

# Veritas Dark Data Assessment

Analysis for Roadrunner ACME Corporation

presented by John Doe

# Veritas Dark Data Assessment

All

## Environment Summary ⓘ

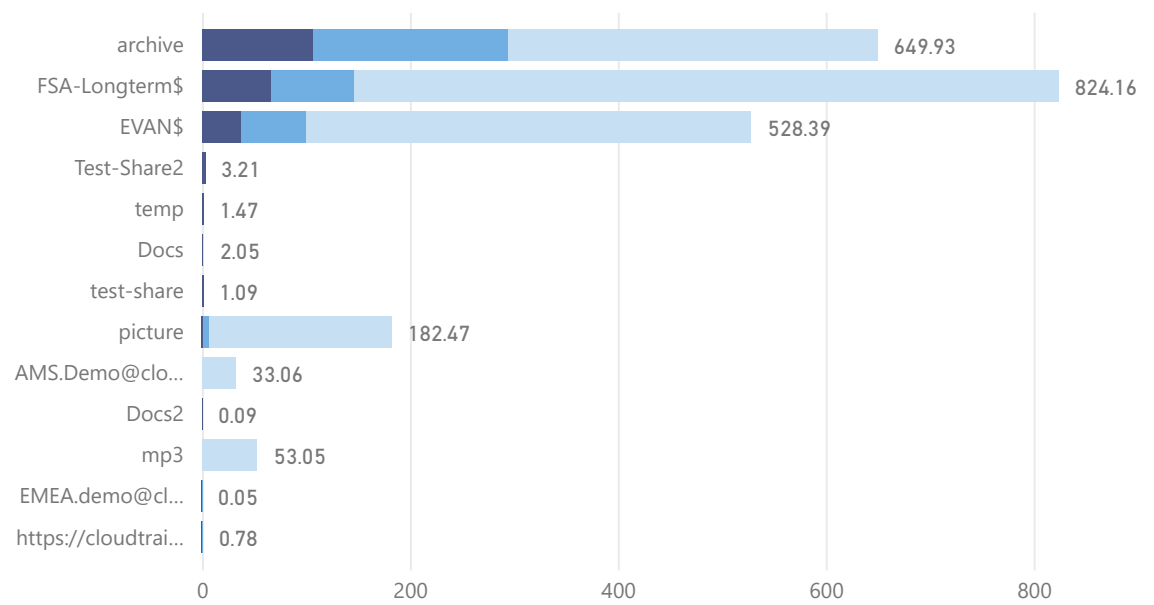
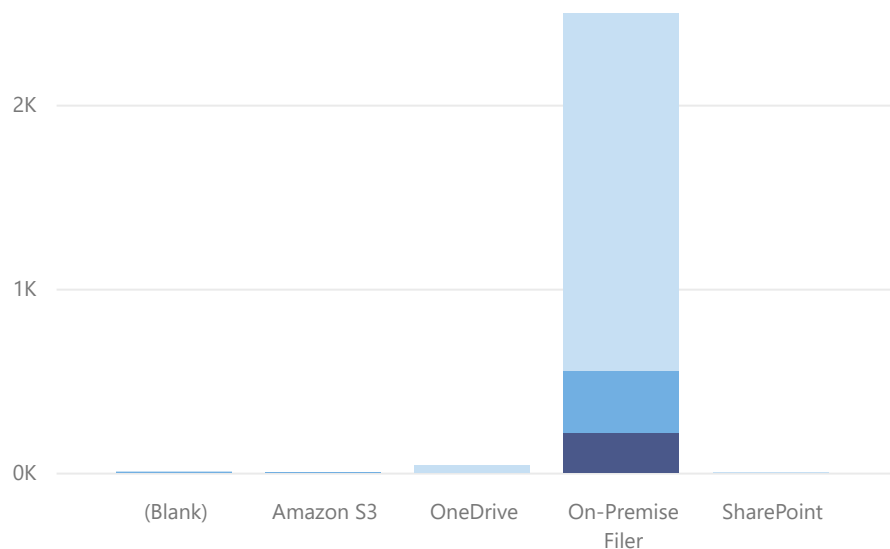
**Stored Data**  
**2.9TB**  
on 4 data source types

**Repositories**  
**53**  
4 marked as open

**File Items**  
**171.69K**  
949 tagged as sensitive

**Control Points**  
**52**  
10 found as permissive

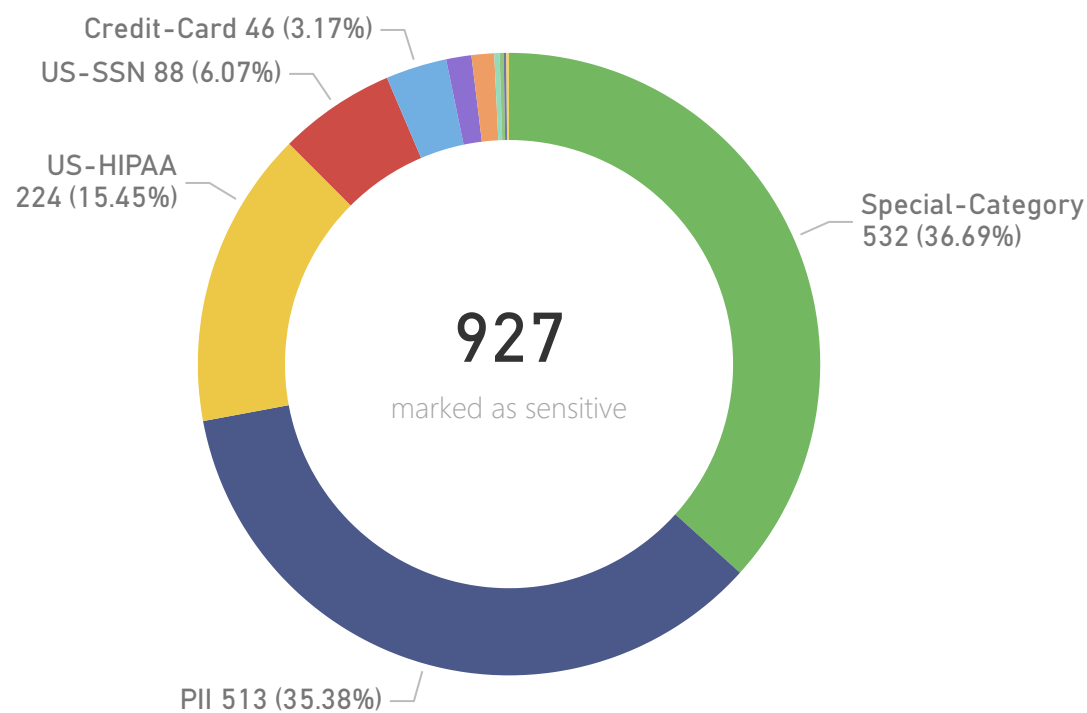
● Active Size (GB) ● Stale Size (GB) ● Abandoned Size (GB)



## Sensitive Data Summary ⓘ

### Filter by Classification Tags

- Attorney-Client
- Bank-Account
- Credit-Card
- PII
- Potential Ransom Notes
- Special-Category
- US-Drivers-License
- US-FCRA
- US-HIPAA
- US-IRS-1075
- US-Passport
- US-SSN



**16**  
sensitive files on open shares

**513**  
files containing PII data

**0**  
files containing PCI-DSS data

## Recommendations

### Delete Highly Sensitive and Regulated PII Files

You have files containing personal data revealing racial or ethnic origin, political opinions, religious or philosophical beliefs, trade union memberships, or genetic / biometric data.

Those profiles are forbidden by law (such as GDPR Art.9 rule), liaise with department owner to delete those files and review processes to prevent future special category captures.

### Review Files containing PII on Open Shares

You have several files containing personal data located on open shares.

You should consider with business owner to move those files to more controlled shares. It will reduce the surface risks of data leaks.

### Review Files containing PCI/DSS on Open Shares

You have several files containing credit card data sitting on open shares.

You should consider to move those files to more controlled shares. It will reduce the risks of internal data leaks

# Veritas Dark Data Assessment

All

## Cost Analysis ⓘ

15% Mission Critical Data

33% ROT Data

48%

Classified Data

52%

Dark Data

### Cost Analysis for Doing Nothing

Based on this Data Assessment figures, are you comfortable spending close to \$6,300 on low to no value data?

Mission Critical Data: **\$1,120**  
 ROT Data: **\$2,460**  
 Dark Data: **\$3,880**

✓ Override Values

## The Real Cost of Clutter

*The Vulnerability Lag Report (Veritas / Vanson Bourne)*

## Carbon Footprint Analysis ⓘ

2.9TB  
Stored Data

99.39kg  
CO2e per year

236.1GB  
Active Data

8.59kg  
CO2e per year

364.6GB  
Stale Data

13.26kg  
CO2e per year

2.13TB  
Abandoned Data

77.53kg  
CO2e per year

✓ Override Values

## The Impact of old data on Green IT Initiatives

*The carbon footprint of distributed cloud storage (arxiv.org)*

### Impact for Keeping Everything

The current climate change is a consequence of our significant emissions of various greenhouse gases. We can measure these emissions with a simple index: kilograms of CO2 equivalent (kg CO2e).

Based on this Data Assessment, the data not being modified in the last 3 years may impact for **78 kg CO2e per year**

## Recommendations

### Data Disposition

Hoarding older data with limited value to organisation can not only lead to hard storage costs & increased carbon footprint but also costs associated with various operations & risks associated with data leak.

Review the Abandoned, non-business data & dispose off anything not required for the business.

### Data Tiering / Migration

Data not accessed often can be safely moved to lower tier storage so save costs.

Either move data using tools or employ tiering techniques to automatically tier data based on data age & content.

### Data Retention

Any important data that needs to be retained for any regulatory or corporate compliance should ideally moved to specialized archive solutions with WORM capabilities.

Such data needs to be classified and reviewed periodically to ascertain expiry based on ever changing compliance policies.

# Veritas Dark Data Assessment

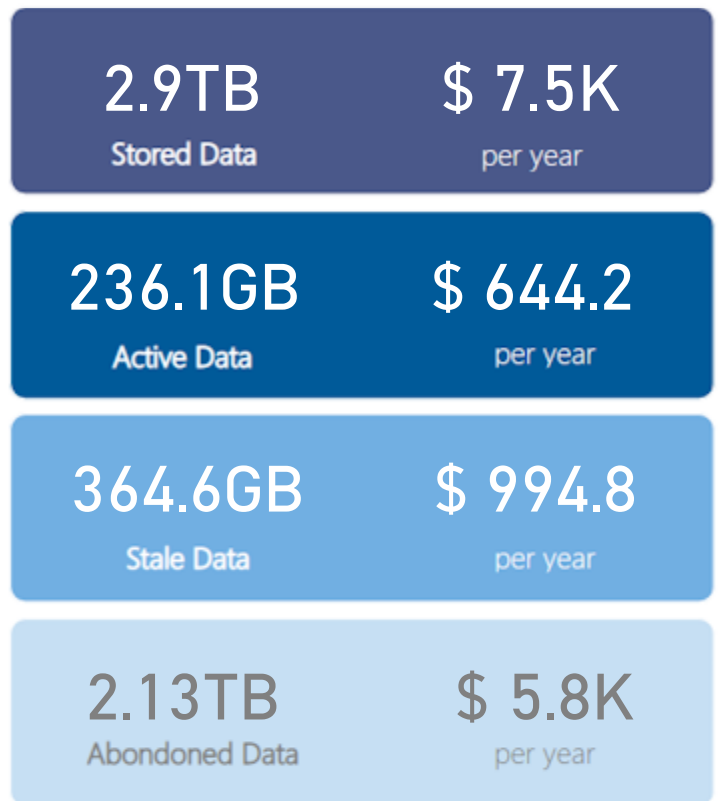
All

## Storage Summary ⓘ

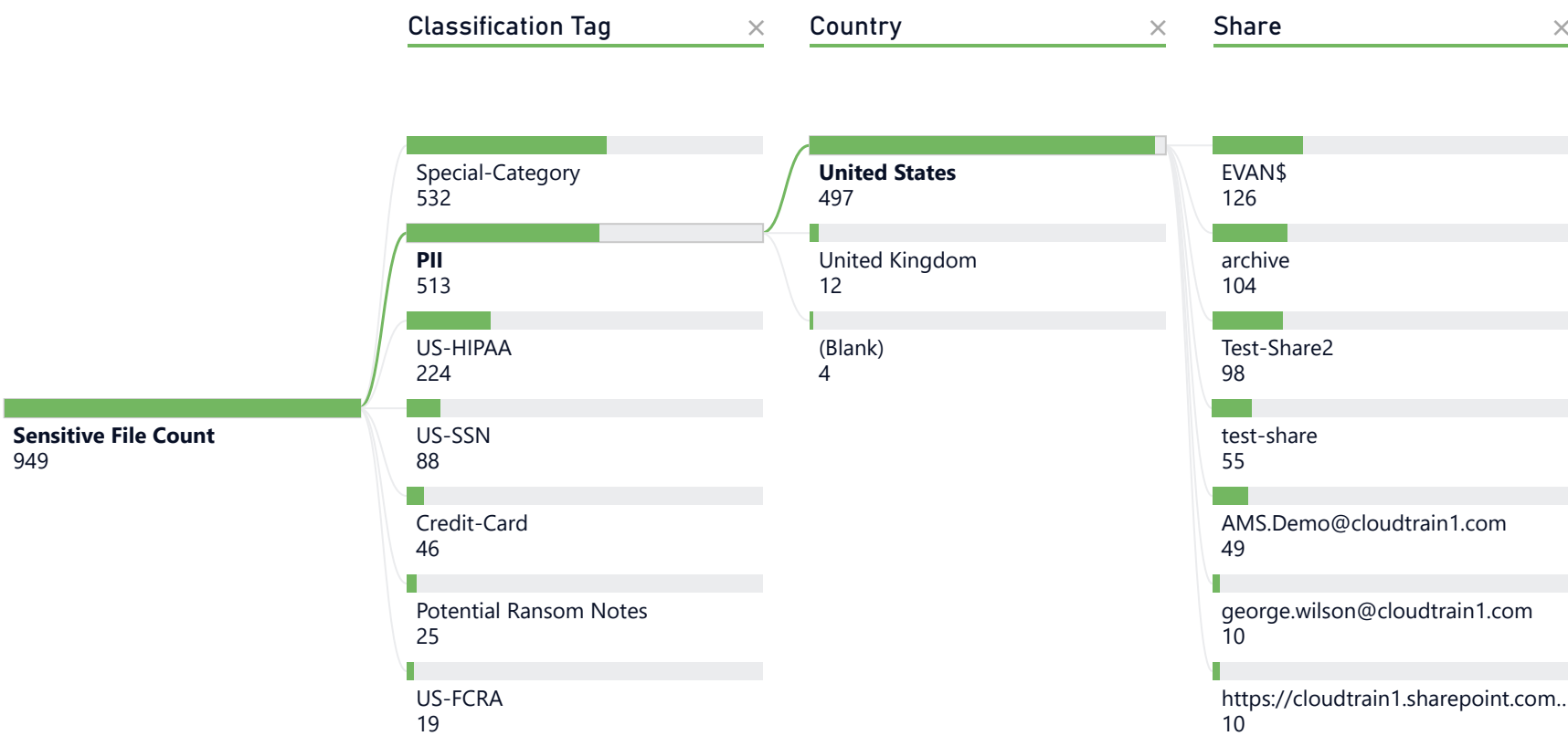
Stored Data per Location



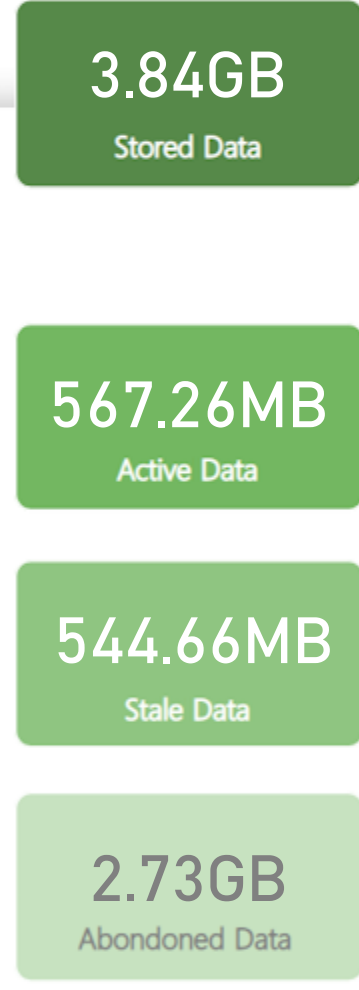
\$3,000 Total Cost of Ownership per TB



## Sensitive Data Storage Summary ⓘ



**Sensitive File Count**  
949



## Recommendations

### Review Data Storage

Periodically review stored data based on the local regulations & compliance requirements.

Understand what kind of data is consuming the most storage & why.

### Data Locality / Sovereignty

Presence of personal data (PII) & other sensitive personal data on the systems warrants a detailed review of the PII information. As per various data protection laws OR regulations requirements, citizens data must reside in servers in certain jurisdictions.

Review the storage of files containing PII information.

### Review Total Cost of Ownership

Review the Total Cost of Ownership of your stored data based on type of technologies leveraged and plan data reduction, migration projects based on the above insights.

# Veritas Dark Data Assessment

Cost of a Data Breach ⓘ

All ▾

Private Mode not Enabled

**\$4.35M** Average total cost of a data breach

**45%** of breaches occurred in the cloud



## The Real Cost of a Data Breach

Cost of a Data Breach Report (IBM / Ponemon)

### Cost of a Data Breach

As of 2022, the cost per stolen record in data breaches worldwide amounted to **\$164**.

Are you comfortable spending **millions** for data breaches with limited insights into sensitive data, access and usage?

12.7% increase since 2020  
11% involved ransom  
Remote work increased costs

**513**

files containing PII data

Loose PST Files ⓘ

**117**

PST File Count

File Path	File Size (GB)	Permitted Users
\\alpha.felix.evanbarrett.com\archive\pst\archive.backup.pst	0.99	7
\\alpha.felix.evanbarrett.com\archive\pst\archive.pst	0.94	7
\\alpha.felix.evanbarrett.com\archive\pst\ebarrett.pst	1.14	7
\\alpha.felix.evanbarrett.com\archive\pst\old\archive.pst	0.93	7
\\alpha.felix.evanbarrett.com\archive\pst\old\ebarrett.pst	0.03	7
<b>Total</b>	<b>84.08</b>	

## Recommendations

### Review & Protect Sensitive Data

The presence of sensitive data in the unstructured repositories opens up risks for data breaches and leaks. Periodically review sensitive data, need of storing these, access controls, protection & backup / recovery mechanisms.

### Educate & Train

Majority of data breaches occur because of inefficient implementation of policies & procedures to safeguard data.

Educate & train your employees on data collection, storage & protection, data threats & data security best practices and periodically review and update policies, procedures & processes governing sensitive data.

### Monitor Data Access and Exposure

Understand if the sensitive data is exposed to right individuals, monitor user activity to understand anomalous behaviours, attacks & unwarranted permission changes.



# Veritas Dark Data Assessment

Ransomware Risk ⓘ

All

Private Mode not Enabled

**6,007**  
Potential Ransomware infected files

4/22/2014 4/19/2023



All Clear all slicers

Potential Infection Date	Last Accessed	File Path	Users with File Access
Thursday, July 01, 2021	Monday, March 13, 2023	https://cloudtrain1.sharepoint.com/sites/ditest1/Shared Documents/4a-313.wpd.locky	7
Thursday, January 26, 2023	Thursday, February 23, 2023	\\alpha.felix.evanbarrett.com\cool-test\file1.txt.cry	199
Thursday, January 26, 2023	Thursday, February 23, 2023	\\alpha.felix.evanbarrett.com\cool-test\file10.txt.cry	199
Thursday, January 26, 2023	Thursday, February 23, 2023	\\alpha.felix.evanbarrett.com\cool-test\file100.txt.cry	199
Thursday, January 26, 2023	Thursday, February 23, 2023	\\alpha.felix.evanbarrett.com\cool-test\file1000.txt.cry	199
Thursday, January 26, 2023	Thursday, February 23, 2023	\\alpha.felix.evanbarrett.com\cool-test\file1001.txt.cry	199
Thursday, January 26, 2023	Thursday, February 23, 2023	\\alpha.felix.evanbarrett.com\cool-test\file1002.txt.cry	199
Thursday, January 26, 2023	Thursday, February 23, 2023	\\alpha.felix.evanbarrett.com\cool-test\file1003.txt.cry	199
Thursday, January 26, 2023	Thursday, February 23, 2023	\\alpha.felix.evanbarrett.com\cool-test\file1004.txt.cry	199
Thursday, January 26, 2023	Thursday, February 23, 2023	\\alpha.felix.evanbarrett.com\cool-test\file1005.txt.cry	199
Thursday, January 26, 2023	Thursday, February 23, 2023	\\alpha.felix.evanbarrett.com\cool-test\file1006.txt.cry	199
Thursday, January 26, 2023	Thursday, February 23, 2023	\\alpha.felix.evanbarrett.com\cool-test\file1007.txt.cry	199
Thursday, January 26, 2023	Thursday, February 23, 2023	\\alpha.felix.evanbarrett.com\cool-test\file1008.txt.cry	199
Thursday, January 26, 2023	Thursday, February 23, 2023	\\alpha.felix.evanbarrett.com\cool-test\file1009.txt.cry	199
Thursday, January 26, 2023	Thursday, February 23, 2023	\\alpha.felix.evanbarrett.com\cool-test\file101.txt.cry	199
Thursday, January 26, 2023	Thursday, February 23, 2023	\\alpha.felix.evanbarrett.com\cool-test\file1010.txt.cry	199
Thursday, January 26, 2023	Thursday, February 23, 2023	\\alpha.felix.evanbarrett.com\cool-test\file1011.txt.cry	199
Thursday, January 26, 2023	Thursday, February 23, 2023	\\alpha.felix.evanbarrett.com\cool-test\file1012.txt.cry	199
Thursday, January 26, 2023	Thursday, February 23, 2023	\\alpha.felix.evanbarrett.com\cool-test\file1013.txt.cry	199
Thursday, January 26, 2023	Thursday, February 23, 2023	\\alpha.felix.evanbarrett.com\cool-test\file1014.txt.cry	199
Thursday, January 26, 2023	Thursday, February 23, 2023	\\alpha.felix.evanbarrett.com\cool-test\file1015.txt.cry	199
Thursday, January 26, 2023	Thursday, February 23, 2023	\\alpha.felix.evanbarrett.com\cool-test\file1016.txt.cry	199
Thursday, January 26, 2023	Thursday, February 23, 2023	\\alpha.felix.evanbarrett.com\cool-test\file1017.txt.cry	199
Thursday, January 26, 2023	Thursday, February 23, 2023	\\alpha.felix.evanbarrett.com\cool-test\file1018.txt.cry	199
Thursday, January 26, 2023	Thursday, February 23, 2023	\\alpha.felix.evanbarrett.com\cool-test\file1019.txt.cry	199
Thursday, January 26, 2023	Thursday, February 23, 2023	\\alpha.felix.evanbarrett.com\cool-test\file102.txt.cry	199
Thursday, January 26, 2023	Thursday, February 23, 2023	\\alpha.felix.evanbarrett.com\cool-test\file1020.txt.cry	199
Thursday, January 26, 2023	Thursday, February 23, 2023	\\alpha.felix.evanbarrett.com\cool-test\file1021.txt.cry	199
Thursday, January 26, 2023	Thursday, February 23, 2023	\\alpha.felix.evanbarrett.com\cool-test\file1022.txt.cry	199
Thursday, January 26, 2023	Thursday, February 23, 2023	\\alpha.felix.evanbarrett.com\cool-test\file1023.txt.cry	199

## Recommendations

### Reduce Attack Surface Area

Apart from implementing various security principles, fixing vulnerabilities, training employees etc. devise a plan to manage privileges and access in an efficient way for data servers and cloud repositories, especially where sensitive data is stored.

### Detect Anomalies

Employ various technologies that work together to understand anomalies in production environments to timely detect any infection or attack. This may include user behaviour analytics and backup anomaly detection among other techniques. Remember that ransoms are increasingly becoming sophisticated and detecting exfiltration or double extortion cyberattack requires multiple toolsets to provide timely detection.

### Formulate a Robust Backup Strategy

Once cyberattack is detected, impact is established and threat is neutralised, successfully recovering data to a last known state is the most important step.

For that, organisations need to deploy a robust backup & recovery strategy. Consider leveraging VERITAS solutions for the same.



# Veritas Dark Data Assessment

Sensitive Files ⓘ

All

Private Mode not Enabled

**949**  
Sensitive File Count

0 199

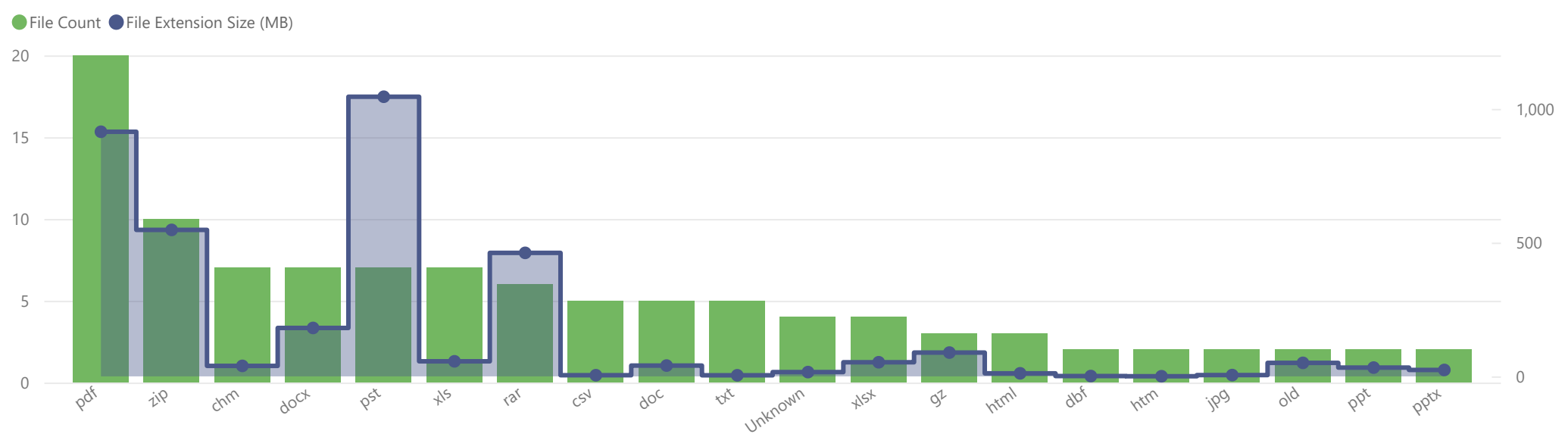


All

Clear all slicers

File Path	Permitted Users
\\alpha.felix.evanbarrett.com\Test-Share2\Folder1\Folder2\Folder3\Folder4\Group Shares\Accounting\Credit card\Delimited and non-delimited.docx	199
\\alpha.felix.evanbarrett.com\Test-Share2\Folder1\Folder2\Folder3\Folder4\Group Shares\Accounting\Credit card\Delimited.docx	199
\\alpha.felix.evanbarrett.com\Test-Share2\Folder1\Folder2\Folder3\Folder4\Group Shares\HR\10-MB-Test.docx	199
\\alpha.felix.evanbarrett.com\Test-Share2\Folder1\Folder2\Folder3\Folder4\Group Shares\HR\10-MB-Test.xlsx	199
\\alpha.felix.evanbarrett.com\Test-Share2\Folder1\Folder2\Folder3\Folder4\Group Shares\HR\1-MB-Test.docx	199
\\alpha.felix.evanbarrett.com\Test-Share2\Folder1\Folder2\Folder3\Folder4\Group Shares\HR\Medical form Mr Eliji Yashuda.docx	199
\\alpha.felix.evanbarrett.com\Test-Share2\Folder1\Folder2\Folder3\Folder4\Group Shares\HR\Medical\General\087754.pdf	199
\\alpha.felix.evanbarrett.com\Test-Share2\Folder1\Folder2\Folder3\Folder4\Group Shares\HR\Medical\General\108615.pdf	199
\\alpha.felix.evanbarrett.com\Test-Share2\Folder1\Folder2\Folder3\Folder4\Group Shares\HR\Medical\General\486600.pdf	199
\\alpha.felix.evanbarrett.com\Test-Share2\Folder1\Folder2\Folder3\Folder4\Group Shares\HR\Medical\General\600738.pdf	199
\\alpha.felix.evanbarrett.com\Test-Share2\Folder1\Folder2\Folder3\Folder4\Group Shares\HR\Medical\General\621153.pdf	199
\\alpha.felix.evanbarrett.com\Test-Share2\Folder1\Folder2\Folder3\Folder4\Group Shares\HR\Medical\Medical Detail\226603.pdf	199
\\alpha.felix.evanbarrett.com\Test-Share2\Folder1\Folder2\Folder3\Folder4\Group Shares\HR\Medical\Medical Detail\551163.pdf	199
\\alpha.felix.evanbarrett.com\Test-Share2\Folder1\Folder2\Folder3\Folder4\Group Shares\HR\Medical\Medical Detail\653108.pdf	199
\\alpha.felix.evanbarrett.com\Test-Share2\Folder1\Folder2\Folder3\Folder4\Group Shares\HR\Medical\Medical Detail\Medical_Form.docx	199

## Sensitive Files by File Types ⓘ



## Recommendations

### Periodically Classify Your Unstructured Estate

Visibility into content of unstructured data is usually overlooked and that's where sensitive data risk lurks and is susceptible to breaches and leaks.

Ensure your organisation has a scalable and robust classification program in place for efficient data governance, protection & security.

### Review & Prevent Exposure

In case there is a business need to store sensitive data in unstructured repositories, ensure that the data is adequately protected and only legitimate persons have access.

Build programs to periodically review access & exposure plus maintain permission hygiene.

### Promote Accountability

Understand real data ownership and promote accountability of sensitive data with data custodians. Involve business in decision making around data management, access governance, data protection and privacy.



# Veritas Dark Data Assessment

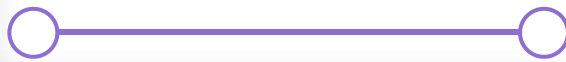
User Activity ⓘ

All

Private Mode not Enabled

1,000  
EventCount

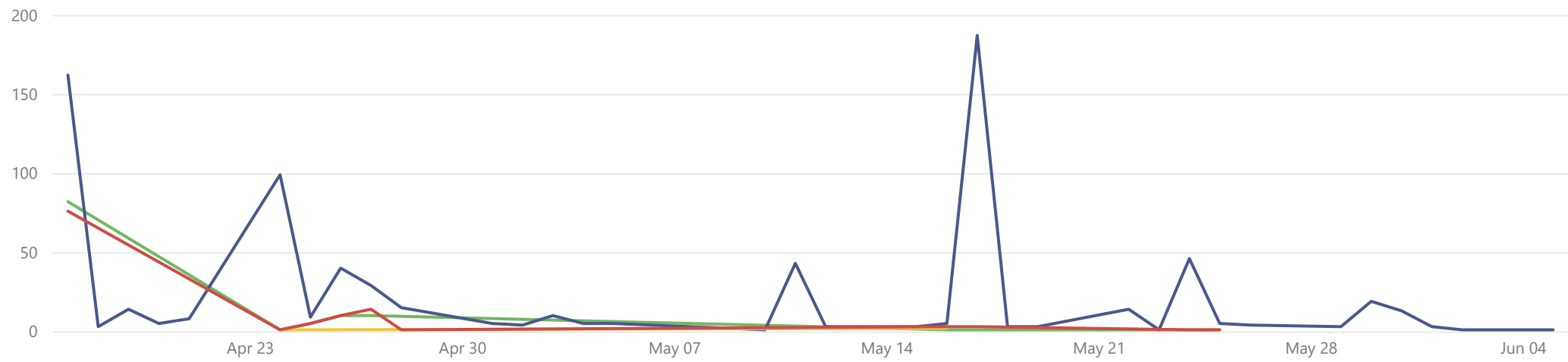
4/17/2023 6/5/2023



All

Clear all slicers

● create ● read ● security ● write



Time_Stamp	Event Type	User_Name	Full_Path
6/5/2023 5:09:00 AM	read	Evan J. Barrett	\\alpha.felix.evanbarrett.com\archive\veritas\work-image\SW_DVD9_Win_Pro_10_21H2.3_64BIT_English_Pro_Ent_EDU_N_MLF_X23-04688.ISO
6/2/2023 5:34:00 AM	read	Evan J. Barrett	\\alpha.felix.evanbarrett.com\archive\veritas\work-image\SW_DVD9_Win_Pro_10_21H2.3_64BIT_English_Pro_Ent_EDU_N_MLF_X23-04688.ISO
6/1/2023 4:51:00 PM	read	Evan J. Barrett	\\alpha.felix.evanbarrett.com\archive\veritas\mbu\10.1\10.1.1\NetBackup_10.1.1_Win\Browser.exe
6/1/2023 4:11:00 PM	read	Evan J. Barrett	\\alpha.felix.evanbarrett.com\archive\veritas\mbu\10.1\10.1.1\NetBackup_10.1.1_Win\Browser.exe
6/1/2023 6:03:00 AM	read	Evan J. Barrett	\\alpha.felix.evanbarrett.com\archive\veritas\work-image\SW_DVD9_Win_Pro_10_21H2.3_64BIT_English_Pro_Ent_EDU_N_MLF_X23-04688.ISO
5/31/2023 1:31:00 PM	read	Evan J. Barrett	\\alpha.felix.evanbarrett.com\archive\veritas\mbu\10.1\10.1.1\NetBackup_10.1.1_Win\Browser.exe
5/31/2023 1:04:00 PM	read	Evan J. Barrett	\\alpha.felix.evanbarrett.com\archive\veritas\mbu\10.1\10.1.1\NetBackup_10.1.1_Win\Browser.exe
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5/31/2023 9:32:00 AM	read	Evan J. Barrett	\\alpha.felix.evanbarrett.com\archive\microsoft\Office-2019\Setup.x64.en-US_ProPlus2019Retail_JMNG7-C8CPC-4BCWQ-78RJP-J46TM_TX_PR_act_1_.exe

## Recommendations

### Monitor User Activity

Continuously monitor user activity on unstructured data for forensics, investigations & meeting compliance needs.

User Activity monitoring also benefit operationally to keep the visible data estate up-to-date using "true" incremental scanning & classification.

### Build Policies to Detect Malicious or Rogue Behaviour

Create policies to get alerts on unusual activity in the environment, be it an employee on a copying spree or a malware renaming and encrypting documents.

Give special care for any permission changes in the environment as those can inadvertently cause exposure of sensitive data leading to data leaks and breaches.

### Leverage Usage Information to Certify Access

User entitlements should be reviewed regularly to ensure that right permissions are granted to right users and that ensures the risk is minimised from insider threat.

Historical user activity information should also be used in this activity to make permissions decisions and resolving challenges for additional context.





# Veritas Dark Data Assessment

All

## Permissions Risk i

Private Mode not Enabled

**10**  
Permissive Control Points

108 178



All

All

Clear all slicers

Permissive Control Point	Group Trustees	Permissions	Permitted User Count
\\alpha.felix.evanbarrett.com\movie\camera		Full Control	178
\\alpha.felix.evanbarrett.com\movie\camera		Read-Execute	178
\\alpha.felix.evanbarrett.com\movie\camera		Read-Write-Execute-Other	178
\\alpha.felix.evanbarrett.com\movie\camera	Administrators	Full Control	178
\\alpha.felix.evanbarrett.com\movie\camera	Administrators	Read-Execute	178
\\alpha.felix.evanbarrett.com\movie\camera	Administrators	Read-Write-Execute-Other	178
\\alpha.felix.evanbarrett.com\movie\camera	CADemo	Full Control	178
\\alpha.felix.evanbarrett.com\movie\camera	CADemo	Read-Execute	178
\\alpha.felix.evanbarrett.com\movie\camera	CADemo	Read-Write-Execute-Other	178

## Sensitive and Permissive i

**185**  
Sensitive and Permissive Files

199 199



All

File Path	Tag_Name	Permitted Users
\\itsky10.felix.evanbarrett.com\J\$\code\EMA-EWS\3.2.4.12195\ExchangeMailboxAnalyzer\bin\Release\Reports\rcdc-mail05.corp.diehl.com-MBX.xml	PII,"US-HIPAA","US-SSN","US-Drivers-License"	199
\\itsky10.felix.evanbarrett.com\J\$\code\EVCR\12.2.0.10177\EVCR-12.0\bin\Debug\SISReport.html	PII	199
\\itsky10.felix.evanbarrett.com\J\$\di\Corona Virus (COVID-19)\Test Data\Positive\AU\COVID-19.htm	PII,"US-HIPAA"	199
\\itsky10.felix.evanbarrett.com\J\$\di\extract\087754.pdf	PII,"US-HIPAA"	199
\\itsky10.felix.evanbarrett.com\J\$\di\extract\108615.pdf	PII,"US-HIPAA"	199
\\itsky10.felix.evanbarrett.com\J\$\di\extract\226603.pdf	PII	199
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\\itsky10.felix.evanbarrett.com\J\$\di\extract\551163.pdf	PII,"US-HIPAA"	199
\\itsky10.felix.evanbarrett.com\J\$\di\extract\600728.pdf	PII,"US-HIPAA"	199

## Recommendations

### Maintain Permission Hygiene

Overtime, businesses goes off best practices adding various access control entries and using all possible combinations of permissions for quick & dirty fixes to provide access. This can lead to over-exposure in the unstructured repositories.

Organisations need to review access hygiene on filesystem control points and directory services time to time.

### Classify Data to Understand Toxic Combination

Permissive and sensitive data is a toxic combination as it's asking for trouble from insiders & cyber-attacks.

Along with visibility into permissions and exposure, classification is key to differentiate between valuable and non-valuable data and ensuring right controls are put in place to protect important data.

### Govern Access

Regularly review entitlements / permissions to employees and other user accounts. Involve business users and promote accountability in keeping permissions up-to-date and minimising risk of over exposure.

Get permission recommendations and performing what-if analysis for permission changes before making those changes.

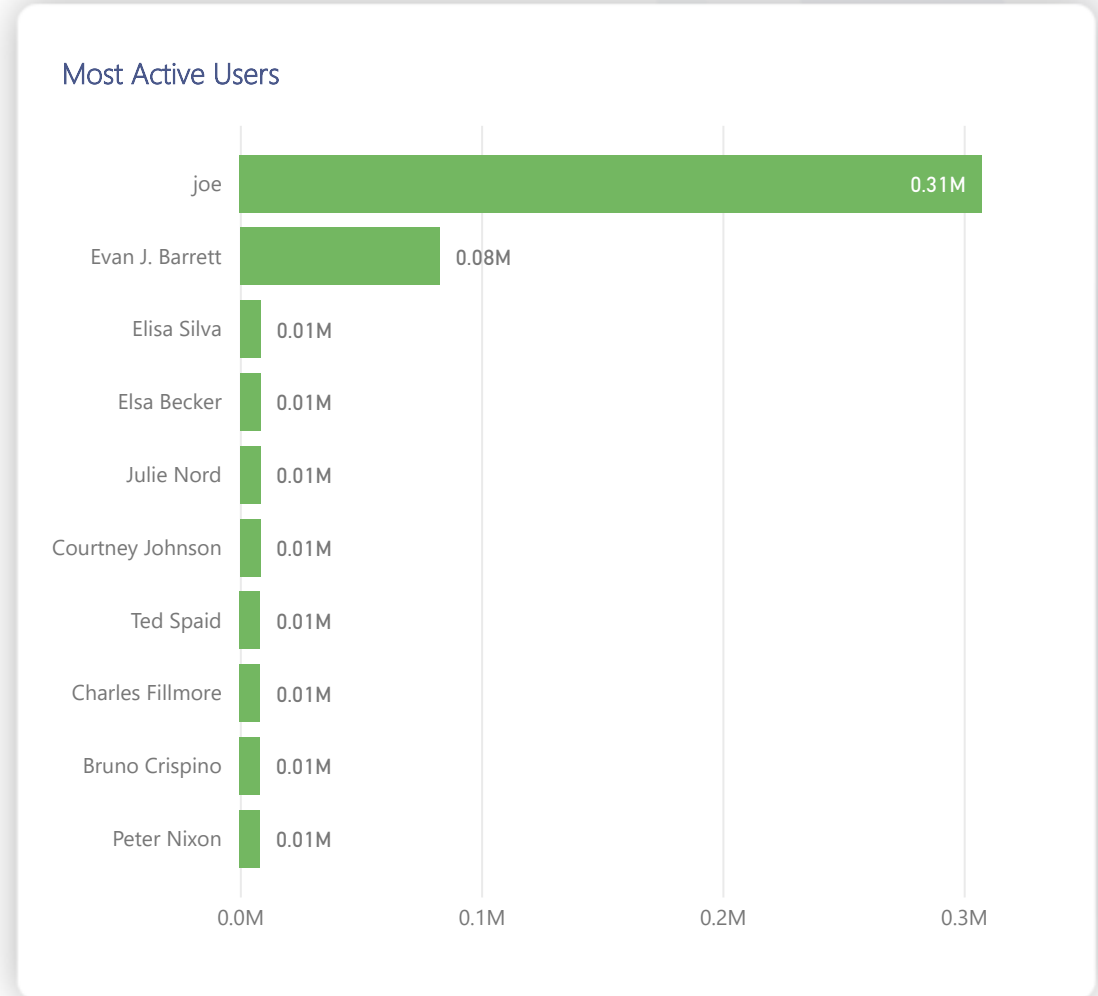
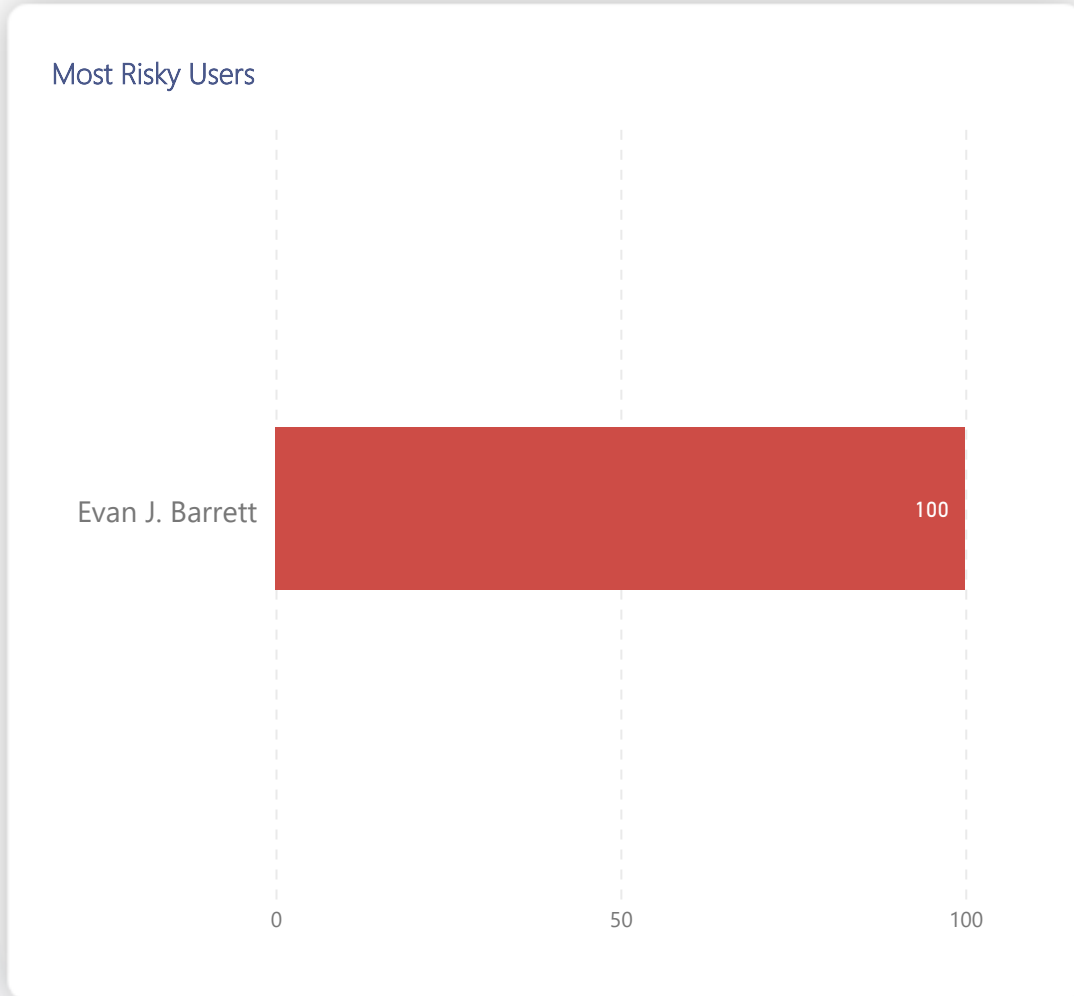


# Veritas Dark Data Assessment

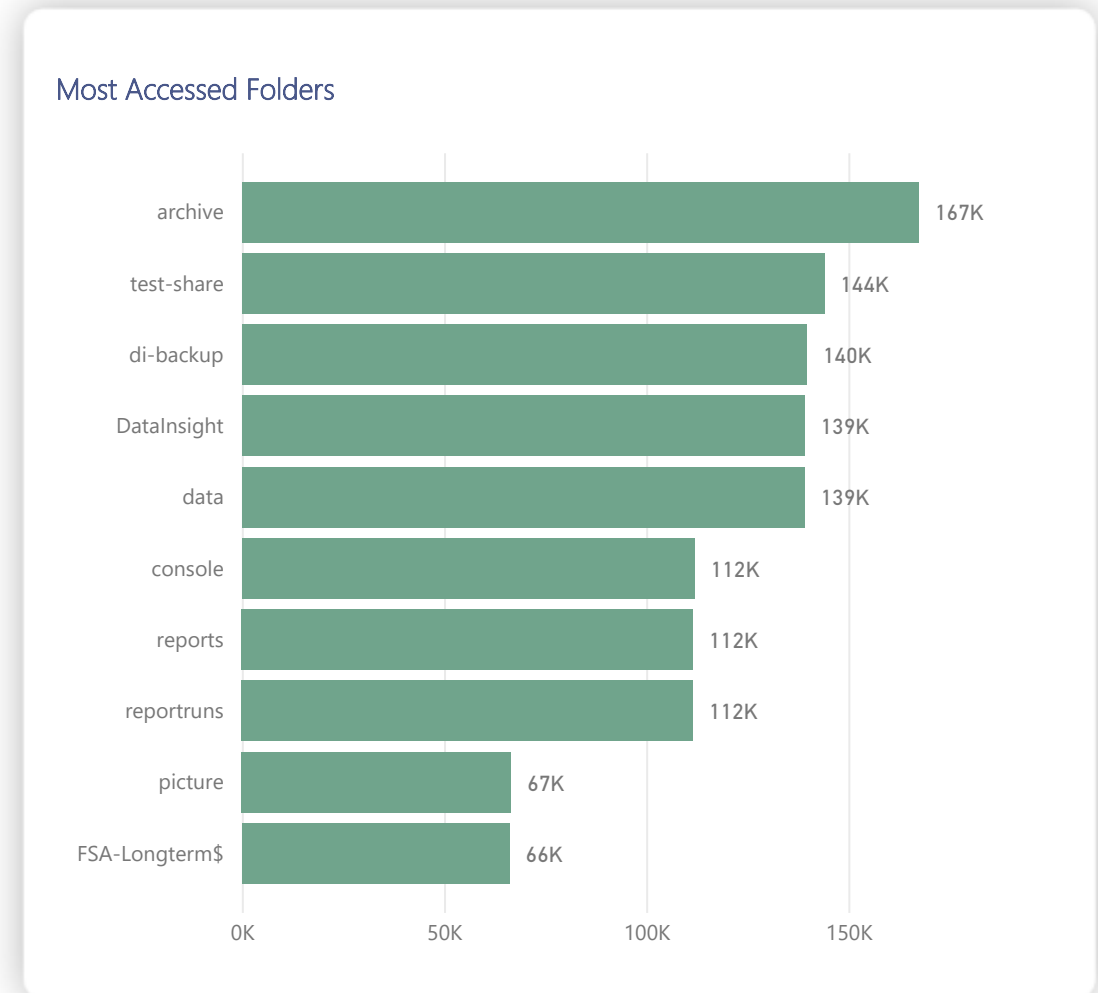
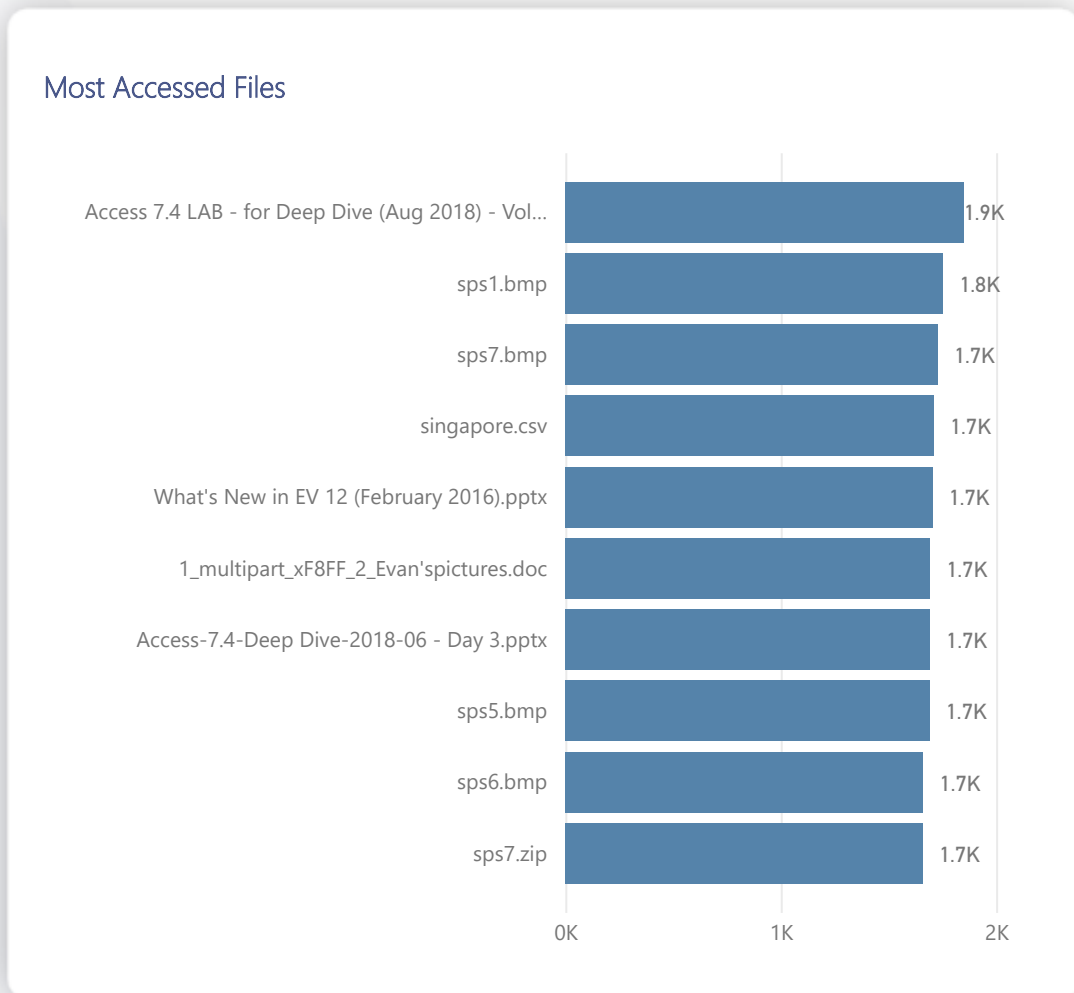
All

## Top 10 - Users (i)

Private Mode not Enabled



## Top 10 - Most Accessed (i)



## Recommendations

### Review Riskiest & Active Users for Potential Threats

Users become risky if they have access to large number of files, have anomalous behaviour and alerts generated against them. Since some of these accounts can be privileged, filter those out and closely monitor other users for riskiness. Understand why these users became risky and whether it was inadvertent change like AD group change or sudden increase in the access patterns for a user account.

### Review File type & Folder Usage

Understand if there are certain unexpected kind of files have most activity which can lead to investigations & finding rogue users or applications. Review if certain applications need to move out of unstructured space or their activity need to be excluded from monitoring. Folder usage can provide insights into certain directories being accessed more than often and can be candidate for file and access control reviews.

### Reduce access

One way to reduce unwanted accesses is control permissions as per business need.

Leverage context, content and metadata to enable data-driven access controls.



# Veritas Dark Data Assessment

All

## Directory Groups i

Private Mode not Enabled

Active Directory Users

**296**

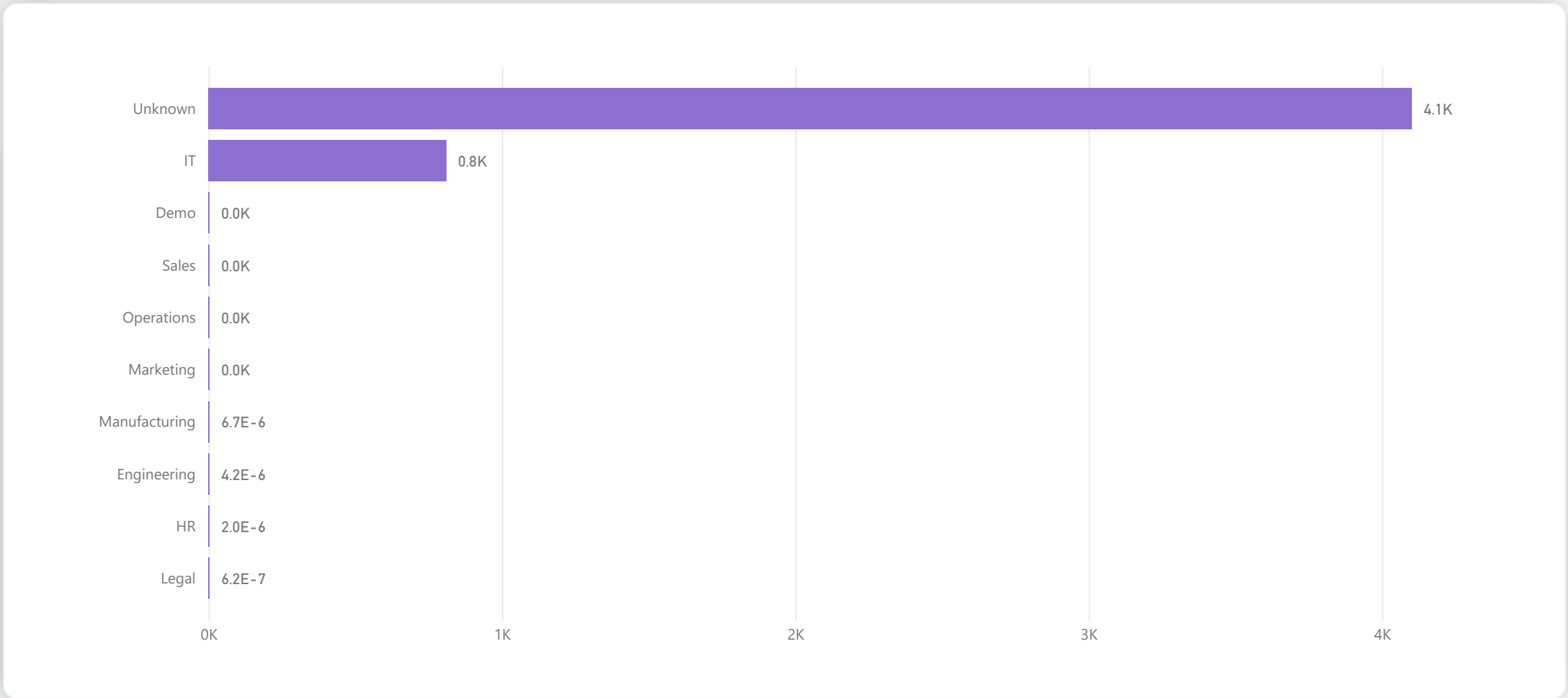
across 395 groups

User Name	Deleted	Disabled
\$551000-RP66CQLSP9F5		X
da arai	X	
DefaultAccount		X
Discovery Search Mailbox		X
E4E Encryption Store - Active		X
Guest		X
HealthMailbox-exchange2-Mailbox-Database-0711163542	X	
it arai	X	

- ### Groups with disabled users
- Denied RODC Password Replication Group
  - Domain Guests
  - Domain Users
  - Guests
  - None
  - System Managed Accounts Group
  - Users

- ### Circular Groups
- 

## Department Usage / Chargeback i



## Recommendations

### Maintain Directory Services Hygiene

Stale or duplicate accounts & Groups can become unmanageable over time adding overheads and potential issues with access control. Clean up the directory services accounts as per best practices and organisation policies to ensure that stale accounts or departed user accounts are disabled or removed from the system time to time and directory services hygiene is maintained.

### Minimize Privileged Group Membership

Privileged groups are those to which powerful rights, privileges, and permissions are granted that allow them to perform nearly any action in an organization's AD.

Because most advanced attacks rely on the exploitation of privileged credentials, providing users the minimum possible levels of access drastically decreases the cyberattack surface.

### Promote Accountability for Department Usage

Showback or Chargeback is an effective way to show or bill data usage back to business. The context from Directory services and "real" ownership can pin-point on usage by department to show real usage of data across disparate groups in the organisation. This can ensure we tie in the usage with real activity data and get the real owners to own the capacity consumption.

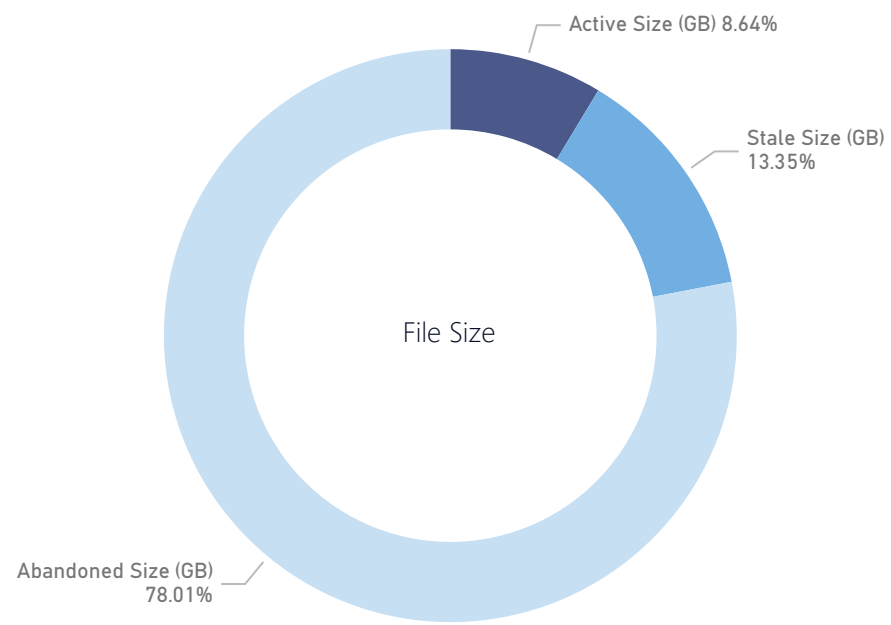


# Veritas Dark Data Assessment

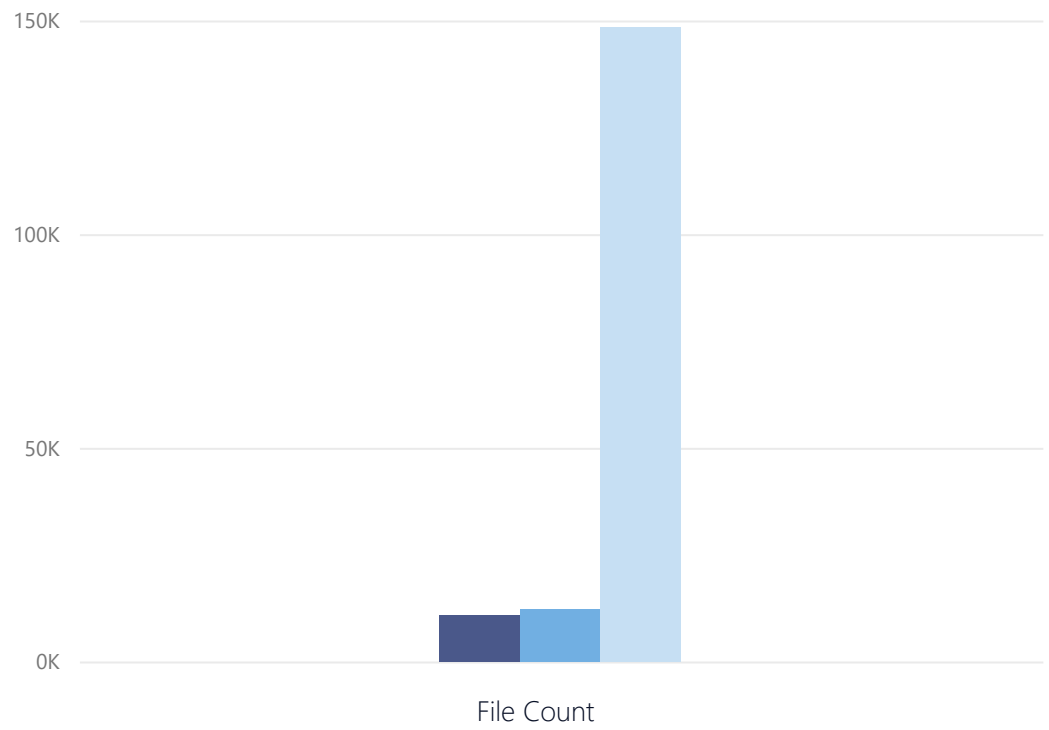
All

Data Age ⓘ

Last Modified | Last Accessed

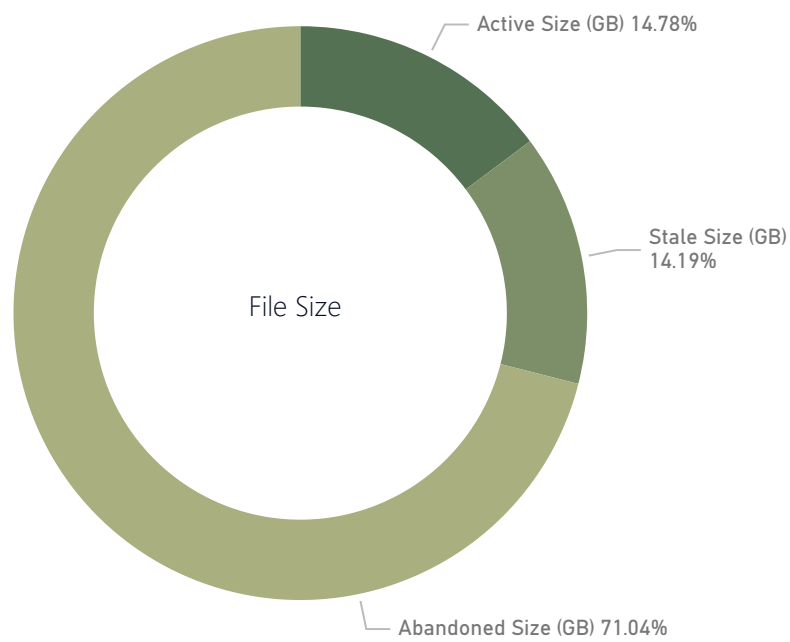


Active File Count Stale File Count Abandoned File Count

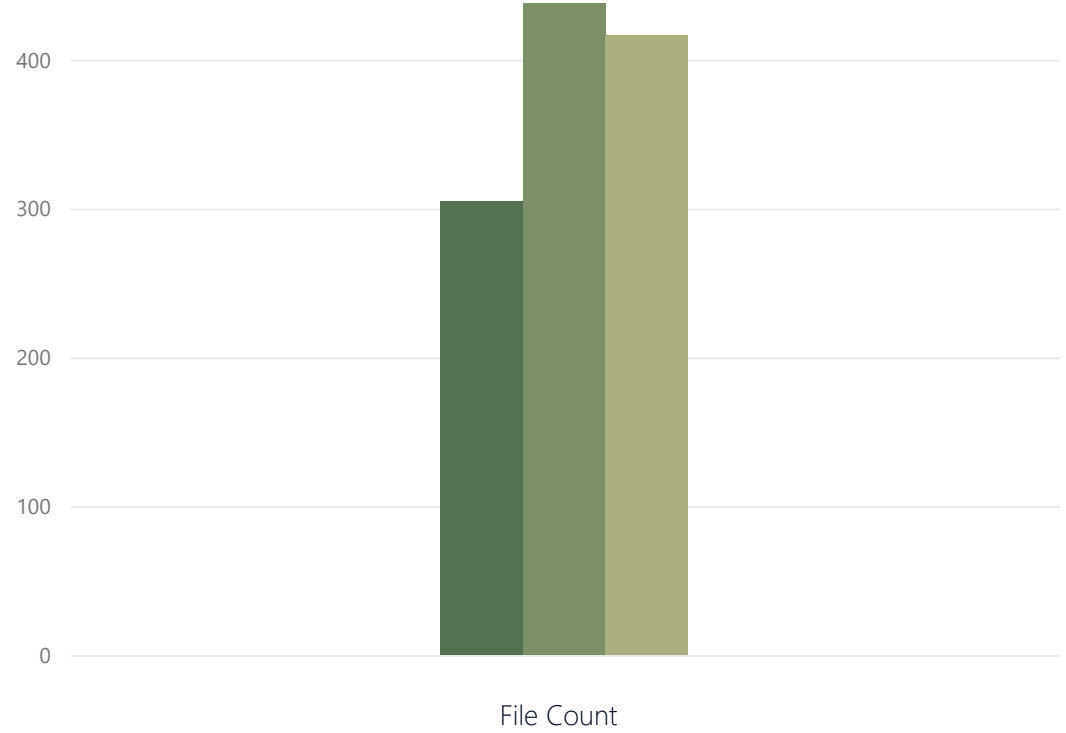


Sensitive Data Age ⓘ

Last Modified | Last Accessed



Active File Count Stale File Count Abandoned File Count



## Recommendations

### Delete Abandoned Files

Files not modified and accessed for long time are simply lying around, are largely having little business value increasing storage costs and increasing risks. Review such abandoned files and initiate a data deletion process across the environment as per organisation and compliance policies. Make it defensible by involving data custodians and leveraging content analysis.

### Delete / Archive Stale Files

Stale files on the other hand may be of importance to organisation and should be reviewed more carefully. Periodically enable workflows to govern such data and choose best resting place based on content and context. Understand whether it contains sensitive data, records, data required for compliance and archive based on the merit and regulatory requirements. If data is non-business, initiate a data deletion review.

### Review Activity on Sensitive Data

Sensitive data on the other hand has to be reviewed very carefully. Who has been touching such data? Are those legitimate people having access? Is the sensitive data stored at the right place? Is the right protection applied to such data? Can this data be safely moved or deleted? Finding answers to all these questions can ensure adherence to data storage, protection, privacy and security principles.



# Veritas Dark Data Assessment

Large Files ⓘ

All

Private Mode not Enabled

**52**  
File Count

4.73

16.76



All

Clear all slicers

Last Modified Date	File Path	File Size (GB)
Friday, November 05, 2010	\\alpha.felix.evanbarrett.com\archive\vmware\sms\sms1-boot.vmdk	16.76
Wednesday, August 30, 2017	\\alpha.felix.evanbarrett.com\EVAN\$\Office Documents\PST\meatwad-journal_Export_0001.pst	12.74
Saturday, January 23, 2016	\\alpha.felix.evanbarrett.com\EVAN\$\Office Documents\PST\pst\PST\meatwad-journal_Export_0001.pst	12.44
Saturday, November 02, 2019	\\alpha.felix.evanbarrett.com\archive\Demo_Images\Build_12.5.0.RTM-OVF\Client-disk1.vmdk	10.21
Wednesday, February 03, 2021	\\alpha.felix.evanbarrett.com\archive\veritas\nbu\nba\4.0\nba-4.0-20210124135235.ova	10.18
Friday, August 13, 2021	\\alpha.felix.evanbarrett.com\archive\veritas\nbu\nba\4.1\NetBackup_VA_ROBO_VMware_GUI_4.1_EN.ova	10.08
Thursday, July 29, 2021	\\alpha.felix.evanbarrett.com\archive\veritas\nbu\nba\4.1\NetBackup_VA_ROBO_VMware_4.1_EN.ova	10.08
Sunday, November 03, 2019	\\alpha.felix.evanbarrett.com\EVAN\$\video\SLK\Snake-2019-10\The-Snake-2019-10-4k.mp4	9.69
Wednesday, May 17, 2023	\\alpha.felix.evanbarrett.com\archive\veritas\nbu\FlexScale\3.1\nbfs-3.1-20230515101857.iso	9.61
Friday, November 01, 2019	\\alpha.felix.evanbarrett.com\archive\Demo_Images\Build_12.5.0.RTM-OVF\Skype-disk1.vmdk	9.49
Saturday, November 02, 2019	\\alpha.felix.evanbarrett.com\archive\Demo_Images\Build_12.5.0.RTM-OVF\SQL-disk1.vmdk	9.36
Thursday, March 17, 2022	\\alpha.felix.evanbarrett.com\archive\veritas\nbu\FlexScale\3.0\nbfs-3.0-20220301145658.iso	9.29
Thursday, June 09, 2022	\\alpha.felix.evanbarrett.com\archive\veritas\nbu\FlexScale\3.0\nbfs-3.0-20220301145658-GA-Demo.iso	9.29
Monday, April 11, 2022	\\alpha.felix.evanbarrett.com\archive\veritas\nbu\FlexScale\3.0\VRTSnbfs_app_update-3.0-1.x86_64.rpm	9.16
Wednesday, August 30, 2017	\\alpha.felix.evanbarrett.com\EVAN\$\Office Documents\PST\evanexport-final.pst	9.12
Friday, November 01, 2019	\\alpha.felix.evanbarrett.com\archive\Demo_Images\Build_12.5.0.RTM-OVF\EVDA-disk1.vmdk	9.09
Sunday, August 14, 2022	\\alpha.felix.evanbarrett.com\EVAN\$\video\Indian\2022-08-14\loca-2022-08-14.mov	9.01
Tuesday, August 29, 2017	\\alpha.felix.evanbarrett.com\EVAN\$\Office Documents\PST\pst\PST\Oldstuff.pst	8.68
Friday, February 24, 2023	\\alpha.felix.evanbarrett.com\EVAN\$\video\sarge-2023-02-24\sarge-update-2023-02-24.mp4	8.47
Wednesday, September 21, 2016	\\alpha.felix.evanbarrett.com\archive\apple\sierra\macOS 10.12 Sierra Final by TechReviews\macOS 10.12 Sierra Final by TechReviews.vmdk	8.33
Sunday, August 02, 2020	\\alpha.felix.evanbarrett.com\archive\hackintosh\macOS Catalina 10.15.5 (19F101).iso	8.30
Friday, November 01, 2019	\\alpha.felix.evanbarrett.com\archive\Demo_Images\Build_12.5.0.RTM-OVF\Exchange-disk1.vmdk	7.95
Friday, November 01, 2019	\\alpha.felix.evanbarrett.com\archive\Demo_Images\Build_12.5.0.RTM-OVF\Fileserver-disk1.vmdk	6.89
Tuesday, September 14, 2021	\\alpha.felix.evanbarrett.com\archive\veritas\ev\EV140\14.2-beta\Veritas_Enterprise_Vault_14_2_0_Win_Multilingual.iso	6.88
Sunday, November 10, 2013	\\alpha.felix.evanbarrett.com\movie\other\2013-11-10\export\arielle1.mp4	6.80
Thursday, December 02, 2021	\\alpha.felix.evanbarrett.com\archive\veritas\ev\EV140\14.2\Veritas_Enterprise_Vault_14_2_0_Win_Multilingual.iso	6.66
Wednesday, September 14, 2022	\\alpha.felix.evanbarrett.com\archive\microsoft\Exchange-2016\ExchangeServer2016-x64-CU23.ISO	6.64
Wednesday, March 01, 2023	\\alpha.felix.evanbarrett.com\archive\veritas\ev\EV140\14.4\Veritas_Enterprise_Vault_14_4_0_Win_Multilingual.iso	6.58
<b>Total</b>		<b>391.91</b>

## Recommendations

### Review & Delete Large Files

Large files on unstructured repositories, although limited are not uncommon. More often than not, these may be non-business media files or archive files or application install files / images. In some cases, there can be databases or VMware images found on unstructured repositories. Most of these can be safely deleted after a cursory review and help in not just saving storage costs but costs associated with operations of managing and backing up such big files.

### Migrate PST Files

It's not uncommon to find PST and other email files. These can grow to multiple Gigabytes and poses risk to the organisation since emails tend to contain sensitive & business data. If left unchecked, these can get on hands of malicious actors and can cause big losses to organisations. Consider leveraging archive toolsets to securely store such data as per compliance requirements and make the data discoverable for investigations and eDiscovery purposes.

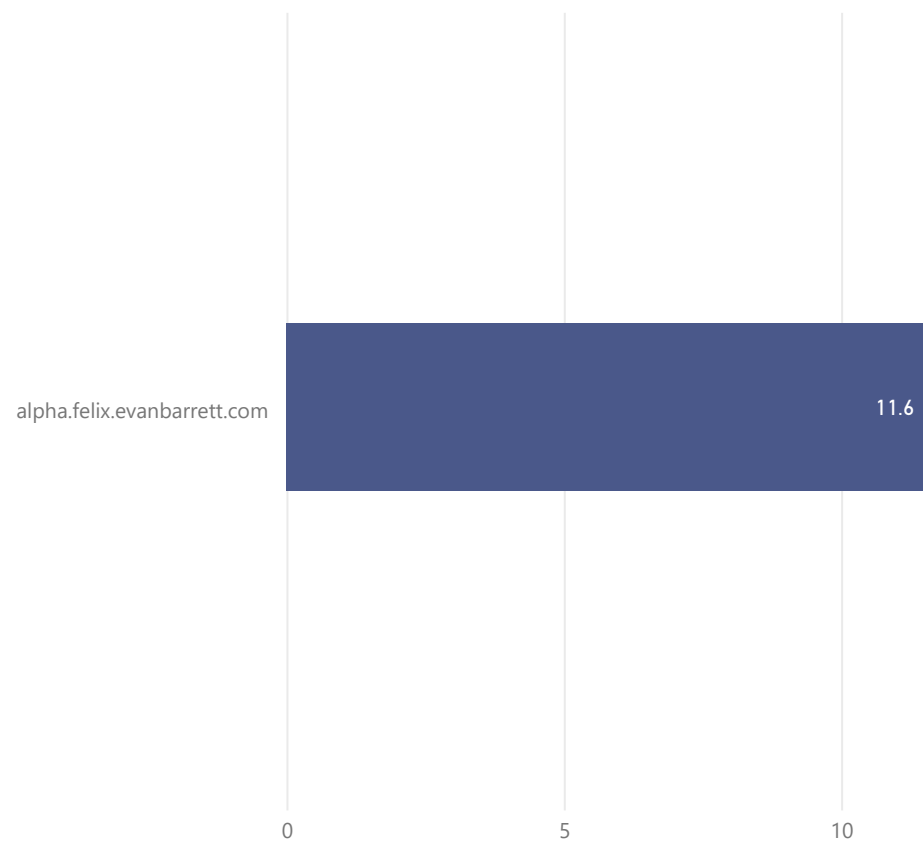
### Migrate or Tier Large Business Files

Systematically migrating to cloud or lower tier storage based on access types can help reduce cost associated with storage and operations.

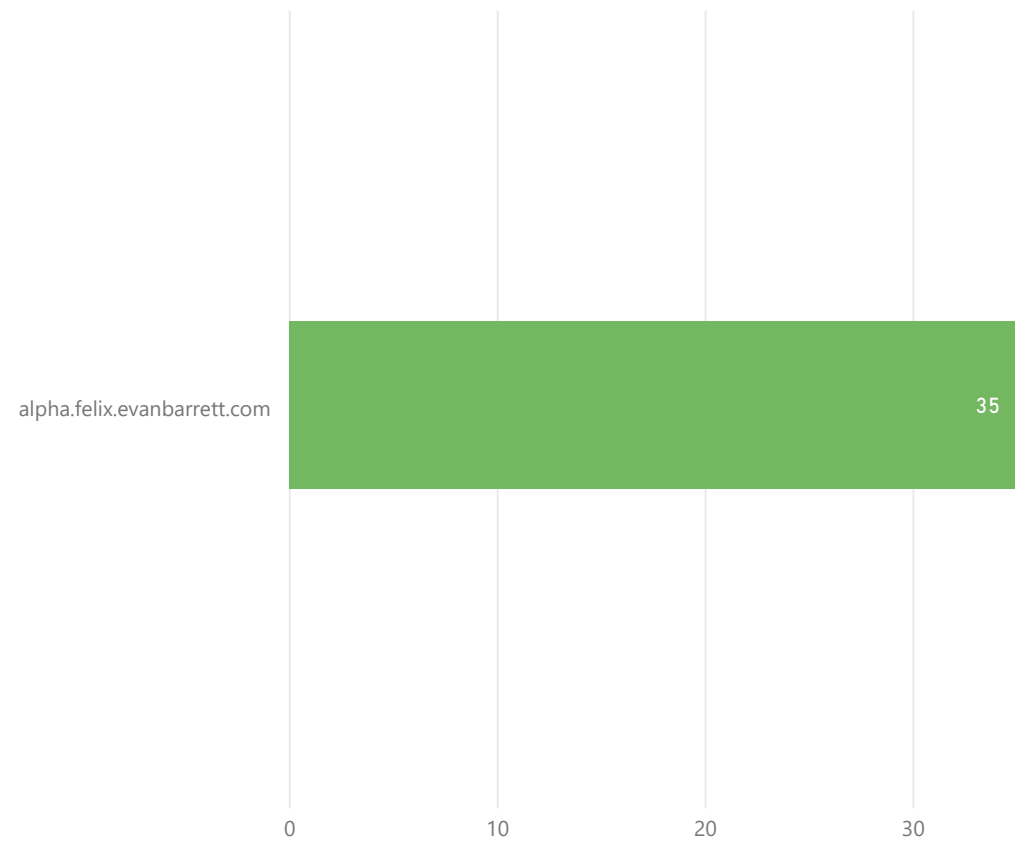


## Potential Duplicates ⓘ

Reclaimable Storage per Device

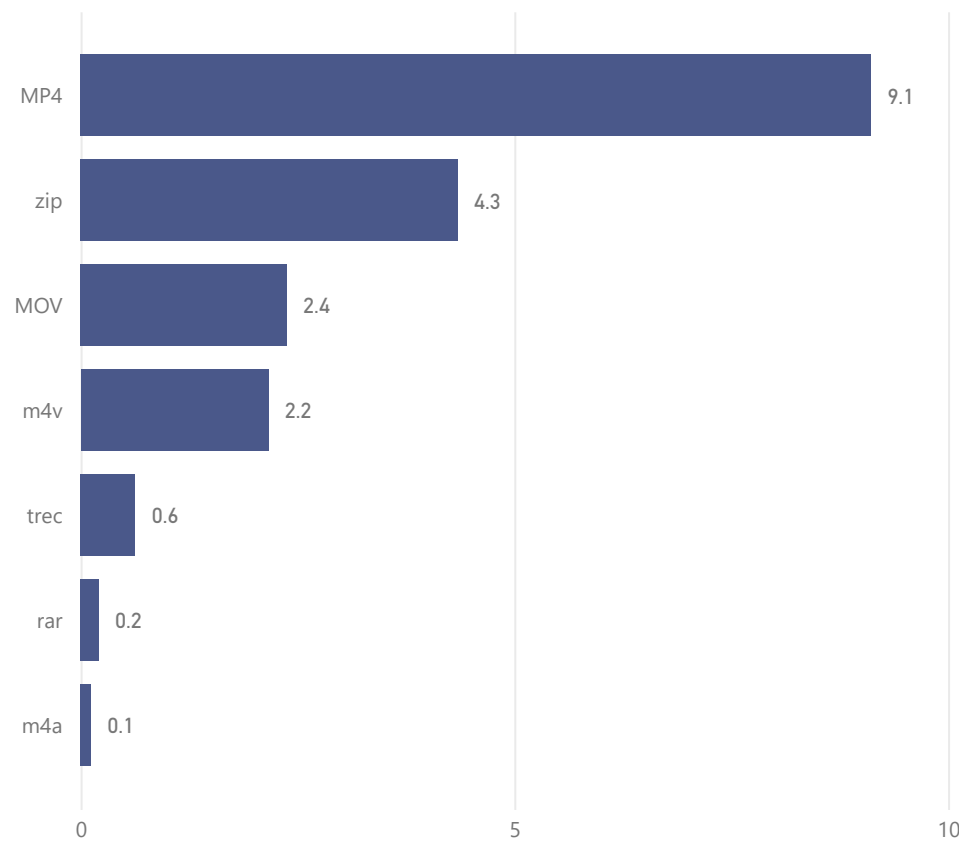


Reclaimable File Count per Device

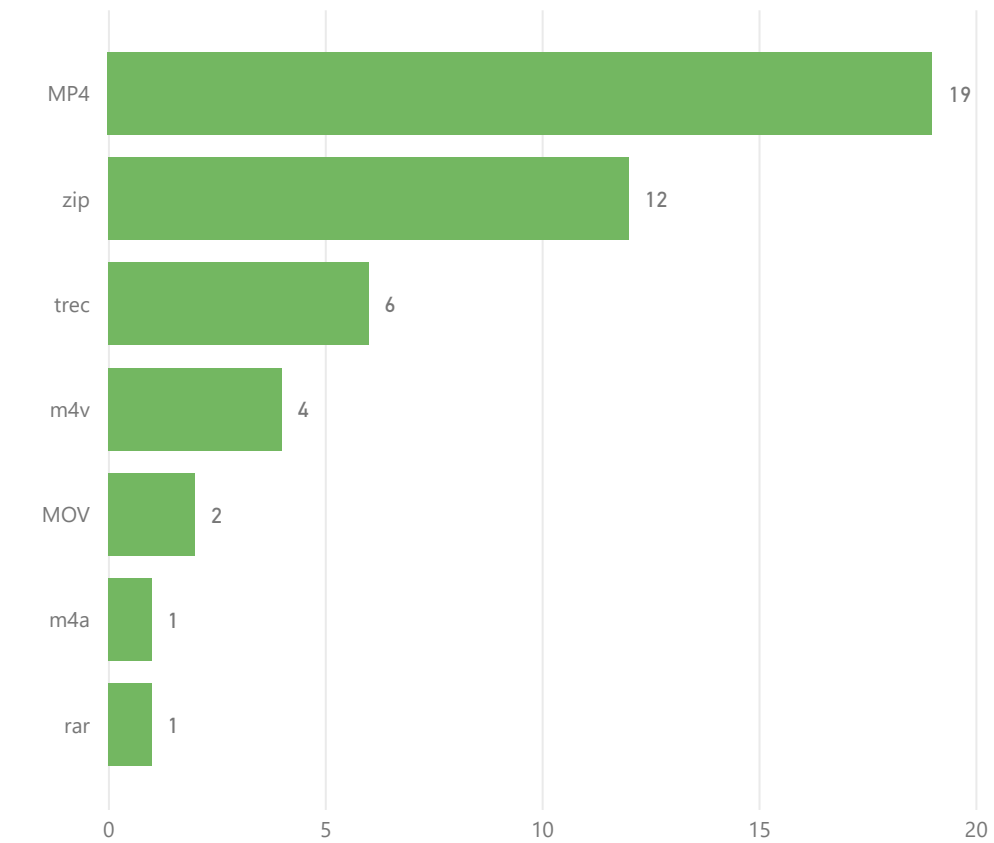


## Potential Duplicates by File Type ⓘ

Reclaimable Size by Extension



Reclaimable File Count by Extension



## Recommendations

### Review & Delete Duplicates

Duplicate files can take up unnecessary storage and impact storage costs and operations. Review such files and associated permissions to delete duplicates and ensuring the right individuals have access to the remaining files.

This is an easy way to reclaim storage and reduce costs.

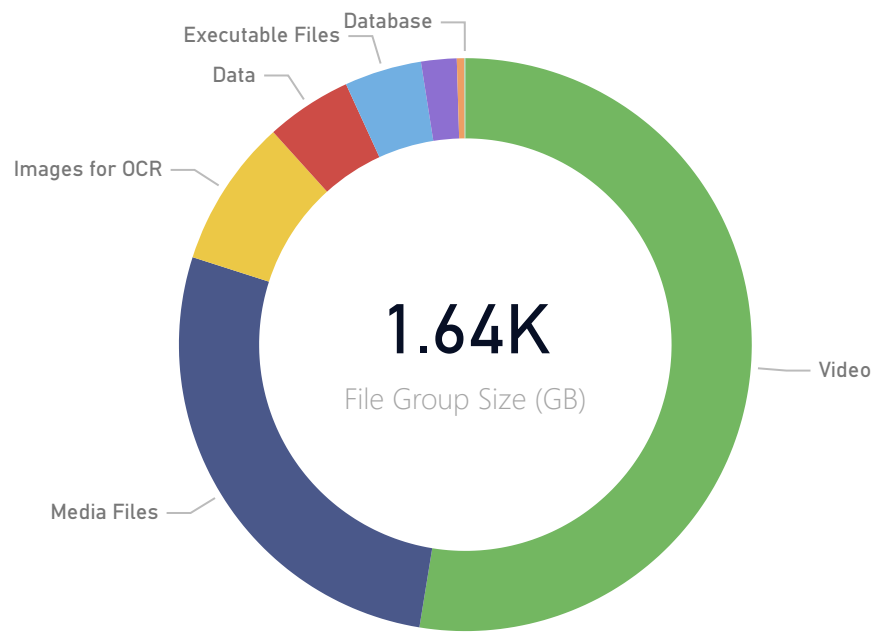
### Archive

Archiving files has many benefits. Apart for retaining documents / records for compliance purpose, it helps move files to lower tier and doing a single-instancing reducing storage. Consider leveraging VERITAS solutions to archive with placeholders to reduce storage, ensure compliance and still providing access to individuals accessing such duplicates.

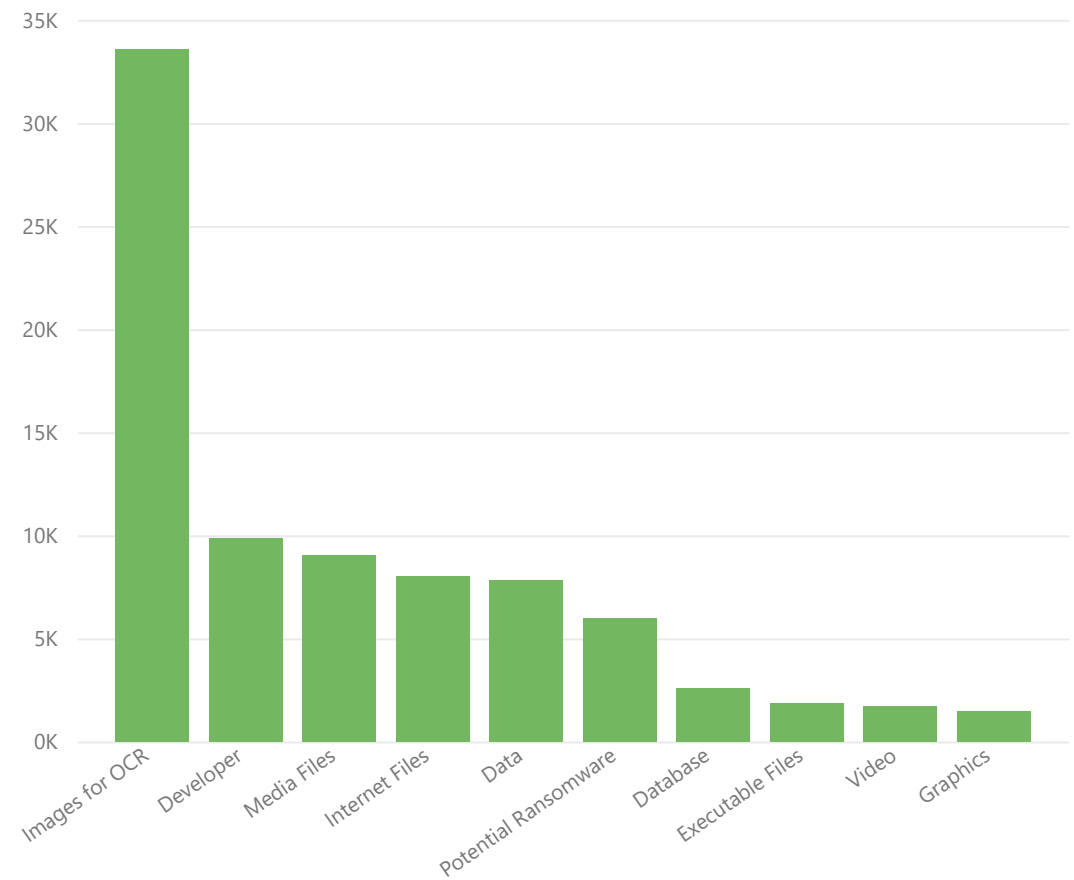
### Collaboration systems

Consider leveraging collaborative solutions for storing and sharing documents. Many such solutions enable versioning and ensure there are not many unnecessary copies created.

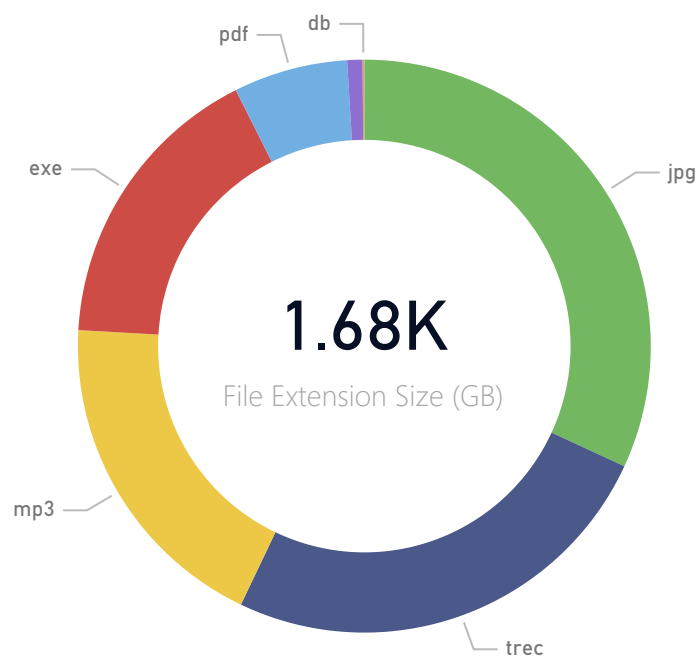
## Top 10 - File Groups (i)



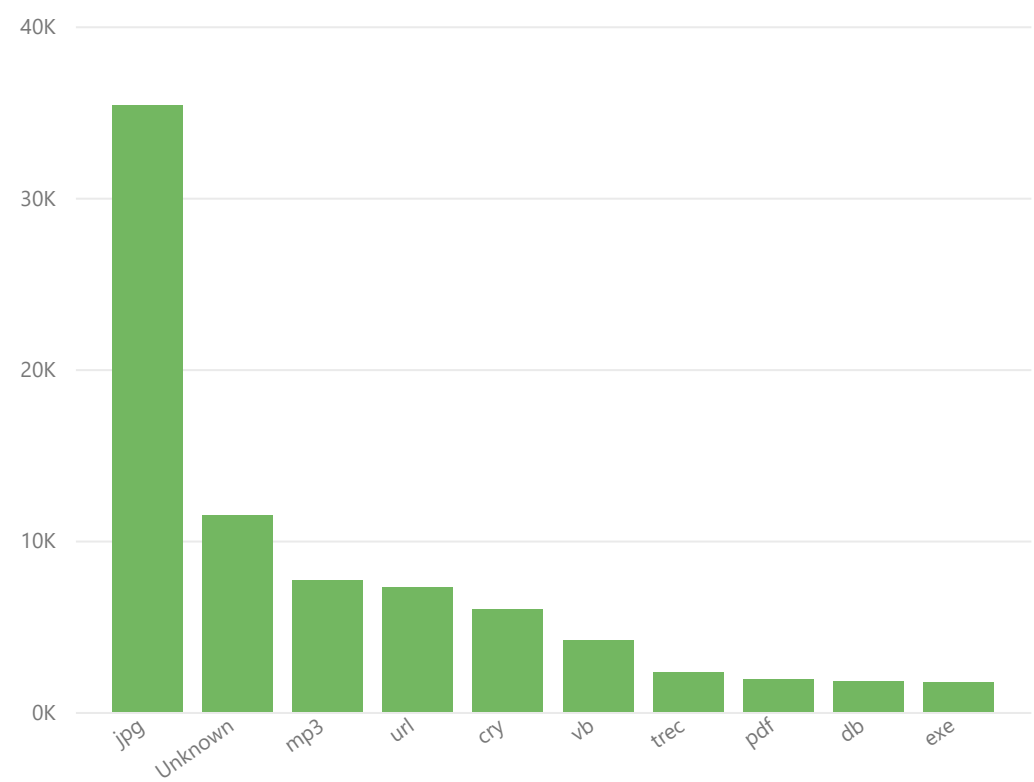
File Count by File Group



## Top 10 - File Extensions (i)



File Count by Extension



## Recommendations

### Review Big Sized File Groups / Types

There are certain kind of files that may not have business reasons to be on shared repositories or shares & takes up the most storage.

Review such file types and associated applications / users to remediate.

### Large Number of Small Files

It's not uncommon to find a very large number of small sized files. These can often be associated with application logs or temporary files unnecessary taking storage & impacting operations.

Review such files to reduce storage and operations overhead.

### Unexpected File Groups / Types

Review file groups / types data for any unexpected or unknown files. There can be file types not associated with a known group or even residue from a past cyber-attack.

Understanding all kind of file types stored on collaborative repositories is important to have a robust data-centric strategy.

# Veritas Dark Data Assessment

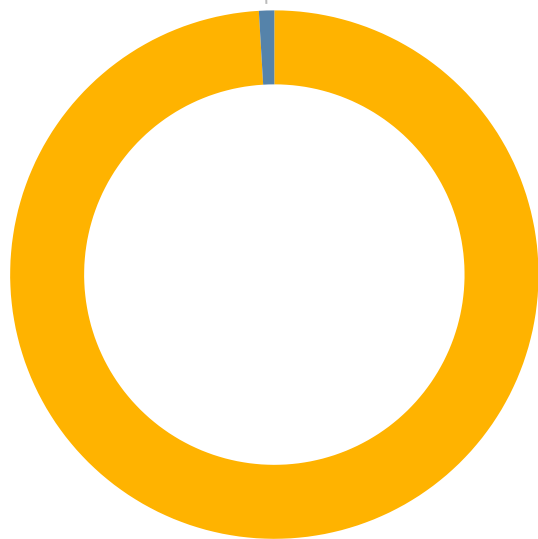
All

Amazon S3 ⓘ

**349.48MB**

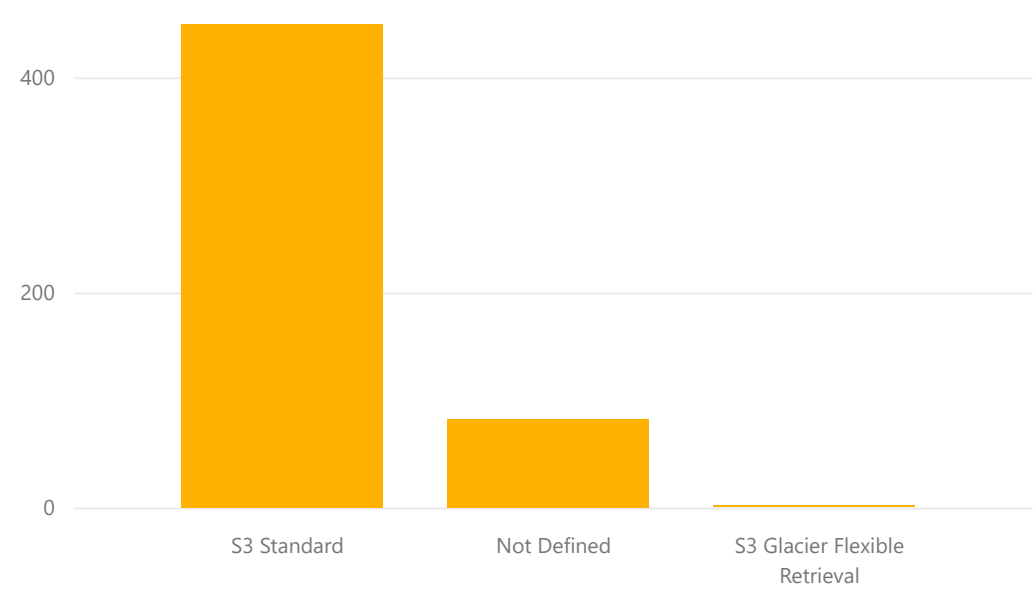
on 4 buckets

S3 Glacier Flexible Retrieval



S3 Standard

File Count by Storage Class on Amazon S3



## Bucket Details ⓘ

Bucket Name	Device	Is Private	Bucket Size (GB)	File Count	Sensitive File Count
new-bucket-f15b2b7e	DIQAUser	✗	0.02	1	0
smohio	DIQAUser	✗	0.24	312	0
smttestclassificationproxy	DIQAUser	✗	0.03	26	0
test-classification-data	DIQAUser	✗	0.03	194	38
<b>Total</b>			<b>0.33</b>	<b>533</b>	<b>38</b>

## Recommendations

### Review S3 Data Lifecycle

Understand data storage in various storage classes within your Amazon S3 environment.

Marry content (classification) and context (usage) information with this visibility to take more intelligent tiering and data migration decisions.

### Review Private / Public Buckets

Ensure that you have public buckets only if it's required for business needs.

Otherwise, close these down and limit exposure. Again, marry this information with sensitivity & classification information to ensure you have the right access controls and privileges for data stored on important buckets.

### Get Control of Amazon S3 Data

Continuously visualise, classify, protect data & monitor user activity on your Amazon S3 buckets to reduce cost, reduce risk and assuring compliance.

Consider VERITAS solutions for the same.





# Veritas Dark Data Assessment

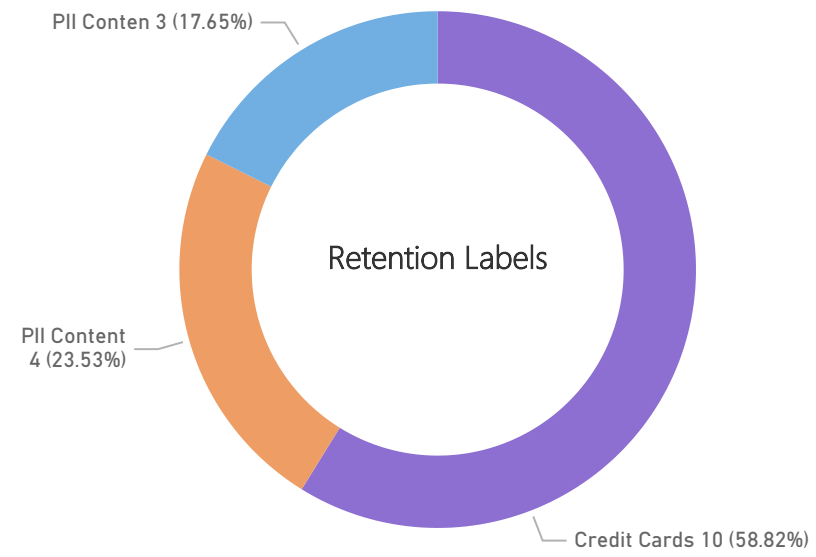
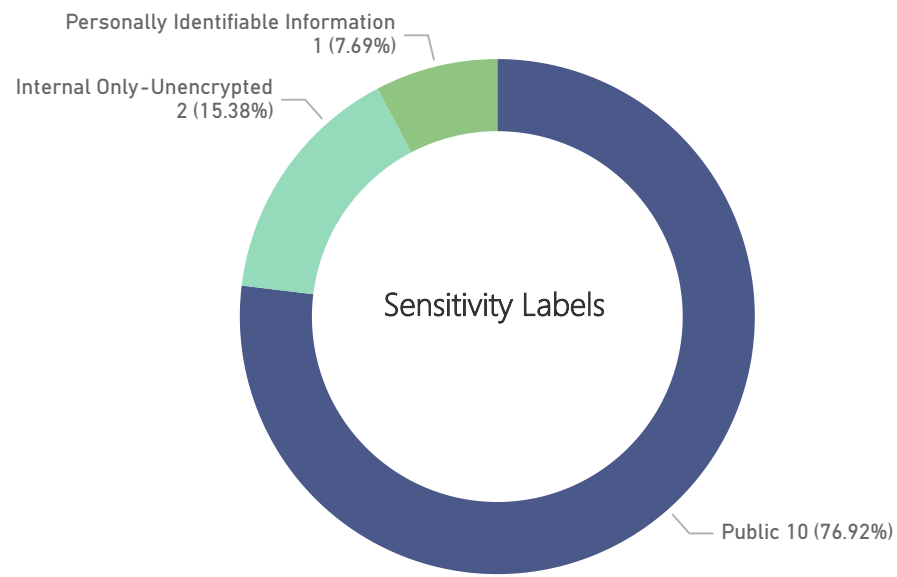
Microsoft 365 Labels ⓘ

All ▾

Private Mode not Enabled

**48.07GB**  
on Microsoft 365

● Tagged File Count ● Untagged File Count



## Mislabelled Sensitive Documents ⓘ

Full Path	Microsoft Sensitivity Label	Data Insight Sensitivity Tag(s)
https://cloudtrain1.sharepoint.com/portals/hub/roadmap.pptx	Public	Confidential, "Intellectual-Property"
https://cloudtrain1.sharepoint.com/portals/hub/Sprint_Details.pptx	Public	Confidential, "Intellectual-Property"
https://cloudtrain1.sharepoint.com/sites/InformationTechnology/CustomerBase.csv	Public	Confidential, "Intellectual-Property"
https://cloudtrain1.sharepoint.com/sites/InformationTechnology/CustomerBase.xlsx	Public	Confidential, "Intellectual-Property"
https://cloudtrain1.sharepoint.com/sites/InformationTechnology/di_calssification_guide_v_6_6.pdf	Public	Confidential, "Intellectual-Property"
https://cloudtrain1.sharepoint.com/sites/InformationTechnology/di_install_v_6_6.pdf	Public	Confidential, "Intellectual-Property"

## Recommendations

### Review Unlabelled / Mislabelled Documents

Having a robust data protection & retention strategy requires to have the documents on data repositories accurately labelled. There are instances where older data or data coming from external sources are not labelled leaving gaps in the protection strategy. Also, employees can err in labelling documents exposing sensitive data. Review all documents requiring or fixing labelling and adopt technologies to label for ensuring adequate protection.

### Consistently Classify On-premise & Cloud data

Having a consistent data classification program ensure that analysis and decisions are not changed when moving data to cloud.

Leverage technologies that can classify data consistently for both on-prem and cloud data at scale.

### Get Control of Microsoft 365 Data

Continuously visualise, classify, protect data & monitor user activity on your Microsoft 365 documents stored in OneDrive, SharePoint Online and shared via Teams to reduce cost, reduce risk and assuring compliance.

Consider VERITAS solutions for the same.

**Thank You**

**VERITAS™**