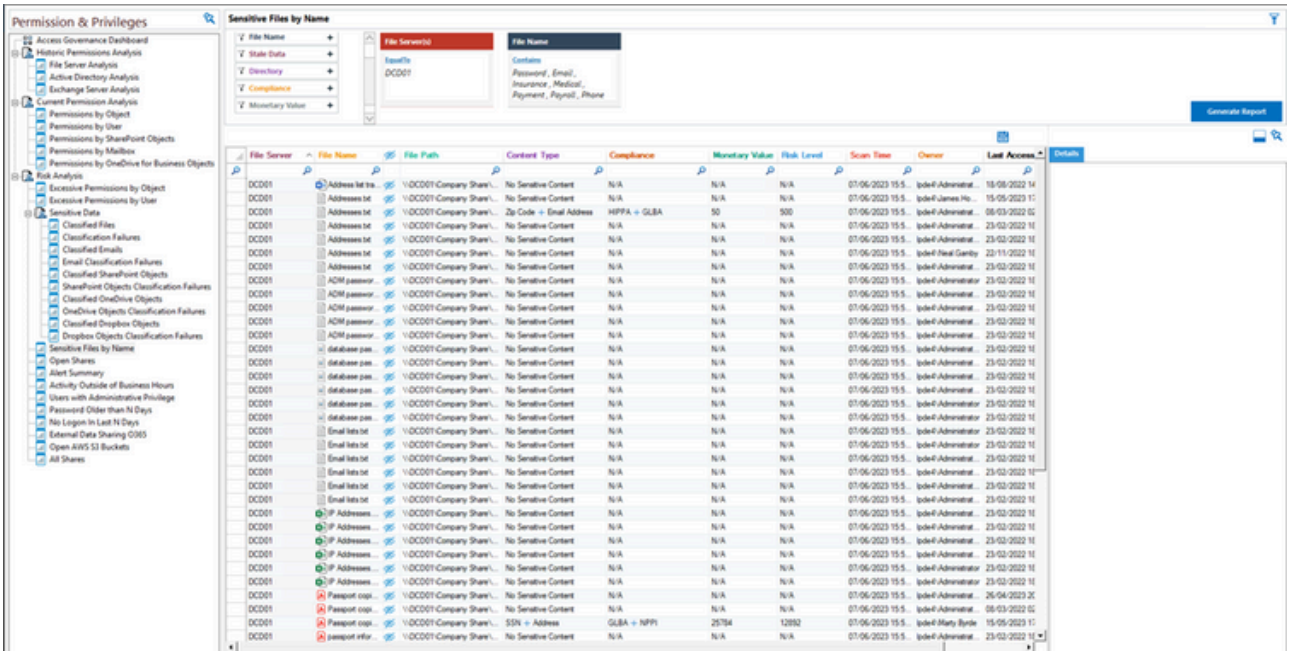
Using the Lepide Sensitive Files by Name Report

As we can see, using FSRM to locate and classify sensitive data is a very manual process that is error prone and time consuming. It's difficult to get meaningful reports delivered and the scans can take a long time. It is also limited to data stored on Windows file servers and you can't search for sensitive data.

A more straightforward solution is to use the Lepide Data Security Platform which allows you to easily locate and classify sensitive data through using the inbuilt data classification engine. The Solution locates sensitive data and classifies it at the point of creation/modification in real time. Data can also be classified based on the risk and monetary value associated with it.

After configuring your data stores, classification server and selecting On the Fly Classification you are ready to run a scan. The solution contains hundreds of pre-defined patterns for locating sensitive data and also allows you to input custom ones if you require. Once the initial scan has finished, you will have proactive, continuous data classification running.

The following example is the Lepide Sensitive Files by Name Report.



As we can see from the Top 10 File Server Reports, the Lepide Solution provides a far simpler alternative to the time-consuming and often complex native methods to audit Windows File Server. The Lepide Auditor for File Server, overcomes the limitations of native auditing, addresses common sysadmin challenges, including investigating deleted files, failed access attempts, and generating detailed audit reports.

This, along with the ability to track and compare permissions across file servers, helps to ensure security and meet compliance regulations. If you'd like to see how Lepide Auditor can help to audit File Server changes, schedule a demo with one of our engineers.

About Lepide

Mission

Our mission is to break the mold by delivering simple auditing and security solutions that enable organizations to protect their data and user directories, minimize their risks, and thrive.

Who we are

At Lepide, we believe that managing and securing your data shouldn't be complicated. Since 2005, we've empowered thousands of companies to protect and manage their unstructured data effectively. Lepide audits and protects files and folders, and the systems that govern access to them, without requiring a massive IT security team to manage it.

Why we exist

52% of organizations do not have the tools to confidently handle insider threats. 63% of companies admit that sensitive files are accessible to all employees. Companies simply don't have the visibility to detect threats and lack the speed to respond. Most enterprise-grade solutions that try to address these problems come with high costs and steep learning curves. Not Lepide.

What we do

- Lepide audits and protects files, folders, and access control systems.
- We offer this protection without requiring a large IT security team.
- Lepide unifies data security and Active Directory (AD) auditing across on-premises and cloud platforms.
- We provide enterprise-grade security at a non-enterprise cost.
- Lepide emphasizes faster reporting.
- The platform is designed for ease of use.
- Lepide is competitively priced.

Lepide in Numbers

Customers

1,000+

AND CLIMBING

Employees

100+

AND CLIMBING

Global Offices

3

AND CLIMBLING!

Solutions up close

Lepide Auditor

Find out more

Change Auditing and Reporting Solution

Audit and report on changes taking place to your key systems and data to help reduce your threat surface area, detect threats and meet compliance demands.

Lepide Trust

Find out more

Permissions Analysis Solution

Get instant visibility over the changes being made to permissions and determine users with excessive permissions to implement a policy of least privilege.

Lepide Detect

Find out more

Real Time Threat Detection and Response Solution

Pre-defined threat models, and automated threat response, mean you can detect the signs of a compromise or security incident, and react in real time before it causes significant damage.

Lepide Identify

Find out more

Data Discovery and Classification Solution

Persistent data classification adds context to your security efforts. E-Discovery helps to speed up privacy and data subject access requests.

Lepide Protect

Find out more

Permissions Management Software

Easily define, monitor, and adjust permissions across your environments to prevent unauthorized access to sensitive information by ensuring that only authorized personnel have access to critical data.

Lepide IQ

Find out more

Our AI helper

Lepide IQ, ensures that organizations stay agile by interrogating data faster to provide essential information on demand and in turn saving valuable time in decision-making processes.